UNIVERSITY OF MARYLAND, COLLEGE PARK

NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT

[EFFECTIVE DATE]

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APPENDICES

ENERGY SERVICES
CONCESSION AGREEMENT

This Energy Services Concession Agreement is entered into this __ day of _____, 2024 ("Effective Date") by and between the UNIVERSITY OF MARYLAND, COLLEGE PARK ("UMD") and MARYLAND ENERGY IMPACT PARTNERS LLC ("Concessionaire"), a limited liability company organized and existing under the laws of the State of Delaware and qualified to do business in the State of Maryland ("State"), such parties being hereinafter referred to individually as "Party" and collectively as "Parties."

PREAMBLE

1. On November 19, 2021, UMD, acting at the direction and under the authority of The University System of Maryland ("University System"), issued Request for Proposals No. 98166-K to solicit proposals for the development and implementation of the NextGen Energy Program ("NextGen" or "NextGen Program"), a program to ensure long-term reliable, efficient, sustainable, resilient, and affordable heating, cooling, and electric service for UMD's College Park Campus ("Campus") by means of a public-private partnership created pursuant to Md. Code Ann. State Finance and Procurement Art. §§10A-101 – 10A-404 ("P3 Statute").

2. Following evaluation of proposals (including best and final offers) and negotiations, UMD recommended award of the NextGen Program to Concessionaire under the terms and conditions set forth in the Ground Lease, the Easement Agreement, this Agreement, and other related agreements, first to the University System's Board of Regents, which approved the recommendation and agreements on February 16, 2024, and then to the Board of Public Works, which approved the recommendation and agreements on _____ __, 2024.

3. Under the Ground Lease, the State leases to Concessionaire certain Campus land, buildings, and facilities and steam, chilled water, and electric generation and distribution systems (together with the Capital Improvements, the "Energy Systems"). Under the Easement Agreement, the State provides Concessionaire access to the Energy Systems to deliver heating, cooling, and electric service to UMD.

4. Under this Agreement, UMD grants Concessionaire the exclusive right (subject to the limitations herein) to deliver reliable, efficient, and sustainable Full Requirements Energy Services to the UMD Buildings throughout the Operating Term in exchange for Concessionaire's agreement to provide these services in accordance with certain guarantees and quality standards at a level of compensation that enables Concessionaire to recover its cost of service and earn a commercially reasonable return on its investment.

5. The Parties recognize the importance of addressing the challenges of climate change throughout the Operating Term. Therefore, under this Agreement, the Parties will work together to implement a program of Capital Improvements and continuous improvement that seeks out and implements ways in which the reliability, efficiency, resilience, and sustainability of the Energy Systems can be enhanced and Decarbonization can be achieved.

6. The Parties recognize that the NextGen Program's effective capital costs for the Phase I Capital Improvements to the Central Energy Plant and potentially, Additional Capital Improvements, Major Repairs, Replacements, or Material Changes can be reduced by qualifying for tax incentives and direct payments from the U.S. Government, private sector and nonprofit grants, and other funding sources and that actively cooperating to meet the requirements for such incentives, payments, grants, and other funding is essential to the NextGen Program's long-term success, provided that UMD's receipt of such incentives, payments, grants, and other funding, is not a condition to, or requirement of, its payment of the Concessionaire Charge.

7. The Parties further recognize that in exchange for Concessionaire's services, UMD agrees to receive and pay for them in accordance with this Agreement, to supply the Commodities necessary for the Energy Systems' operations, to manage, operate, and maintain the UMD Building Systems in coordination with Concessionaire, and to work with Concessionaire in Campus energy planning over the Operating Term.

NOW THEREFORE, in consideration of the mutual promises and covenants of each Party to the other and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

ARTICLE 1: PRELIMINARY MATTERS

1.1 **DEFINITIONS.** Definitions of acronyms, abbreviations, and certain capitalized terms utilized in this Agreement are contained in Appendix A.

1.2 **AGREEMENT COMPONENTS AND OBJECTIVES**. This Agreement consists of the Base Concession Agreement and all Appendices, amendments, restatements, extensions, and other modifications thereto. All portions of this Agreement are intended to constitute an integrated, comprehensive program for securing reliable, resilient, cost-effective, efficient, and sustainable Energy Services for UMD through capital renewal of the Energy Systems; high-quality, fiscally prudent management, operation, and maintenance practices and procedures; close coordination and cooperation between UMD and Concessionaire; and an unrelenting commitment to excellence and continuous improvement.

1.3 CONTRACT INTERPRETATION. This Agreement shall be interpreted in accordance with the rules set forth in this Section.

1.3.1 *INTERPRETATION OF WORDS AND PHRASES.*

(a) *Agreement References.* The words "herein," "hereto," "hereof," "hereunder," and similar words of reference apply to this Agreement as a whole and not to any specific division, section, or subdivision.

(b) *Headings.* The descriptive headings of the articles, sections, and subsections of this Agreement are provided for reference and convenience and are not intended to be inclusive or definitive or to affect the Agreement's interpretation or scope.

(c) *Article or Section Citations.* Unless otherwise noted, citation to a specific article or section refers to that article or section of this Base Concession Agreement.

(e) *Meaning of "Including."* "Including" means "including without limitation." Any list of examples following "including" shall not restrict or limit the generality of the word or provision for which such examples are provided.

(f) *Notice.* The word "notice" means "written notice" unless specified otherwise.

(g) *Consents; Approvals.* Unless specified otherwise, whenever the provisions of this Agreement require or provide for, or permit, an approval or consent by either Party, such approval or consent, and any request therefor, must be in writing (unless waived in writing by the other Party).

(h) *Trade Meanings.* Unless otherwise defined and subject to Section 1.3.6(b), words or abbreviations that have well-known technical, or construction industry or trade meanings are used herein in accordance with those meanings.

(i) *Currency.* Unless specified otherwise, all statements of, or references to, dollar amounts or money in this Agreement are to the lawful currency of the United States of America.

(j) *Generally Accepted Accounting Principles*. All accounting and financial terms used herein, unless specifically provided to the contrary, shall be interpreted and applied to Concessionaire in accordance with Generally

Accepted Accounting Principles and to UMD in accordance with the Standards of the Governmental Accounting Standards Board.

(k) *Cost Responsibilities*. In this Agreement, the phrases "at Concessionaire's sole cost and expense," "at Concessionaire's cost and expense," "Concessionaire shall be responsible for providing," "Concessionaire shall pay," and similar phrases and provisions that require Concessionaire to take certain actions or perform certain services, shall not mean that such costs or expenses, or the costs and expenses associated with such actions or activities, are necessarily subject to recovery as part of the Availability Payment or the Fixed O&M Charge or otherwise in accordance with this Agreement. The inclusion of such costs and expenses in the Availability Payment or the Fixed O&M Charge shall be determined in accordance with Sections 16.1-16.5, 17.1, and 21.1-21.3.

(l) *Out-of-Pocket Costs.* In this Agreement, any reference to "out-of-pocket" or "out of pocket" costs or expenses of Concessionaire and similar phrases and provisions shall mean the reasonable, incremental, actual costs paid by Concessionaire to a third party that is not an Affiliate of Concessionaire or an Equity Participant, or is an Affiliate of the Concessionaire or an Equity Participant and the payments to the Affiliate are on arms' length terms consistent with those terms offered by unaffiliated third parties for similar goods or services.

1.3.2 *CONCESSIONAIRE'S RELIANCE ON ITS OWN DUE DILIGENCE*. Except with regard to Differing Site Conditions, this Agreement shall be construed to require Concessionaire to rely solely on its own analysis and confirmation of:

(a) The condition of the Energy Systems and the information pertaining thereto, subject only to the representations made by UMD herein; and,

(b) Its own analysis and confirmation of drawings, plans, and specifications of the Energy Systems and any UMD Buildings and Campus grounds.

1.3.3 *SHARED DRAFTING RESPONSIBILITIES*. To preclude application of the doctrine of *contra preferentum*, this Agreement shall not be construed against either Party because such Party drafted or issued the Agreement or any portion thereof.

1.3.4 *MERGER.* This Agreement constitutes the final agreement between the Parties and is the complete and exclusive expression of the Parties' agreement on the matters addressed herein. All prior and contemporaneous negotiations and agreements on such matters are expressly merged into, and superseded by, this Agreement. Except for Prudent District Energy Practices, the provisions of this Agreement may

not be explained, supplemented, or qualified through evidence of a prior course of dealing or trade usage. In entering into this Agreement, neither Party has relied upon any statement, representation, warranty, or agreement of the other Party except for those expressly contained in this Agreement. There are no conditions precedent to the effectiveness of this Agreement.

1.3.5 *CALCULATION OF TIME.* Under this Agreement, a period of days shall begin on the first Day after the event that began the period and shall end at 5:00 p.m. Eastern Prevailing Time on the last day of the period. Unless specified otherwise, if the last day of the period does not fall on a Business Day, the period shall be deemed to end at 5:00 p.m. EPT on the next Business Day.

1.3.6 *CAPITAL IMPROVEMENT SCOPE AND PRICING*. The provisions of this Agreement applicable to Capital Improvements to the Energy Systems shall be interpreted in accordance with the following rules:

(a) *Description of Functionally Complete Projects*. The Parties intend this Agreement to describe functionally complete Projects. Any work, including materials or Equipment, even if not specifically called for, that may reasonably be inferred from this Agreement, applicable Project Documents, or Prudent District Energy Practices as being required to complete each respective Project in accordance with the Key Performance Indicators and other applicable guarantees and warranties will be furnished and performed by Concessionaire without change in the applicable Project Price or Project Schedule except as provided in Section 21.2.2.

(b) *Production of Functionally Complete Projects*. The Parties intend this Agreement to obligate Concessionaire to produce functionally complete Projects. Words or phrases that have established technical or construction industry or trade meanings shall be interpreted in accordance with those meanings, unless such an interpretation produces a result that does not describe a functionally complete Project.

(c) *Integration of Project Documents*. The Parties intend for each Project's Project Documents to be interpreted as an integrated whole. Where work is shown on, or required by, one portion of the Project Documents but not on another, Concessionaire shall design and install the work as if it were shown on, or required by, both to the extent required to comply with the KPIs and other provisions of this Agreement.

(d) *Use of Prudent District Energy Practices*. The Parties intend this Agreement to require the application of Prudent District Energy Practices to

Equipment installation and Project completion where details of such work are not included, are incomplete, are not specified, or are not clearly defined in the applicable Project Documents.

1.3.7 *UNIVERSITY POLICIES.* The Parties intend for Concessionaire to comply with University Policies. If, in Concessionaire's opinion, any provision of this Agreement directly conflicts with any University Policy, the University Policy shall be presumed to take precedence, provided that Concessionaire shall notify the UMD Program Manager of the perceived conflict and the UMD Program Manager, in consultation with UMD's administration, shall resolve the conflict.

1.4 UMD APPROVALS.

1.4.1 *PROCEDURES.* The following procedure shall apply whenever this Agreement requires, provides for, or permits UMD's approval of, or consent to, any action, Person, document, or other matter. This procedure does not apply to UMD's review of a Project's Plans and Specifications, which is governed by Section 3.3 of the Construction Requirements.

(a) *Content.* All requests for UMD's approval or consent shall contain the following information:

(1) Be captioned with "REQUEST FOR UMD APPROVAL/CONSENT;"

(2) Include in the caption the date by which UMD's approval or consent must be received by Concessionaire under this Agreement;

(3) Clearly identify the matter for which UMD's approval or consent is being sought, which shall be the request's sole subject; and,

(4) Contain or be accompanied by any documentation or information required for such approval or consent in reasonably sufficiently detail, as determined by the Program Implementation Protocols;

(b) *Request Delivery*. Each request for UMD's approval or consent shall be delivered to the UMD Program Manager, who shall direct it to the appropriate UMD personnel.

(c) *UMD Response.*

(1) UMD shall advise Concessionaire by notice either that it approves or consents to the matter submitted or that it withholds its approval or consent thereto. Unless expressly prohibited by this

Agreement, UMD may withhold its approval or consent for any of the following reasons:

(i) The insufficiency of the information or documentation provided to allow UMD to make an informed decision, provided UMD specifically identifies the type of information or documentation that it requires;

(ii) The failure of the submittal's matter to conform to the Law, University Policies, or other standards or requirements of this Agreement; or,

(iii) The matter unduly disrupts UMD's operations or requires the hiring of additional UMD personnel or the expenditure of funds for which UMD has not budgeted.

(2) UMD shall respond to a request for approval or consent no later than 10 Business Days following its receipt of the request unless another time is specifically identified in this Agreement for UMD's response or an extension of time is agreed by the Parties.

(i) When UMD's approval or consent is required for Concessionaire to respond to an Emergency, a Force Majeure Event, or other exigent circumstance, Concessionaire may request UMD to respond to a request for approval or consent on an expedited basis and UMD shall respond within 3 Business Days or such other time Concessionaire may reasonably set under the circumstances.

(ii) If Concessionaire seeks UMD's approval or consent on an expedited basis, it shall caption the request with "REQUEST FOR EXPEDITED APPROVAL/CONSENT" and shall notify the UMD Program Manager or the UMD Program Manager's designee in person, by telephone, or by videoconference to inform UMD of the expedited approval's importance.

(3) If UMD withholds its approval or consent, Concessionaire may take steps to satisfy UMD's objections and re-submit the request for approval or consent, which shall follow the procedure set forth in this Section 1.4.

(4) UMD shall not unreasonably withhold, condition, or delay its approval or consent unless the provision requiring UMD to approve or consent specifically permits UMD to do so or provides that its approval or consent is within its sole discretion.

(5) If UMD does not respond to a request for approval or consent within 10 Business Days following its receipt of the request or other applicable response period, Concessionaire shall notify UMD of such lack of response and if UMD does not respond within 3 Business Days following its receipt of that notice, Concessionaire may request a Change Order in accordance with Section 21.2.2(d), provided that any time extension or price adjustment relates only to the period beginning on the day when UMD's response was due and ending on the actual day of UMD's response and that the work for which Concessionaire seeks UMD's approval or consent is not concurrently delayed.

(d) *Resolution of Disputed UMD Response.*

(1) Any dispute as to whether UMD has unreasonably withheld, conditioned, or delayed its approval or consent shall be determined by the Dispute Resolution Process.

(2) If, as the result of a Dispute Resolution Process, UMD is found to have unreasonably withheld, conditioned, or delayed a properly-requested approval or consent, such approval or consent shall be deemed to have been given on the date by which such approval or consent should have been provided, except that to the extent any deadlines for performing any obligation hereunder are determined by reference to the date of consent or approval, such consent or approval shall be deemed to have been given on the date of determination rather than the date such consent or approval should have been provided.

1.4.2 *APPROVED DOCUMENTS*. Whenever this Agreement requires UMD to approve of, or consent to, a document, such document shall not be amended, supplemented, replaced, revised, modified, altered, or changed in any manner after UMD's approval without obtaining UMD's further approval in accordance with this Section 1.4.

1.5 ORDER OF PRECEDENCE. The Parties intend this Agreement (including the Appendices), the Ground Lease, the Easement Agreement, and any Direct Agreement(s) to be complementary and read together as a complete agreement. With regard to any conflict

between or within these agreements, priority and order of precedence shall be given as follows: (a) any amendments of this Agreement; (b) any Change Order entered into in accordance with this Agreement; (c) the Base Concession Agreement; (d) the Direct Agreement; (e) the Ground Lease; and, (f) the applicable Appendix or Appendices.

ARTICLE 2: REPRESENTATIONS AND WARRANTIES

2.1 UMD'S REPRESENTATIONS. UMD represents to Concessionaire that as of the Effective Date, the statements in this Section 2.1 are true, correct, and complete. UMD acknowledges that Concessionaire is relying upon these representations in entering into this Agreement.

2.1.1 *ORGANIZATION*. UMD is a constituent institution of the University System and is duly organized and existing under the Law of the State.

2.1.2 *POWER AND AUTHORITY*. The University System and the Board of Public Works have duly authorized and approved UMD's execution and delivery of this Agreement, the Ground Lease, and the Easement Agreement, and have duly authorized and approved UMD's performance of its obligations thereunder. UMD therefore has the power, authority, and legal right to enter into this Agreement and to perform its obligations hereunder.

2.1.3 *ENFORCEABILITY*. This Agreement constitutes the valid and legally binding obligation of UMD, enforceable against UMD in accordance with its terms, except so far as enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforceability of creditors' rights.

2.1.4 *TITLE TO ENERGY SYSTEMS LAND*. The State has good and sufficient title to the Leased Property and certain Equipment and facilities purchased, constructed, installed, and commissioned on or before August 31, 1999, and to all Equipment located in the Self-Support DTPs, subject only to Permitted UMD Encumbrances. Subject to all such Encumbrances, there is no recorded or unrecorded agreement, contract, option, commitment, right, privilege or other right of another binding upon, or which at any time in the future may become binding upon, UMD to sell, transfer, convey, subject to lien, charge, grant a security interest in, or in any other way dispose of or materially encumber the Leased Property.

2.1.5 *TITLE TO POST-1999 ENERGY SYSTEMS*. Based upon UMD's Actual Knowledge, MEDCO has good and sufficient title to the Energy Systems Equipment and facilities purchased, installed, and commissioned on or after September 1, 1999. There is no recorded or unrecorded agreement, contract, option, commitment, right, privilege, or other right of another binding upon, or which at any time in the future may become binding upon, MEDCO to sell, transfer, convey, subject to lien,

charge, grant a security interest in, or in any other way dispose of or materially encumber the Energy Systems' Equipment and facilities.

2.1.6 *NO CONFLICTS*. Neither UMD's execution, delivery, and performance of this Agreement nor the Transaction's consummation, will contravene or violate, or result in breach or acceleration of, UMD's governing documents, any material obligation of UMD under any applicable Law, or any agreement, instrument, or document to which UMD is a party or by which it is bound.

2.1.7 *CONSENTS*. Except for consents required to be obtained by UMD or the Parties jointly under this Agreement, no consent is required to authorize UMD's execution, delivery, and performance of this Agreement except as has been duly obtained or made.

2.1.8 *COMPLIANCE WITH LAW*. To UMD's Actual Knowledge, it is not in violation of any Law the enforcement of which would have a Material Adverse Effect on either Party. To UMD's Actual Knowledge and to the extent Governmental Authorizations are necessary for operation of the Energy Systems as they are currently being operated:

(a) UMD is in compliance, in all material respects, with the terms and conditions of all Governmental Authorizations;

(b) No Governmental Authority has identified a Governmental Authorization necessary for the operation of the Energy Systems that UMD has not obtained; and,

(c) No additional Governmental Authorization is necessary.

2.1.9 *LITIGATION*. There is no claim, litigation, investigation, or proceeding pending or threatened against, or affecting, UMD that would reasonably be expected to have a Material Adverse Effect on the Initial Financial Closing, the validity or enforceability of this Agreement, or UMD's performance of this Agreement.

2.1.10 *NO MATERIAL ADVERSE EFFECT*. No transaction or occurrence since the BAFO Date has had, or is reasonably likely to have, a Material Adverse Effect on UMD or the Energy Systems.

2.2 CONCESSIONAIRE'S REPRESENTATIONS AND WARRANTIES. Concessionaire represents and warrants to UMD that as of the Effective Date, the statements in this Section 2.2 and in the Contract Affidavit contained in Appendix E are true, correct, and complete. Concessionaire acknowledges that UMD is relying upon these representations and warranties in entering into this Agreement and that the Contract Affidavit provides

additional representations and warranties that have the same force and effect as if they were stated herein.

2.2.1 *ORGANIZATION*. Concessionaire is a limited liability company duly organized, validly existing, and in good standing under the Laws of the State of Delaware and is duly qualified to transact business and is in good standing in the State and will remain duly qualified and in good standing throughout the Term and for as long as any obligations remain outstanding under this Agreement.

2.2.2 *OWNERSHIP.* The capital stock, units, partnership or membership interests, and other equity interests or securities of Concessionaire (including options, warrants and other rights to acquire any such equity interests) are owned by the Persons set forth in the written certification that Concessionaire delivered to UMD prior to the Effective Date.

2.2.3 *POWER AND AUTHORITY.* Concessionaire has the power, authority, and right to enter into this Agreement and to perform its obligations hereunder. Concessionaire's execution, delivery, and performance of this Agreement has been duly authorized by all necessary action of Concessionaire's governing body and each person executing this Agreement has been duly authorized to execute and deliver it on Concessionaire's behalf.

2.2.4 *ENFORCEABILITY*. This Agreement constitutes the valid and legally binding obligation of Concessionaire, enforceable against Concessionaire in accordance with its terms, except so far as enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforceability of creditors' rights.

2.2.5 *NO CONFLICTS.* Neither Concessionaire's execution, delivery, and performance of this Agreement nor the Transaction's consummation, will contravene or violate, result in breach or acceleration of any material obligation of Concessionaire under any applicable Law; or any agreement, instrument, or document to which Concessionaire is a party or by which it is bound;

2.2.6 *CONSENTS*. Except for consents required to be obtained by Concessionaire or the Parties jointly under this Agreement, no consent is required to authorize Concessionaire's execution, delivery, and performance of this Agreement except as has been duly obtained or made.

2.2.7 *COMPLIANCE WITH LAW.* Concessionaire is not in breach of any applicable Law that could have a Material Adverse Effect. Neither Concessionaire nor any Affiliate of Concessionaire is listed on any of the following lists maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the Bureau of

Industry and Security of the U.S. Department of Commerce or their successors or on any other list of Persons with which UMD may not do business under applicable Law: the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List, and solely with respect to Concessionaire and other Persons with an ownership interest in Concessionaire, the Debarred List.

2.2.8 *KEY CONTRACTORS*. To Concessionaire's Actual Knowledge, each Key Contractor is:

(a) Duly organized, validly existing, and in good standing under the Law of the State of its organization and is duly qualified to do business and in good standing in the State;

(b) The ownership interests (including options, warrants, and other rights to acquire ownership interests) of each Key Contractor formed as a single purpose entity for the NextGen Program are held by those Persons identified in a written certification delivered by Concessionaire to UMD before the Initial Financial Closing;

(c) Each Key Contractor has the power and authority to do all acts and execute and deliver all other documents as are required to be done, observed, or performed by it in connection with work and services it is committed to perform during its implementation of its Key Contract; and,

(d) Each Key Contractor has:

(1) Obtained all required registrations, licenses, certifications, permits, and approvals required under applicable Law to conduct business as required under its Key Contract and will maintain all such registrations, licenses, certifications, permits, and approvals throughout the Key Contract's term; and,

(2) Expertise, qualifications, experience, competence, and skills, and is qualified to perform the work for which it is responsible under its Key Contract.

(e) No Key Contractor has violated any applicable Law or breached any contract that would have a Material Adverse Effect on its performance of the work for which it is responsible under its Key Contract.

2.2.9 *LITIGATION.* To Concessionaire's Actual Knowledge, no claim, litigation, investigation, or proceeding pending or threatened against, or affecting, Concessionaire or any of the Persons with an ownership interest in Concessionaire that would reasonably be expected to have a Material Adverse Effect on the Initial

Financial Closing, the validity or enforceability of this Agreement, or Concessionaire's performance of this Agreement.

2.2.10 *NO MATERIAL ADVERSE CHANGE*. To Concessionaire's Actual Knowledge, no transaction or occurrence since the BAFO Date has had, or is reasonably likely to have, a Material Adverse Effect on Concessionaire.

2.2.11 *ACCURACY OF INFORMATION*. To Concessionaire's Actual Knowledge, all information regarding Concessionaire, Key Contractors, and Equity Participants provided to UMD by, or on behalf of, Concessionaire was accurate in all material respects at the time such information was provided.

2.2.12 *TAXES*. To Concessionaire's Actual Knowledge, Concessionaire and all Key Contractors have filed, or have obtained effective extensions for filing of, all federal, state, and local Tax returns that are required to be filed and have paid all Taxes due pursuant to such returns or pursuant to any assessment they have received, except such Taxes, if any, as are being contested in good faith and as to which adequate reserves have been provided. To Concessionaire's Actual Knowledge, no Tax liens have been filed, and no Tax liability or claims are being asserted, against Concessionaire by the United States Internal Revenue Service or any other Governmental Authority with respect to any Taxes.

2.2.13 *CONTINGENT FEES.* Concessionaire has not employed or retained any person, partnership, corporation, or other entity, other than a *bona fide* employee or agent working for Concessionaire to solicit or secure this Agreement and has not paid or agreed to pay any Person other than a *bona fide* employee or agent any fee or any other consideration on the making of this Agreement.

2.2.14 *PAYMENT OF MONIES TO THE STATE*. Concessionaire is not in arrears with respect to the payment of any monies due and owing the State or any department or unit thereof, including the payments of Taxes and employee benefits and Concessionaire shall not become so in arrears during the Term.

ARTICLE 3: THE CONCESSION

3.1 GRANT OF CONCESSION. In accordance with the P3 Statute and subject to Section 3.1.4 and other provisions of this Agreement and other Program Agreements, UMD hereby grants Concessionaire the exclusive right, effective at Commencement, to construct, manage, operate, maintain, and improve the Energy Systems and to utilize them to deliver Full Requirements Energy Services to the UMD Buildings and the Future UMD Buildings in accordance with this Agreement.

3.1.1 At or before the Initial Financial Closing, the State and Concessionaire shall enter into the Ground Lease in form and substance identical to the document contained in Appendix B, under which the State shall lease to Concessionaire, and Concessionaire shall lease from the State, the Energy Systems free and clear of Encumbrances other than Permitted UMD Encumbrances.

3.1.2 At or before the Initial Financial Closing, the State and Concessionaire shall enter into the Easement Agreement in form and substance identical to the document contained in Appendix C, under which the State shall grant and convey to Concessionaire easements in, under, on, and through the Campus to access, improve, construct, install, operate, and maintain the Energy Systems to the extent permitted or required under this Agreement.

3.1.3 The exclusive right granted to Concessionaire in Section 3.1.1 extends only to the extent that a UMD Building is served by the Energy Systems on the Effective Date, as shown in Energy Systems drawings in Appendices H-2, H-4, H-5, and H-6.

3.1.4 *UMD RESERVED RIGHTS.*

(a) UMD reserves the following rights in addition to its other rights under this Agreement, provided that its exercise of any such right does not reduce the Availability Payment or the Fixed O&M Charge, does not adversely impact the determination of Concessionaire's attainment of any KPI, and does not adversely impact the Program Debt, any security therefor or the interest of the holders thereof, or any covenant or obligation of the UMD or Concessionaire under the Direct Agreement.

(1) Purchase Supplemental Electricity pursuant to Renewable PPAs or other PPAs in effect on or after the Effective Date;

(2) Install, or contract with other contractors to install, energy conservation measures or undertake other work on or within the UMD Buildings to reduce energy usage or the emission of carbon or other greenhouse gasses;

(3) Operate UMD Building-based electric generators, steam or hot water boilers, and auxiliary chillers during Emergencies and other Energy Systems outages;

(4) Provide heating, cooling, or electric service to UMD Buildings or Future UMD Buildings to implement technical innovations, complete building modifications or improvements, change UMD Building use, or install UMD Renewable Resources even if such

actions result in changes to building or facility energy usage, modifications of the interface between the Energy Systems and the UMD Building Systems, or disconnection of the UMD Building from one or more Energy Systems; and,

(5) Use portions of the Energy Systems for research and academic purposes pursuant to Section 12.2.

(b) UMD shall notify Concessionaire upon its decision to exercise any of its rights pursuant to this Section. Within 45 days following its receipt of such notice, Concessionaire shall notify UMD of the effects, if any, of this exercise on the Energy Systems and Concessionaire's performance of this Agreement or the Program Debt or any covenant or obligation of UMD or the Concessionaire under the Direct Agreement. The Parties shall adjust the KPIs and all other measures of Concessionaire's performance so that Concessionaire is neither advantaged nor disadvantaged by UMD's decision.

3.2 ACCEPTANCE OF CONCESSION. Concessionaire accepts the Concessionaire's obligations under this Agreement, and agrees to construct, manage, operate, maintain, and improve the Energy Systems and to utilize them to deliver Full Requirements Energy Services to the UMD Buildings and the Future UMD Buildings in accordance with this Agreement.

3.3 ACCEPTANCE OF ENERGY SYSTEMS. Concessionaire acknowledges that it has conducted a commercially reasonable due diligence process that included visual inspection of the Energy Systems, examination of the Energy Systems' Records and other information made available by UMD, and identification of applicable legal requirements. Based upon that process and subject to its right to seek Change Orders pursuant to Section 21.2.2 and UMD's assumption of certain cost responsibilities for Legacy Components pursuant to Section 10.5.6, Concessionaire has assessed the obligations it is undertaking and the risks it is assuming in executing this Agreement and hereby accepts the Energy Systems as they exist at Commencement in an "as is" and "where is" condition. Concessionaire further acknowledges that except as expressly set forth in Section 2.1, UMD neither has made, nor is making, any representation or warranty regarding the condition of the Energy Systems (or any part thereof) or the Energy Systems' suitability for Concessionaire's proposed use.

3.4 TERM. This Agreement shall become effective on the Effective Date and, unless previously terminated as provided herein, shall continue in effect through the date that is thirty (30) years following the date of Phase I Substantial Completion.

3.5 QUIET ENJOYMENT.

3.5.1 *COVENANT OF QUIET ENJOYMENT.* Subject to UMD's remedies upon a Concessionaire Default and its reservations and rights under this Agreement, the Ground Lease, and the Easement Agreement, Concessionaire, at all times during the Operating Term, shall be entitled to, and shall have, quiet enjoyment of the Energy Systems and the rights and privileges granted to Concessionaire hereunder. UMD and Concessionaire acknowledge that Concessionaire's rights to use, control, and possess the Energy Systems and to collect and retain the Concessionaire Compensation are subject to the right of UMD, in accordance with this Agreement, to monitor Concessionaire's performance to ensure that the Energy Systems are used, managed, operated, and maintained in compliance with this Agreement.

3.5.2 *DEFENSE OF TITLE.* At all times during the Operating Term, UMD shall defend its fee or leasehold interest title, as the case may be, to the Energy Systems, the Concessionaire's leasehold interest in and to the Energy Systems and the rights granted to the Concessionaire hereunder, or any portion thereof, against any Person claiming any interest adverse to UMD or Concessionaire in the Energy Systems, or any portion thereof, except where such adverse interest arises as a result of Concessionaire's act, omission, misconduct, or violation of Law.

3.6 CONCESSIONAIRE CHANGES OF OWNERSHIP AND TRANSFERS.

3.6.1 *LIMITATIONS*.

(a) Except for Pre-Approved Changes of Ownership, Changes of Ownership shall not occur prior to the expiration of 24 months following the date of Phase I Substantial Completion.

(b) Except for Pre-Approved Changes of Ownership, Changes of Ownership shall not occur after the expiration of 24 months following the date of Phase I Substantial Completion without UMD's prior approval pursuant to Section 3.6.2.

(c) Any purported voluntary or involuntary assignment, sale, financing, grant of security interest, hypothecation, conveyance, encumbrance, grant of right of entry, or grant of other use, special use or right to manage or control the Energy Systems or Concessionaire in violation of this Section shall be null and void *ab initio* and UMD, at its option, may declare any such action to be a Concessionaire Default.

3.6.2 *APPROVAL PROCEDURES.* Following expiration of the period identified in Section 3.6.1(a), a Change of Ownership may be completed, provided both of the following conditions have been satisfied:

(a) Concessionaire has requested UMD's approval of the proposed Change of Ownership, delivered to UMD all information relevant to approval of the Change of Ownership pursuant to Section 3.6.2(b), and responded to all UMD requests for additional information;

(b) UMD has completed a Responsibility Determination and has determined that upon completion of the proposed Change of Ownership, Concessionaire will satisfy the following criteria:

(1) Concessionaire will have the capacity in all respects to perform fully the requirements of the Agreement; and,

(2) Concessionaire will possess the integrity and reliability that will ensure good faith performance of the Agreement.

3.6.3 *CAPACITY.* For the purposes of UMD's determination under Section 3.6.2(b)(1) only, "capacity" means:

(a) The technical and commercial competency, the expertise, the experienced personnel, and the technical resources to perform the Agreement fully in accordance with the KPIs and all other provisions of this Agreement;

(b) The financial resources necessary to perform the Agreement fully, including:

(1) The capacity to fund all Additional Capital Improvements and other work identified in the Five-Year Plan in effect on the date of UMD's receipt of Concessionaire's request for UMD's approval of the transfer;

(2) The ability to assume the obligation to fund implementation of the Reversion Work Plan; and,

(3) The capacity to fulfill all of Concessionaire's indemnification obligations under the Agreement.

3.6.4 *MULTIPLE DIRECT OWNERS.* In addition to UMD's approval pursuant to Section 3.6.2, any Change of Ownership of ownership interests in a Concessionaire organized as a joint venture (or other business organization in which ownership interests are held by multiple direct Equity Participants) must be approved pursuant to Section 10A-202(e) of the P3 Statute, unless the ownership interest being transferred is less than 20% of the total ownership interests.

3.6.5 *PRELIMINARY EVALUATION*. If requested by Concessionaire, UMD, on a confidential basis and at Concessionaire's sole cost and expense, shall evaluate one or more proposed transferees and notify Concessionaire within 30 days following its receipt of the request whether it would be likely to reach a favorable Responsibility Determination if Concessionaire formally requested its approval of a Change of Ownership. UMD, upon Concessionaire's reasonable request, may execute a non-disclosure agreement in substance and form like the standard non-disclosure agreement contained in Appendix K-3.

3.6.6 At no time shall any Change in Ownership result in any interest being gained in the Energy Systems by any suspended or disbarred entity, including entities subject to agreement for voluntary exclusion, or subject to a proceeding to suspend or debar from bidding, proposing, or contracting with any federal or State department or agency.

3.6.7 *PRE-APPROVED CHANGES OF OWNERSHIP.*

(a) Pre-Approved Changes of Ownership are those changes and transfers identified in Section 3.6.7(b) that have been pre-approved by the Board of Public Works through its approval of this Agreement. No later than 30 days prior to completion of any Pre-Approved Change of Ownership (except transfers described in Section 3.6.7(b)(3) and (6) for which no notice is required), Concessionaire shall notify UMD of the transfer and deliver documentation in form and substance acceptable to UMD evidencing the change. Such documentation shall include the following information:

(1) The names of the transferor and the transferee;

(2) Evidence that the transfer or the transaction satisfied the requirements of this Section; and if applicable,

(3) Documentation that the transferee assumes without condition all Concessionaire's obligations, duties, and liabilities under the Program Agreements and agrees to perform all provisions of such documents applicable to Concessionaire in exchange for the compensation and Project Prices provided therein.

(b) Pre-Approved Changes of Ownership are limited to the following:

(1) Execution and delivery of Funding Agreements and Security Documents in strict compliance with this Agreement, and/or any other grant to a Lender for security as permitted by this

Agreement, provided that, in all cases Concessionaire retains responsibility for the performance of Concessionaire's obligations under the Program Agreements;

(2) The following Direct Agreement-authorized transfers:

(i) A transfer of custody and control of the Energy Systems to a Step-in Party in accordance with any Direct Agreement, until the earlier of delivery of a Step-out Notice and pending approval or explicit disapproval of a Substituted Entity under that agreement;

(ii) A transfer of custody and control of the Energy Systems to a Substituted Entity approved by UMD in accordance with the Direct Agreement; or,

(iii) Any other exercise of Lender remedies under the Direct Agreement, including foreclosure.

(3) A *bona fide* open market transaction involving beneficial interests in the ultimate parent organization of an Equity Participant (but not if the Equity Participant is the ultimate parent organization);

(4) A *bona fide* upstream business reorganization, consolidation, or other transfer in equity of a parent entity with an interest in Concessionaire where the transferor and the transferee are under the same ultimate parent organization with ultimate power to direct or control or cause the direction or control of the management of Concessionaire and so long as there occurs no change in such entity as part of such reorganization, consolidation, or other transfer in equity;

(5) A transfer of interests between managed funds that are under common ownership or control so long as there occurs no change in the entity with ultimate power to direct or control or cause the direction or control of the management of Concessionaire;

(6) A change due solely to *bone fide* open market transactions in securities completed on a recognized public stock exchange, including transactions involving an initial public offering;

(7) The transfer of an indirect ownership interest in an Equity Participant that is the sole direct owner of Concessionaire, provided:

(i) The Parties and the proposed transferee have satisfied the requirements set forth in Section 3.6.2(b) for both Concessionaire and such Equity Participant; and,

(ii) The sale or other transfer occurs after the expiration of the of 24 months following Phase I Substantial Completion.

(8) The sale or other transfer of an ownership interest in Concessionaire or an Equity Participant provided that the ownership interest being transferred (whether accomplished through a single transaction or in a series of related or unrelated transactions) is less than 20% of the entity's total ownership interests;

(9) The exercise of minority veto or minority voting rights (whether granted by applicable Law, by Concessionaire's organizational documents, or by related member or shareholder agreements or similar agreements over majority business decisions of Concessionaire), provided that such minority veto or voting rights are granted; and,

(10) The sale or other transfer of any ownership interest in Concessionaire between entities that were Equity Participants at the Initial Financial Closing.

(c) Nothing in this Section 3.6.7 shall be construed to permit any transfer of an equity interest subject to Section 3.6.4.

(d) Each transferee, including any Person who acquires ownership of an interest in Concessionaire through foreclosure, transfer in lieu of foreclosure or similar proceeding, shall execute and deliver to UMD an assumption agreement (in form acceptable to UMD), providing that the transferee takes such ownership interest subject to, and shall be bound by, this Agreement, the then-current Operations Plan, all agreements between the transferor and third parties, and all agreements between the transferor and Governmental Authorities with jurisdiction over the Energy Systems, unless UMD otherwise Approves.

3.7 **TRANSFER BY UMD.** Upon 30 days' prior notice to Concessionaire and without Concessionaire's consent, UMD may assign all or any portion of its right, title, and interest in this Agreement and other Program Agreements to any other Governmental Authority that succeeds to UMD's governmental powers and authority by operation of Law, provided that UMD has provided Concessionaire with reasonable assurance of the transferee's legal authority and sufficient financial resources to honor and perform UMD's obligations hereunder, and provided that at the time of UMD's notice, the transferee must have financial resources no less than those available to the University System or credit ratings by a Nationally Recognized Statistical Ratings Organization registered and approved by the Securities and Exchange Commission of no less quality than those of the University System.

3.8 **CHANGE OF ORGANIZATION OR NAME.**

3.8.1 Concessionaire shall not change the legal form of its organization in a manner that adversely affects UMD's rights, protections, and remedies under this Agreement and other Program Agreements without UMD's prior consent.

3.8.2 If either Party changes its name, such Party agrees to promptly furnish the other Party with notice of change of name and appropriate supporting documentation.

3.9 **TAXES.** Subject to Section 3.9.1, Concessionaire shall pay when due all Taxes payable during the Term that are determined based on the use of, operations at, occupancy of, or conduct of business in or from, the Energy Systems, including any Property Taxes levied on the Energy Systems' appraised value or other method.

3.9.1 *PROPERTY TAXES.* The Parties acknowledge that, as of the Effective Date, the Energy Systems are exempt from Property Taxes. To the extent the Energy Systems are no longer exempt from any Property Taxes due to any cause other than acts or omissions of Concessionaire or a Concessionaire Party (other than Concessionaire's execution of this Agreement or those actions Concessionaire is directed or obligated to take pursuant to this Agreement), Concessionaire shall pay the final amount of Property Taxes due and payable and seek reimbursement of that amount from UMD as a Reimbursable Cost.

3.9.2 *REDUCTION.* Concessionaire shall use commercially reasonable efforts to reduce the amount of Property Taxes to be reimbursed by UMD pursuant to Section 3.9.1. For the purposes of this provision only, "commercially reasonable efforts" means that the amount of the potential reduction exceeds the estimated cost of obtaining such reduction.

3.9.3 *PAYMENT BY UMD*. UMD reserves the right, without being obligated to do so, to pay the amount of any Taxes not timely paid by Concessionaire and which are

not being contested by Concessionaire. UMD's payment shall be deemed additional consideration hereunder, due, and payable by the Concessionaire within 20 Business Days after being notified of such payment by UMD.

3.9.4 *TAX CONTEST*. Concessionaire may contest any Taxes for which it is responsible pursuant to this Section 3.9, provided that:

(a) No such contest may involve a reasonable possibility of forfeiture or sale of the Energy Systems; and,

(b) Upon the final determination of any such contest, if it has not already done so, Concessionaire shall pay any amount found to be due, together with any costs, penalties, and interest. UMD shall, without incurring any out-of-pocket cost, reasonably cooperate with Concessionaire in any reasonable attempt by the Concessionaire to reduce or eliminate its Tax liability.

ARTICLE 4: PROGRAM FINANCING

4.1 CONCESSIONAIRE'S FINANCING OBLIGATION. Concessionaire shall fund all Capital Improvements throughout the Term (except for any portion of the cost of Capital Improvements contributed by UMD or another funding source) and all Start-up Costs, all costs of Management Services, Operating Services, and Maintenance Services, and all other costs associated with its performance of this Agreement unless otherwise provided herein.

4.1.1 *CAPITAL STRUCTURE*. Beginning at the Initial Financial Closing and continuing for at least two Contract Years after the date of Phase I Substantial Completion, the ratio of the Equity Investment to the total Program Financing shall not be less than 10%, after which Concessionaire shall not reduce such ratio below 10% without UMD's prior consent unless such reduction is related to rescue financing or the result of a workout process following a default on the Program Debt.

4.1.2 *PROGRAM DEBT.* Concessionaire may issue Program Debt or refinance existing Program Debt at any time during the Term provided that, as a condition thereof, Concessionaire maintains the proportion of Equity Investment to total Program Financing required by Section 4.1.1 and complies with the requirements of Sections 4.4 and 4.5, including securing UMD's prior approval of such issuance.

4.1.3 *NEXTGEN FINANCIAL MODEL.* The Parties acknowledge that the Concessionaire shall maintain and update the Initial Base Case Financial Model in accordance with the procedures set forth in Appendix G-9.

4.1.4 *CONCESSIONAIRE ESTOPPEL CERTIFICATES*. Concessionaire shall execute, acknowledge, and deliver to UMD, or any Person identified by UMD, standard consents and estoppel certificates with respect to this Agreement. Concessionaire may qualify such consents and certificates, after reasonable diligence, upon the best knowledge and belief of a designated Concessionaire Party. Concessionaire shall not be required to incur any additional obligations or liabilities, take any action, give any consent, or enter into any document inconsistent with the provisions of this Agreement or applicable Law.

4.2 UMD COOPERATION. To the extent consistent with applicable Law and at Concessionaire's sole cost and expense, UMD shall cooperate with Concessionaire with respect to documentation reasonably necessary to obtain, maintain, and replace financing for Concessionaire's financing obligations hereunder.

4.2.1 UMD shall review, approve, and execute documents that substantiate the terms of this Agreement (including any consents or agreements necessary to confirm that the debt evidenced by the relevant financing constitutes a Program Debt).

4.2.2 UMD shall make information and material relating to Energy Systems Operations available to any of the Concessionaire's then-current or prospective Institutional Lender or other lender (including a Bond Trustee, Collateral Agent, and Underwriter in connection with any Bond Financing) to facilitate financing to the extent permitted by applicable Law and UMD's contractual obligations with third parties and to the extent reasonable under the circumstances. Concessionaire shall cause each Institutional Lender or other lender to execute a nondisclosure agreement with UMD in form and substance like the Nondisclosure Agreement contained in Appendix K-3; provided, however, that neither a Bond Trustee, a Collateral Agent, nor any owners or beneficial owners of bonds in connection with any publicly offered Bond Financing or Bond Offering shall be required to execute such a nondisclosure agreement with UMD.

4.2.3 UMD shall use commercially reasonable efforts to cause its independent public accountants to reasonably cooperate in connection with any public or private offering of securities by Concessionaire or by a Conduit Issuer in connection with a Bond Financing, provided that Concessionaire requests such cooperation in writing and agrees to pay all costs and expenses associated therewith.

4.2.4 UMD shall execute, acknowledge, and deliver to Concessionaire, or any Person identified by the Concessionaire, standard consents, and estoppel certificates with respect to this Agreement. UMD may qualify such consents and certificates, after reasonable diligence, upon the best knowledge and belief of its designated Senior Official.

4.2.5 In performing its obligations under this Section 4.2, UMD shall not be required to take any action, give any consent, or enter into any document inconsistent with the provisions of this Agreement or to incur any obligations or liabilities that are not indemnified by Concessionaire.

4.3 INITIAL FINANCIAL CLOSING.

4.3.1 *INITIAL FINANCIAL CLOSING SCHEDULING*. Subject to Section 4.3.4, Initial Financial Closing shall occur as soon as is reasonably possible after the Effective Date on a date and at a time set by the Parties ("Original Financial Closing Time"). The Initial Financial Closing shall occur no later than 60 days after the Effective Date unless Concessionaire delays the Initial Financial Closing to a specified date no later than 90 days after the Effective Date by notifying UMD at least 5 Business Days prior to the Original Financial Closing Time and certifying that the fixed prices for the Phase I Capital Improvements and the Fixed O&M Charge will not change after the Original Financial Closing Time.

4.3.2 *INITIAL FINANCIAL CLOSING SECURITY.*

(a) UMD acknowledges receipt from Concessionaire of Initial Financial Closing Security in the amount of $10 million, which UMD shall hold as security for timely completion of the Initial Financial Closing. Concessionaire acknowledges that concurrently with UMD's execution of this Agreement, it returned the BAFO Proposal Security to Concessionaire marked "Cancelled" along with a certificate in a form that was approved by Concessionaire confirming that the BAFO Proposal Security will not be utilized.

(b) If UMD terminates this Agreement pursuant to Section 4.3.4(d)(4), it shall be entitled, without notice to Concessionaire, to immediately draw the full amount of the Initial Financial Closing Security upon its presentation to the surety of a sight draft and a certificate confirming such right. UMD shall retain all proceeds of the Initial Financial Closing Security as its sole remedy against Concessionaire for failing to achieve timely Initial Financial Closing (except in the event of Concessionaire's fraud or intentional misrepresentation). Concessionaire acknowledges that the loss UMD will incur in the event of a termination under Section 4.3.4(d)(4), is difficult to ascertain, and that the amount of the Initial Financial Closing Security is based on the Parties' reasonable estimate of such loss, taking into account the magnitude of the Transaction and the other relevant considerations, and is not intended as, and does not constitute, a penalty. Except in cases involving Concessionaire's fraud or intentional misrepresentation, the

right of UMD to draw the full amount of the Initial Financial Closing Security is intended to be, and shall constitute, liquidated damages, and payment thereof to UMD shall terminate both Parties' rights and remedies under this Agreement in all respects.

(c) Upon completion of the Initial Financial Closing or if this Agreement is terminated prior to the Initial Financial Closing for any reason other than that identified in Section 4.3.4(d)(4), UMD, as beneficiary, promptly shall deliver to Concessionaire the Initial Financial Closing Security marked "Cancelled" and a certificate in a form approved by Concessionaire confirming that the Initial Financial Closing Security will not be utilized.

4.3.3 [RESERVED]

4.3.4 *CONDITIONS PRECEDENT TO INITIAL FINANCIAL CLOSING; TERMINATION*.

(a) *Conditions for Concessionaire's Benefit*. Concessionaire shall complete Initial Financial Closing only if each of the following conditions has been satisfied in full at or before the Initial Financial Closing Time, unless waived by Concessionaire:

(1) UMD's representations set forth in Section 2.1 shall be true and correct in all material respects at the Initial Financial Closing with the same force and effect as on the Effective Date, except that those representations that by their terms speak only as of the Effective Date or another date only need to be true and correct as of such date;

(2) UMD shall not be in material breach of any material covenant on its part contained in this Agreement that it must perform, or comply with, at or prior to Initial Financial Closing;

(3) UMD shall have delivered to Concessionaire a legal opinion of the Office of the State's Attorney General in substantially the form contained in Appendix G-4, which is addressed to the Lenders (including a Bond Trustee on behalf of any Lenders, and an underwriter in any public offering, in connection with a Bond Financing) and speaks to the legal standing and power and authority of the University System and UMD to enter into, and perform, this Agreement and other Program Agreements; the enforceability of this Agreement and other Program Agreements; fee title to the Energy Systems; and other matters;

(4) The Board of Public Works shall have executed and delivered, or caused to be executed and delivered, to Concessionaire:

(i) The Ground Lease;

(ii) The Easement Agreement; and,

(iii) The consents and estoppel certificates to facilitate financing contemplated by Section 4.2.4 and the consent agreement contemplated by Section 25.1.1;

(5) UMD shall have delivered to Concessionaire a fully executed copy of the Direct Agreement;

(6) UMD shall have certified that to UMD's Actual Knowledge, from the BAFO Date through and including Initial Financial Closing, no action or event has transpired that would have constituted a Change in Law had it followed Commencement;

(7) UMD shall have certified that all Governmental Authorizations set forth in Appendix M-1 are in full force and effect;

(8) UMD shall have certified that there are no outstanding bonds that are encumbered by, or are otherwise secured by, the revenues or other assets of any portion of the Energy Systems;

(9) UMD and MEDCO shall have executed the Transition Agreement substantially in the form contained in Appendix O-1;

(10) UMD shall have delivered to Concessionaire a certificate confirming that it has notified MEDCO of the termination of the Interim Operating Agreement effective at Commencement;

(11) UMD shall have delivered to Concessionaire a certificate by MEDCO confirming that it has notified the Interim Operator of its termination of the Interim Management Agreement effective at Commencement and that it has assigned to UMD its interests in the Purple Line Agreement and the Interconnection Agreement, effective at Commencement;

(12) UMD shall have delivered to Concessionaire a certificate confirming that a material casualty loss, destruction of, damage to, or condemnation of, the Central Energy Plant Building, the Mowatt

Substation, or the DTP-4 Building has not occurred that requires the adoption of a Restoration Plan;

(13) UMD shall have delivered to Concessionaire MEDCO's certificate that there are no outstanding Bonds that are encumbered by, or are otherwise secured by, the revenues or other assets of any portion of the Energy Systems.;

(14) UMD shall have approved Concessionaire's Key Managers according to the procedures set forth in Section 9.3.1(d); and,

(15) UMD shall have delivered to Concessionaire a certificate confirming that, at or before Initial Financial Closing, UMD has satisfied each of the conditions set forth in this Section 4.3.4(a) (except for any condition that has been waived by Concessionaire).

(b) *Conditions for UMD's Benefit*. UMD shall be obligated to complete Initial Financial Closing only if each of the following conditions precedent has been satisfied in full at or before the Initial Financial Closing Time, unless waived by UMD:

(1) Concessionaire's representations and warranties set forth in Section 2.2 shall be true and correct in all material respects at the Initial Financial Closing with the same force and effect as on the Effective Date, except that representations and warranties that by their terms speak only as of the Effective Date or another date only need to be true and correct as of such date;

(2) Concessionaire shall not be in material breach of any material covenant on its part contained in this Agreement that it must perform, or comply with, at or prior to Initial Financial Closing;

(3) Concessionaire shall have delivered to UMD a legal opinion of Concessionaire's outside counsel, substantially in the form contained in Appendix G-5;

(4) Concessionaire shall have delivered to UMD the fully executed Key Contracts, each of which shall comply with the requirements set forth in Section 7.3;

(5) If Concessionaire finances the Phase I Capital Improvements with debt raised through a public offering, it shall deliver evidence that all Program Debt issued by Concessionaire on or before Initial

Financial Closing has a credit rating of at least investment grade as determined by one or more of the Credit Rating Agencies;

(6) Concessionaire shall have delivered to UMD a certificate confirming that, at or before the Initial Financial Closing Time, Concessionaire satisfied each of the conditions set forth in this Section 4.3.4(b) (except for any condition that has been waived by UMD);

(7) Concessionaire shall have delivered to UMD the Payment Bonds and the Performance Bond or Performance Letter of Credit required by Sections 8.5.2 and 9.6, respectively; and,

(8) Concessionaire shall have delivered to UMD the certificates required by Sections 2.2.2 and 2.2.8(b).

(c) *Mutual Conditions*. UMD and Concessionaire shall complete Initial Financial Closing only if each of the following conditions precedent has been satisfied in full at or before the Initial Financial Closing Time, unless waived by both UMD and Concessionaire:

(1) No preliminary or permanent injunction, temporary restraining order, or other order shall have been issued by a Governmental Authority of competent jurisdiction or other legal restraint or prohibition that enjoins or prevents Initial Financial Closing; and,

(2) No Governmental Authority of competent jurisdiction has taken any action, or enacted, entered, enforced, or deemed applicable to the Transaction, any Law that has resulted in, or has undertaken any review or proceeding that could reasonably be expected to result in, any Governmental Authority conditioning or restricting Initial Financial Closing, imposing a material impairment on the Transaction, or making the Transaction illegal.

(d) *Termination Prior to Initial Financial Closing*. This Agreement may be terminated at any time prior to the Initial Financial Closing:

(1) By the Parties' mutual, written consent;

(2) By either Party, upon notice to the other Party, if any Governmental Authority of competent jurisdiction shall have issued an order, decree, or ruling, or has taken any other action permanently restraining, enjoining, or otherwise prohibiting the Transaction, and such order, decree, ruling, or other action has

become final and non-appealable; provided that a Party that fails to comply with this Agreement, or engages in other conduct, that causes, or results in, the Governmental Authority's action shall not be entitled to terminate this Agreement under this Section 4.3.4(d);

(3) By Concessionaire, upon notice to UMD, if any condition set forth in Section 4.3.4(a) is not satisfied at the Initial Financial Closing Time; provided that Concessionaire shall not have the right to terminate this Agreement under this Section 4.3.4(d)(3) if:

(i) Concessionaire shall have waived such condition prior to the Initial Financial Closing Time;

(ii) Concessionaire's failure to comply with this Agreement or other conduct has been the cause of, or resulted in, the failure of such condition or conditions to be satisfied; or,

(iii) Any condition set forth in Section 4.3.4(b) is not satisfied at the Initial Financial Closing Time;

(4) By UMD, upon written notice to Concessionaire, if any condition set forth in Section 4.3.4(b) is not satisfied at the Initial Financial Closing Time, provided that UMD shall not have the right to terminate this Agreement under this Section 4.3.4(d)(4) if:

(i) UMD shall have waived such condition prior to the Initial Financial Closing Time;

(ii) UMD's failure to comply with this Agreement or other conduct has been the cause of, or resulted in, the failure of such condition or conditions to be satisfied; or,

(iii) Any condition set forth in Section 4.3.4(a) is not satisfied at the Initial Financial Closing Time; or,

(5) By either Party, upon notice to the other Party, if Initial Financial Closing has not occurred within 20 Business Days after the Initial Financial Closing Time or such later date agreed to in writing by the Parties, provided that if Initial Financial Closing has not occurred due to a Party's failure to satisfy the conditions precedent set forth in Section 4.3 for which such Party is responsible, that Party shall

not be entitled to terminate this Agreement under this Section 4.3.4(d).

(e) *Effect of Termination Prior to Initial Financial Closing*. If UMD or Concessionaire terminates this Agreement under Section 4.3.4(d), this Agreement shall end without liability or obligation to either Party or their respective representatives, except as set forth in Section 4.3.2(b), this Section 4.3.4, Article 23, Article 24, and Article 25.

(1) If Concessionaire terminates this Agreement pursuant to Section 4.3.4(d)(3) as a result of the failure of UMD to satisfy any condition set forth in Section 4.3.4(a) (excluding Section 4.3.4(a)(7) and Section 4.3.4(a)(13)), UMD will compensate Concessionaire in an amount equal to the lower of:

(i) All reasonable and documented out-of-pocket costs of financing incurred by Concessionaire on and after July 1, 2022, through the effective date of the termination; or,

(ii) $1,000,000.

(2) If UMD terminates this Agreement pursuant to Section 4.3.4(d)(4), it shall draw on the Initial Financial Closing Security and shall retain both the amount of such security and the earnings thereon.

4.3.5 *COVENANTS*. The Parties shall cooperate with each other throughout the Initial Financial Closing Period to complete Initial Financial Closing no later than the Initial Financial Closing Time.

(a) *Reasonable Efforts*. During the Initial Financial Closing Period, each Party shall use all reasonable efforts to:

(1) Take, or cause to be taken, all actions necessary to comply promptly with all requirements under this Agreement and all legal requirements that may be imposed on such Party to complete Initial Financial Closing, including making any necessary filings with Governmental Authorities; and,

(2) Obtain (and cooperate with the other Party to obtain) all consents that are required to be obtained prior to or at Initial Financial Closing. Each Party shall promptly furnish information to the other Party at such other Party's reasonable request in connection with obtaining such consents.

(b) *Injunctions*. If any Governmental Authority of competent jurisdiction issues a preliminary or permanent injunction, temporary restraining order, or other decree or order before the Initial Financial Closing Time that would prohibit or materially restrict or hinder Initial Financial Closing, each Party shall use all reasonable efforts to cause such injunction, order, or decree to be dissolved or otherwise removed, or cause the condition underlying such injunction, order, or decree, to be resolved or eliminated as promptly as possible and, in any event, prior to Initial Financial Closing Time.

(c) *Disclosure of Changes*. During the Initial Financial Closing Period, each Party shall notify the other Party promptly about any matter of which it has become aware that is inconsistent in any material respect with any of the representations contained in Section 4.3.4 or the representation or warranties in Sections 2.1 and 2.2. No such disclosure, however, shall cure any misrepresentation or breach of warranty for the purposes of Section 4.3.2(b).

4.3.6 *INTEREST RATE FLUCTUATIONS.*

(a) *Interest Rate Risk.* The Parties shall share the risk and receive the benefit of interest rate fluctuations during the Interest Rate Protection Period.

(b) Except as provided in Section 4.3.6(d) and (e), UMD shall assume 100% of the risks, and receive 100% of the benefits, of changes in the total Initial Program Debt attributable to fluctuations in the Baseline Interest Rate during the Interest Rate Protection Period.

(c) Except as provided in Section 4.3.6(d) and (e), UMD shall assume 85% of the risks, and enjoy 85% of the benefits, of changes in the total Initial Program Debt attributable to fluctuations in the Baseline Credit Spreads during the Interest Rate Protection Period and Concessionaire shall assume 15% of such risks and benefits.

(d) *Private Placements*. Concessionaire shall assume 100% of the risks, and receive 100% of the benefits, of increases and decreases in the total Initial Program Debt attributable to fluctuations in any Baseline Credit Spread for Private Placements (except offerings under Rule 144A and Regulation S of the Securities Act of 1933, 15 U.S.C. §§77a *et seq.*), bank debt, or any other debt facilities for which committed credit spreads are available.

(e) *Credit Rating Risk*. Concessionaire shall assume 100% of the increases in the total Initial Program Debt attributable to bond components of such

debt resulting from the final credit rating of such bonds being lower than the indicative investment grade rating(s) of such bonds projected by Proposer in its BAFO Proposal.

(f) At the end of the Interest Rate Protection Period, the Parties shall adjust the BAFO Financial Model in accordance with Appendix G-9 to reflect the changes (if any) in the Baseline Interest Rate and the Baseline Credit Spreads.

4.3.7 [Reserved]

4.4 ADDITIONAL FINANCIAL CLOSINGS. If, at any time during the Term following the Initial Financial Closing, the Parties determine that Additional Capital Improvements, Major Repairs, Replacements, or Material Changes should be financed with debt financing only or a combination of debt and equity financing, the Parties shall cooperate to establish terms and conditions, and obtain the Lender consents and other approvals, as necessary, for Additional Financial Closings.

4.4.1 *CAPITAL STRUCTURE*. The capital structure for financing an Additional Capital Improvement, Major Repair, Replacement, or Material Change shall permit Concessionaire to maintain the overall NextGen Program capital structure in accordance with Section 4.1.1. If debt financing sufficient to permit Concessionaire's compliance with this requirement is not available or is only available at a cost or under terms and conditions unacceptable to UMD, then the Parties may agree to finance such Capital Improvements with Concessionaire-provided equity in whole or in substantial part, taking into account the risk of similar investments and financial market conditions prevailing at the time of the financing.

4.4.2 *UMD SELF-FUNDING*. Nothing in this Agreement precludes UMD from authorizing the funding of Projects to complete any Capital Improvement from the NextGen Reserve or other funds available to it, including State capital appropriations and the proceeds of a State or University System bond financing. Concessionaire shall be responsible for designing, engineering, constructing, installing, and testing all Projects so funded and shall receive a management fee therefor as provided in Section 16.5.5.

4.4.3 *AVAILABILITY PAYMENT ADJUSTMENT*. If Concessionaire finances an Additional Capital Improvement, Major Repair, Replacement, or Material Change with debt or a combination of debt and equity, it shall adjust the monthly Availability Payment by an amount not to exceed the amount approved by UMD in the Change Order authorizing such work, effective as of the first day of the first month following

Actual Substantial Completion Date of such Additional Capital Improvement, Major Repair, Replacement, or Material Change.

4.5 ADDITIONAL FINANCING; REFINANCING.

4.5.1 *FINANCING CHANGES.*

(a) Concessionaire may issue additional Program Debt or refinance existing Program Debt at any time during the Operating Term, provided that it secures UMD's prior approval pursuant to Section 4.5.3.

(b) On the date that is 10 years after the Initial Financial Closing, UMD may propose that Concessionaire use commercially reasonable efforts to refinance any existing Program Debt within 120 days from the date of the notice (which 120 day period may be extended by the Concessionaire for an additional 90 days to the extent reasonably required). Following receipt of the notice from UMD, Concessionaire and UMD shall consult to determine whether the effect of the Refinancing (after taking into account the expected cost of the Refinancing) would reasonably be expected to result in a Refinancing Gain. To the extent that the Parties determine that the proposed Refinancing is reasonably expected to result in a Refinancing Gain, the Concessionaire shall use commercially reasonable efforts to refinance the subject Project Debt in accordance with this Section 4.5.1(b). For greater certainty, if Concessionaire determines that UMD's proposal to refinance existing Program Debt will not result in a Refinancing Gain, Concessionaire will have no obligation to submit the notice of Refinancing identified in Section 4.5.3(a).

(c) No later than 30 days prior to the expected closing date of such Refinancing referred to in Section 4.5.1(b), Concessionaire shall deliver to the UMD Program Manager the notice identified in Section 4.5.3(a) and the information identified in Section 4.5.3(b). The process set forth in Section 4.5.3(c) through (g) and the determination of the Refinancing Gain pursuant to Sections 4.5.4 through 4.5.6 shall apply to such Refinancing.

4.5.2 *NO UMD LIABILITY*. UMD shall have no obligation or liability in connection with any new Program Debt or Refinancing other than its obligations relating to a Lender's rights under any Direct Agreement and its obligations to make a Termination Payment under Sections 19.5.6, 22.1, 22.2, and 22.3. If Concessionaire issues new Program Debt or refinances existing Program Debt with a new Lender, the new Lender may be added to an existing Direct Agreement, provided that if such Lender elects not to be added to an existing Direct Agreement, UMD shall enter into a new Direct Agreement with such Lender.

4.5.3 *UMD APPROVAL.*

(a) *Notice of Additional Program Debt or Refinancing.* Promptly after determining that issuing additional Program Debt or Refinancing the Program Debt (in whole or in part) may be in UMD's best interest, Concessionaire shall submit to the UMD Program Manager a summary of the reason for the proposed additional Program Debt or Refinancing, the amount being borrowed or refinanced, the projected repayment period, and the anticipated process and schedule for completing the issuance or Refinancing.

(b) *Delivery of Proposed Documents.* At least 21 days prior to the expected closing date of the issuance of additional Program Debt or Refinancing of Program Debt, Concessionaire shall deliver to the UMD Program Manager the following information:

(1) A copy of the proposed Financial Model Update to reflect the issuance of additional Program Debt or the Refinancing of Program Debt;

(2) The basis for the assumptions used in the Financial Model Update (including term sheets and other relevant information outlining the new terms);

(3) Details of the actual timing and amounts of Equity Investments or distributions to Equity Participants up to the date of the issuance of the additional Program Debt or the Refinancing date;

(4) UMD's estimated share of the Refinancing Gain (if applicable), expressed in terms elected by UMD under Section 4.5.3(d)(3); and,

(5) All proposed revisions to the Financing Documents with changes from the original documents prominently identified.

(c) Before, during, and at any time after, any issuance of additional Program Debt or Refinancing of Program Debt, UMD may audit any financial model and documentation (including any aspect of the Refinancing Gain calculation) used in connection with such additional Program Debt or Refinancing,

(d) No later than 10 days following the UMD Program Manager's receipt of the information required by Section 4.5.3(b), UMD shall notify Concessionaire of its determination of the following issues:

(1) Whether to approve or disapprove the proposed issuance or Refinancing;

(2) Whether the proposed Refinancing will result in a Refinancing Gain; and,

(3) Subject to Concessionaire's ability to maintain all coverage ratios, if the proposed Refinancing will result in a Refinancing Gain, which of the following alternatives it chooses for receipt of its portion of such Refinancing Gain:

(i) A single payment in an amount less than or equal to any distribution made on or about the Refinancing date;

(ii) A reduction in the Availability Payment over all or a specified part of the remaining Operating Term;

(iii) A single payment deposited in the NextGen Reserve;

(iv) Any combination of these alternatives.

(e) UMD's failure to approve or disapprove the proposed issuance or Refinancing in a timely manner shall not prejudice its right to receive any portion of the Refinancing Gain, or to select the means for receiving its portion of the Refinancing Gain.

(f) If UMD renders any assistance, performs any requested activity, or incurs any other cost in connection with the issuance of new Program Debt or Refinancing apart from approving the transaction under this Section 4.5.3 and delivering an estoppel certificate under any Direct Agreement, then concurrently with the closing of these transactions, Concessionaire shall reimburse UMD all costs associated with such assistance or activity. UMD shall deliver to Concessionaire a written invoice detailing such costs at least five days prior to closing. If the issuance or Refinancing does not close, Concessionaire shall reimburse such costs within 10 days following delivery of UMD's invoice therefor.

(g) *Exempt Refinancing.* UMD shall not be required to consent to, or approve, any Exempt Refinancing. Concessionaire shall notify UMD of the Exempt

Refinancing no later than 21 days prior to the Refinancing's closing date. Such notice shall inform UMD of the amount and purpose of the Refinancing and the expected closing date.

4.5.4 *CLOSING*; *DELIVERY OF DOCUMENTS; NOTICE OF REFINANCING GAIN.*

(a) *Delivery of Final Financing Document Drafts*. No later than 7 days before the proposed date for closing the issuance of new Program Debt or Refinancing, Concessionaire shall deliver to the UMD Program Manager final drafts of the proposed funding agreements, security documents, and an updated version of the Financial Model.

(b) *Delivery of Final Financing Documents*. No later than 7 days after close of the issuance of new Program Debt or Refinancing, Concessionaire shall deliver to UMD copies of all signed funding agreements and security documents, along with the Financial Model updated as provided in Appendix G-9 and, if applicable, worksheets supporting Concessionaire's calculation of the Refinancing Gain.

(c) *Notice of Refinancing* Gain. No later than 15 days after the Refinancing's close, UMD shall notify Concessionaire whether it agrees in whole or in part with Concessionaire's calculation of the Refinancing Gain. If UMD does not agree, the Parties shall negotiate in good faith to determine the final Refinancing Gain. If the Parties cannot agree, the matter shall be resolved pursuant to the Dispute Resolution Process.

4.5.5 *CALCULATION OF THE REFINANCING GAIN.*

(a) Concessionaire shall calculate all Refinancing Gains according to the formula (A-B) - C = RG where the variables represent the following amounts:

(1) "A" represents the net present value of the Distributions to be made over the remaining Operating Term projected at the time immediately prior to the issuance of new Program Debt or Refinancing, as determined by the Financial Model (updated to reflect the effect of the issuance or Refinancing and the KPI Deductions and utilizing the Equity IRR as the discounting rate).

(2) "B" represents the net present value of the Distributions to be made over the remaining Operating Term projected at the time immediately prior to the issuance of new Program Debt or Refinancing, as determined by the Financial Model (updated to

reflect the effect of the KPI Deductions, but without updating to reflect the issuance or Refinancing and utilizing the Equity IRR as the discounting rate).

(3) "C" represents any adjustment required to raise the Pre-Refinancing Equity IRR to the Equity IRR.

(4) "RG" represents the amount (if any) of the Refinancing Gain.

(b) If the result of this calculation is equal to, or less than, zero, no Refinancing Gain is due.

(c) Notwithstanding anything to the contrary herein, no Refinancing Gain shall be due with respect to an Exempt Refinancing.

4.5.6 *REFINANCING GAIN PAYMENT*. Within 10 days following the day on which the Parties reach agreement on the amount of the Refinancing Gain, or their dispute is resolved pursuant to Section 4.5.4(c), Concessionaire shall pay UMD 50% of the Refinancing Gain in the manner designated by UMD under Section 4.5.3(d).

4.6 PROHIBITED TAX SHELTER TRANSACTIONS.

4.6.1 *PROHIBITION.* Concessionaire shall not enter into any lease, sublease, concession, management agreement, operating agreement, or other similar arrangement or transaction that would cause UMD to become a party to a "prohibited tax shelter transaction" within the meaning of Section 4965 of the federal Internal Revenue Code (it being agreed that, for purposes of this Section 4.6.1, UMD shall not be treated as having become a party to any such transaction solely by virtue of its execution of this Agreement or any lease, sublease, concession, management agreement, operating agreement or other similar arrangement or other transaction to which the UMD has consented).

4.6.2 *LIABILITY FOR VIOLATION.* Violation of this Section 4.6 by Concessionaire shall entitle UMD to the following remedies:

(a) To recover from Concessionaire to the extent permitted by applicable Law, the amount of any Tax liability to which UMD or any UMD official is subject; and,

(b) To require Concessionaire, at Concessionaire's sole cost and expense, to prepare and file in a timely manner all statements and returns, and to maintain all lists and similar information that UMD becomes obligated to

disclose, file, and maintain with any Taxing authority or participant or otherwise because of such transaction.

4.7 SINGLE PURPOSE COVENANTS; CREDIT RATING.

4.7.1 *SINGLE PURPOSE.* At all times throughout the Term, Concessionaire shall maintain the sole purpose of performing its obligations under this Agreement.

(a) Concessionaire shall be formed and organized solely for the purpose of:

(1) Owning Concessionaire's interest in the Energy Systems;

(2) Owning, holding a leasehold interest in, managing, operating, maintaining, improving, and using the Energy Systems;

(3) Collecting from UMD the Availability Payment, the Energy Services Charge, and the NextGen Reserve Charge in connection with providing the services hereunder;

(4) Financing its interest in the Energy Systems; and,

(5) Carrying out the Energy Services and other activities permitted pursuant to this Agreement (and any activities reasonably incidental thereto).

(b) Concessionaire shall not engage in any business unrelated to providing Energy Services pursuant to this Agreement;

(c) Concessionaire shall not hold any assets other than those necessary to perform its obligations under this Agreement;

(d) Except as appropriate for Tax reporting purposes, Concessionaire shall maintain its own separate books and records and its own accounts;

(e) Concessionaire shall observe all corporate, limited partnership, or limited liability company, as applicable, formalities and do all things necessary to preserve its existence;

(f) Concessionaire shall not guarantee or otherwise obligate itself with respect to the debts of any other Person;

(g) Concessionaire shall not pledge its assets for the benefit of any other Person except as expressly permitted hereby or by any Program Debt, or in connection in the Energy Systems' ordinary course of business; and,

(h) Concessionaire shall maintain adequate capital in light of its contemplated business operations.

4.7.2 *CREDIT RATING.* Unless UMD otherwise agrees, if Concessionaire issues or refinances any Program Debt after Initial Financial Closing, at the time of such issuance or Refinancing, such Program Debt shall have an investment grade credit rating, as determined by at least one of the Credit Rating Agencies. Concessionaire shall provide written evidence of such rating to UMD at the same time as such issuance, refinance, or entry. The annual reasonable, actual-out-pocket cost of maintaining the credit rating of the Program Debt with a Credit Rating Agency shall be added to the Energy Services Charge as a Reimbursable Cost.

4.8 INTENDED TREATMENT FOR FEDERAL AND STATE INCOME TAX PURPOSES.

4.8.1 The Parties intend for United States federal and State income Tax purposes that the Concessionaire Charge is a fee and payment in consideration of the Energy Services provided by Concessionaire to UMD.

4.8.2 Notwithstanding Section 4.8.1, this Section 4.8 only sets forth the Parties' intentions and agreements with respect to United States federal and state income Tax purposes. No provision of this Agreement is intended to, or shall in any way, transfer any fee interest in the real property or improvements comprising the Energy Systems to Concessionaire for the purposes of State statutory or common Law governing legal title to real property or any other purpose whatsoever other than United States federal and State income Tax purposes as described above.

4.8.3 The Parties consider the Concessionaire Charge to be a reasonable charge based upon the fair market value of the services provided hereunder by Concessionaire to UMD.

4.8.4 The Parties intend that this Agreement will be treated as a service contract pursuant to Section 7701 of the federal Internal Revenue Code with respect to the Energy Services provided by Concessionaire to UMD. The Parties shall use commercially reasonable efforts to cause such treatment and shall not file any Tax returns inconsistent with such treatment except as required by Law.

4.8.5 The Parties intend that the State, through the University System, be considered the owner of all Capital Improvements made pursuant to this Agreement for GAAP accounting purposes.

4.8.6 If a Governmental Authority treats this transaction or any portion thereof differently for federal or State Tax purposes from the Parties' intentions set forth in this Section 4.8, such treatment shall not impact, affect, modify, or alter either Party's obligations hereunder.

4.9 FEDERAL AND STATE ENERGY INCENTIVES.

4.9.1 The Parties intend that UMD receive the benefit of incentives, grants, subsidies, and other payments by any Governmental Authority or other public or private entity for energy cogeneration facilities, renewable-driven energy production, greenhouse gas emission reductions, alternative Fuels, energy efficiency, water and energy conservation, and other similar programs for which UMD or the Energy Systems qualify. The Parties shall cooperate to identify such programs and to prepare and submit such applications, forms, and other documents necessary to secure, and maximize the amount of, such funds.

4.9.2 *INFLATION REDUCTION ACT INCENTIVES.*

(a) The Parties acknowledge that the Inflation Reduction Act of 2022 ("Act"), P.L. No. 117-169, permits eligible public institutions to receive direct reimbursement from the U.S. Government of the cost of certain equipment, materials, and services for constructing new energy facilities meeting the Act's requirements. To maximize the Act's reimbursement and other payments and incentives for which the Phase I Capital Improvements, Additional Capital Improvements, Major Repairs, Replacements, or Material Changes may qualify, Concessionaire shall incorporate the Act's requirements into its design, engineering, equipment, materials, and supply procurement, Record keeping, hiring, and workforce training and payment for such work. With regard to the Phase I Capital Improvements for the Central Energy Plant, Concessionaire shall:

(1) Design, engineer, procure, and install equipment that meets the Act's specific capacity, efficiency, and use requirements;

(2) Commence construction before January 1, 2025;

(3) Satisfy the Act's prevailing wage requirements;

(4) Satisfy the Act's apprenticeship labor hour requirements and the apprenticeship participation requirements;

(5) Satisfy the Act's domestic content requirement;

(6) Meet all other pertinent criteria established by the Act and any agency interpretations thereof, implementing regulations (temporary and permanent as applicable), guidelines, protocols, and other provisions of Law that are necessary to maximize the amount of the payment or incentive sought by UMD; and,

(7) Implement general recordkeeping requirements, including maintaining books of account or Records for Key Contractors, Subcontractors, and equipment manufacturers and suppliers in sufficient form to establish satisfaction of the above requirements and obtaining manufacturers' certificates of domestic content and other information as required to support UMD's filing for any of the Act's payments or incentives.

(b) Notwithstanding the above or any other provisions in this Concession Agreement, but without otherwise derogating from any other right or remedy that UMD may have under this Agreement or at Law for Concessionaire's failure to perform or observe any material obligation, covenant, agreement, term, or condition in this Agreement (including UMD's right to terminate this Agreement pursuant to Section 19.5.6), Concessionaire shall not be liable to UMD for any Governmental Authority's denial, or reduction of any incentive, grant, subsidy, tax credit, or other payment under the Act, provided Concessionaire:

(1) Cooperates in good faith with UMD and the Tax Advisor[1] to:

(i) review and agree to the data and other information identified by the Tax Advisor required under the Act to substantiate UMD's eligibility for, and the maximum amount of, the payment sought by UMD ("Recordkeeping Requirements");

(ii) Establish the form of the report required by Section 7.2.3 of the Construction Requirements; and,

[1] MEIP suggests the Parties jointly engage the Tax Advisor and share the costs.

(iii) Respond promptly and in good faith to questions and requests for information by UMD and the Tax Adviser.

(2) Provides the Tax Adviser with each report it prepares pursuant to Section 7.2.3 of the Construction Requirements;

(3) Permits the Tax Adviser to examine its Records related to the incentive or payment pursuant with Section 7.3.2 of the Construction Requirements and Section 13.2 of the Agreement to ensure Concessionaire's ongoing compliance with the Recordkeeping Requirements; and,

(4) After notification from UMD of a non-compliance with the Recordkeeping Requirements, deliver to the UMD Program Manager its plan for correcting any recordkeeping non-compliance and for mitigating any adverse effects of same no later than 30 calendar days following UMD's notification of the deficiency. Concessionaire shall implement the plan as proposed if UMD does not object within 10 calendar days of the delivery.

4.10 UMD PROGRAM DEBT PREPAYMENT RIGHT.

4.10.1 The Parties acknowledge that, as of the Effective Date, UMD has requested the option to apply certain federal and state grant and incentive payments that may be received by UMD from time to time before **[the date that is 10 years after the Effective Date – exact date to be inserted later]** ("Program Debt Prepayment Deadline") to defease or prepay outstanding Program Debt issued at the Initial Financial Closing. The Parties agree that, as between the Concessionaire and UMD, any funds so applied by UMD in accordance with the process set out in this Section 4.10, after satisfying all fees, reasonable costs and expense, are intended to benefit UMD through a reduction to the Availability Payment while otherwise maintaining the Concessionaire and the Equity Participants in a "no better, no worse" position (it being recognized by the Parties that by operation of any defeasance or prepayment in accordance with this Section 4.10.1, the Concessionaire's debt service coverage ratio and other coverage ratios) may increase, and that such impact will not be considered a "better" position).

4.10.2 In furtherance of the intention set forth in Section 4.10.1, UMD acknowledges that the Program Debt issued at the Initial Financial Close is expected to contain the right to legally defease the bonds or notes issued thereunder and the limited right to voluntarily prepay such bonds or notes. The full terms of such limited rights will be made available to UMD prior to the Initial Financial Closing,

but it is expressly acknowledged and agreed that the exercise by UMD of its rights under Section 4.10.3 will be subject to Concessionaire having first obtained confirmation that the subject defeasance will not have an Adverse Rating Effect (the "ARE Condition").

4.10.3 The Parties agree that, at any time prior to the Program Debt Prepayment Deadline, upon UMD having delivered 90 days advance written notice to the Concessionaire (such notice, a "Program Debt Prepayment Notice"), UMD may deposit with the Collateral Agent funds that will be promptly applied by the Concessionaire in order to (a) pay any and all fees, costs and expenses reasonably incurred by the Concessionaire in complying with this Section 4.10 (including, for certainty, the cost of satisfying the ARE Condition) or the implementation of the agreed proposal developed in accordance with Section 4.10.4, and (b) defease or prepay Program Debt in accordance with its terms required for a legal and economic defeasance under the Financing Documents. Promptly following receipt of the Program Debt Prepayment Notice, the Parties will meet in order to discuss and agree upon the most efficient manner to so defease or prepay the Program Debt so as to ensure full compliance with the terms of the Program Debt while optimizing the benefit to UMD and otherwise preserving the stated intention of Section 4.10.1.

4.10.4 In connection with the defeasance and/or prepayment proposal developed by the Parties in accordance with Section 4.10.3, Concessionaire will update the Financial Model so as to recalculate the Availability Payment that would be payable by UMD after giving effect to the defeasance and/or prepayment proposal (including for certainty, after payment of all fees, costs and expenses payable pursuant to Section 4.10.3), preserving the Equity IRR, and otherwise maintaining the Concessionaire and the Equity Participants in a "no better, no worse" position. Once the proposal developed by the Parties, including the updated Financial Model, has been agreed to by the Parties, and subject to receipt of applicable funds from UMD, (a) the Concessionaire shall promptly apply the full net amount received from UMD in accordance with the agreed proposal; and (b) the Parties shall take all steps required to modify the Availability Payment as set out in the agreed Financial Model.

4.10.5 UMD may elect to initiate this process (a) once each Contract Year, and (b) no more than two times in total, without the Concessionaire's prior written consent. UMD will have no right to initiate this process after the Program Debt Prepayment Deadline**.**

ARTICLE 5: ENERGY SYSTEMS TRANSITION PERIOD

5.1 GENERAL OBLIGATION. During the Transition Period, the Parties shall cooperate with each other to facilitate the orderly transition of control, possession, custody, management, operation, and maintenance of the Energy Systems at Commencement so that the Energy Systems' delivery of Full Requirements Energy Services continues without interruption.

5.2 TRANSITION COORDINATION WITH MEDCO AND INTERIM OPERATOR.

5.2.1 UMD shall take the following actions during the Transition Period:

(a) UMD shall perform its obligations under the Interim Operating Agreement;

(b) UMD shall notify MEDCO of its termination of the Interim Energy Systems Services Agreement effective at Commencement and direct MEDCO to notify the Interim Operator of the termination of the Interim Operating Agreement effective at Commencement;

(c) UMD shall enter into a Transition Agreement with MEDCO substantially in the form set forth in Appendix O-1;

(d) UMD shall perform, or cause MEDCO to perform, the following obligations:

(1) Ensure that the Interim Operator manages, operates, and maintains the Energy Systems in accordance with the Interim Operating Agreement and shall deliver the Energy Systems as a going concern to Concessionaire at Commencement in a condition not materially worse than their condition on the BAFO Date, except for any damage caused by casualty or condemnation governed by Section 5.9.

(2) Deliver to Concessionaire a certificate prior to Initial Financial Closing stating that at the Initial Financial Closing Time, the Energy Systems are not subject to any Encumbrance (other than a Permitted UMD Encumbrance or a Self-Support DTP Encumbrance) that will not be satisfied before the Initial Financing Closing;

(3) Ensure that the Interim Operator performs all of its obligations set forth in Section 9.22 of the Interim Operating Agreement as implemented in the Transition Protocols;

(4) Notify Concessionaire, or cause Concessionaire to be notified, of any change in the Energy Systems that materially impairs the performance of Equipment or materially reduces the capacity of the Energy Systems to supply the UMD Buildings with Full Requirements Energy Services;

(5) Provide Concessionaire access to the Energy Systems' real time operating data to the same extent UMD possesses;

(6) Provide Concessionaire with all available reports, correspondence, and other documents UMD receives under the Transition Agreement or otherwise pertaining to the operation or condition of the Energy Systems;

(e) Where any provision of the Transition Agreement requires UMD to provide any notice, require or direct any action, give instructions, make any request or inquiry, or exercise any prerogative of a similar nature, UMD shall take any such actions only after consulting with Concessionaire; and,

(f) UMD shall provide MEDCO, on a timely basis, such "Available Funds" as may be required from time to time for the purposes of, and as contemplated by, the Transition Agreement.

5.2.2 Concessionaire shall implement the transition plan set for in Appendix O-1A.

5.3 INSPECTIONS OF ENERGY SYSTEMS. During the Transition Period, UMD shall provide Concessionaire and any Person designated by Concessionaire reasonable access, during normal business hours and on reasonable notice to the Interim Operator, to inspect the Energy Systems and to review such operating and maintenance Records, Energy Services cost data, and Energy Systems' personnel records as Concessionaire's inspectors reasonably request, provided that Concessionaire's inspectors comply with University Policies and the Interim Operator's requirements regarding visitor safety and security and that Concessionaire executes a nondisclosure agreement that prohibits disclosure or use of the Interim Operator's confidential personnel records and contracts or other proprietary information. Such inspections shall not interfere with the Interim Operator's performance of its obligations under the Interim Operating Agreement.

5.4 ACCESS TO RECORDS.

5.4.1 UMD shall exercise its inspection rights under the Interim Operating Agreement to furnish Concessionaire and its representatives with access to such financial and operating data and other Records as they may from time-to-time reasonably

request, provided that information acquired during its review of those Records shall not serve as the ground for Concessionaire's termination of this Agreement and shall not be construed as a waiver by Concessionaire of its rights hereunder. Concessionaire shall hold, and shall cause its representatives to hold, in strict confidence all Records concerning the Energy Systems.

5.4.2 UMD's exercise of its inspection rights under this Section 5.4 shall not permit Concessionaire or its representatives access to the Records that the Interim Operator has designated and marked as confidential proprietary information in accordance with the Interim Operating Agreement.

5.5 TRAINING. UMD shall deliver to Concessionaire the Interim Operator's transition training plan and its detailed estimate of the cost of such training prepared pursuant to Section 9.22(D) of the Interim Operating Agreement. Within 10 Business Days following its receipt of this plan, Concessionaire shall notify UMD whether, and if so, to what extent, the plan should be implemented. Upon receipt of Concessionaire's notice, UMD shall authorize MEDCO to approve the plan and require the Interim Operator to orient and train Concessionaire's personnel, but only to the extent indicated in Concessionaire's notice. UMD shall be responsible for the cost of implementing the plan. Concessionaire shall be responsible for all other costs associated with the training, as well as all other costs it incurs during the Transition Period.

5.6 EMPLOYEES. UMD shall notify the Interim Operator pursuant to the Transition Protocols to permit Concessionaire to interview during Normal Work Hours each Interim Workforce member who applies for employment with Concessionaire if the employee requests to do so.

5.6.1 *BACKGROUND AND SECURITY CHECKS.* Concessionaire shall ensure, before extending an offer of employment to a member of the Interim Workforce, that such Person meets all reasonable background inspection and security requirements of both Concessionaire and UMD.

5.6.2 *EQUIVALENT COMPENSATION.* If Concessionaire extends an offer of employment to a member of the Interim Workforce, such offer shall include wages at a level that complies with the higher of the amount determined under the Living Wage Statute or the Prevailing Wage Statute (as applicable) or is equivalent to the wages paid by Concessionaire to Persons with similar years of service filling corresponding positions with comparable responsibilities in other district energy systems operated by Concessionaire or Concessionaire's Affiliate.

5.6.3 *SENIORITY.* For the purposes of accruing vacation, sick leave, and personal time off, Concessionaire shall recognize the seniority of members of the Interim Workforce to whom it extends an offer of employment.

5.7 **OFFICE/STORAGE SPACE**. To the extent requested by Concessionaire in writing prior to Commencement and subject to availability of space as determined by UMD in its sole discretion, UMD shall lease office and storage space to Concessionaire at a location on Campus at its then-applicable rental rates for a comparable building or facility. The Parties shall use reasonable efforts to enter into a commercially reasonable lease agreement prior to Initial Financial Closing, but the execution and delivery of such lease agreement shall not be a condition precedent to such Closing.

5.8 **POLICIES OF INSURANCE**.

5.8.1 UMD shall cause MEDCO to continue, or cause to be continued, in force all applicable policies of insurance required under the Interim Operating Agreement and the Interim Operating Agreement and to terminate all such policies effective at Commencement. At and after Commencement, the Energy Systems shall be insured in accordance with Article 18.

5.8.2 During the Transition Period, the Parties shall review the terms of the coverage required under Section 18.1.2(a) and shall set appropriate policy limits and sub-limits, determine the appropriate full replacement cost, evaluate option for placing the coverage, and decide which Party shall purchase the coverage that will be in effect for the first Contract Year and will best balance quality and comprehensiveness of coverage with affordability to UMD.

5.9 **CASUALTY LOSS OR CONDEMNATION DURING THE TRANSITION PERIOD.** During the Transition Period, upon the occurrence of a casualty loss or condemnation of all or a portion of the Energy Systems, UMD shall notify MEDCO to undertake a MEDCO-Directed Restoration or a Concessionaire-Directed Restoration.

5.9.1 *MEDCO-DIRECTED RESTORATION.* If UMD selects a MEDCO-Directed Restoration, it shall notify MEDCO to take the actions set forth in this section.

(a) Authorize the Interim Operator to make Emergency Repairs as required to restore deliveries of Full Requirements Energy Services to the UMD Buildings on a temporary basis;

(b) Direct the Interim Operator to repair and rebuild the affected parts of the Energy Systems promptly and diligently to restore them, at a minimum, to their operational condition prior to the occurrence of a casualty loss or condemnation to the extent reasonably practicable. Such restoration shall be completed in accordance with the procedures for elective repairs set forth in the Interim Operating Agreement;

(c) Deposit all insurance, condemnation, and other proceeds (if any) paid by insurers or other third parties into a MEDCO-controlled reserve account and at Commencement, transfer the entire balance of such account to UMD (less amounts paid to Interim Operator for the Elective Repairs) for deposit in the NextGen Reserve or facilitate the submittal of requisitions to its insurance carrier if the carrier only releases funds for the Restoration as requisitions are submitted or Restoration milestones are reached;

(d) If the affected portions of the Energy Systems cannot be fully repaired or rebuilt during the Transition Period, direct Interim Operator, in consultation with UMD and Concessionaire, to undertake as much of such restoration as can reasonably be completed prior to Commencement and at Commencement, transfer all Equipment, materials, and supplies to UMD and deliver to UMD and Concessionaire its design drawings and other documents necessary to complete the restoration, at which point the provisions of Sections 5.9.2(b), (c), and (d) will apply; and,

(e) At Commencement, assign to UMD all of MEDCO's rights to the insurance proceeds and other funds paid and payable in connection with the casualty loss or condemnation.

5.9.2 *CONCESSIONAIRE-DIRECTED RESTORATION*. If UMD selects a Concessionaire-Directed Restoration, the Parties shall comply with the procedures set forth in this Section.

(a) UMD shall cause MEDCO to take the following actions:

(1) Authorize Interim Operator to make only such Emergency Repairs as required to restore deliveries of Full Requirements Energy Services to the UMD Buildings on a temporary basis and pay Interim Operator for such work in accordance with the Interim Operating Agreement;

(2) Deposit all insurance, condemnation, and other proceeds (if any) paid by insurers or other third parties into a MEDCO-controlled reserve account and at Commencement, transfer the entire balance of such account (less the cost of Interim Operator's Emergency Repairs) to UMD for deposit with a Depositary in accordance with Section 18.10.3, unless MEDCO's insurance carrier only releases funds as requisitions are submitted or milestones are reached;

(3) Assign to UMD its right to receive the future proceeds of applicable insurance policies or condemnation awards and any other

amounts paid to MEDCO arising out of the casualty or condemnation; and,

(4) Cooperate with Concessionaire and UMD to enforce all of its rights, remedies, and privileges under any applicable insurance policies or during any condemnation proceeding both before and after Commencement.

(b) At Commencement, UMD shall direct Concessionaire to integrate, to the greatest extent possible, the Capital Improvements required for Restoration of the Energy Systems with the Phase I Capital Improvements and with UMD's approval, accelerate the appropriate Project Schedules for the Phase I Capital Improvement Projects to restore permanent Full Requirements Energy Services to the UMD Buildings affected by the casualty loss or condemnation as soon as available funding allows. UMD and Concessionaire shall work together on an Open Book basis to develop a plan for such integration.

(c) After Commencement, Concessionaire shall proceed to design, engineer, construct, install, and commission the Phase I Capital Improvements in accordance with this Agreement and the plan developed pursuant to Section 5.9.2(b). UMD and Concessionaire shall cooperate with the Depositary to adapt the payment procedures set forth in Section 18.10.3(c)-(h) as necessary to supplement the Phase I Capital Improvements funds available from the Program Financing.

(d) If insurance or condemnation proceeds, together with the proceeds from the Program Financing, are insufficient to repair and rebuild the parts of the Energy Systems in connection with the Phase I Capital Improvements and the plan developed pursuant to Section 5.9.2(b), Concessionaire shall notify UMD of the deficiency. No later than 10 Business Days following its receipt of this notice, UMD shall advise Concessionaire that it will either pay the amount of the deficiency in lump sum or authorize Concessionaire to request a Change Order pursuant to Section 16.2 and 21.3.7.

ARTICLE 6: PROGRAM GOVERNANCE

6.1 PROGRAM IMPLEMENTATION COUNCIL.

6.1.1 *MEMBERS.* Implementation of the NextGen Energy Program shall be overseen by the Program Implementation Council, which shall consist of seven *ex officio* members.

(a) *Council Moderator*. UMD's Vice President of Administration shall preside as moderator at all Council meetings.

(b) *UMD Members*. UMD shall be represented on the Council by its Vice President of Finance, Associate Vice President of Facilities Management/Chief Facilities Officer, and Associate Vice President of Procurement and Business Services or such other executive level senior official(s) as UMD may designate from time to time.

(c) *Concessionaire Members*. Concessionaire shall be represented on the Council by the Program Executive and two other senior executive-level Persons as Concessionaire may designate from time to time with the authority to enter into binding agreements on Concessionaire's behalf.

(d) *Alternate Members.* Each Council member shall designate in writing an executive-level alternate member who shall represent such member in the member's absence and have the authority to act on the member's behalf.

(e) *Membership Changes.* If any of the position titles of UMD's Council members change or any of the positions no longer exist, UMD shall be represented on the Council by the vice president or other executive officer who holds a functionally equivalent position.

6.1.2 *TERM.* Each Program Implementation Council member shall serve at the discretion of the entity responsible for the member's appointment.

6.1.3 *VOTING.*

(a) Council members representing UMD may vote on all matters considered by the Council.

(b) Council members representing Concessionaire may vote only on those matters identified in Section 6.1.5(a), (c) (when there is additional cost or expense to Concessionaire), (d), (f), (g), and (h) and Section 6.1.6(b).

(c) The Council's moderator may not vote. In the event of a tie vote, the Council's moderator shall facilitate, or designate a third party to facilitate, discussions to resolve the disagreement.

6.1.4 *QUORUM*. The Council moderator plus 2 UMD Members and 2 Concessionaire Members must be present in person, by telephonic or other electronic means, or represented by an alternate for conducting all Council business.

6.1.5 *SCOPE OF RESPONSIBILITIES*. The Program Implementation Council shall have authority to take any of the following actions, provided that the Council's authority under this Section shall not diminish the UMD Procurement Officer's authority to issue Directive Letters:

(a) Authorize the UMD Procurement Officer to issue Change Orders that require an adjustment in the Availability Payment or the Fixed O&M Charge, subject to the prior consent of the Lenders (as applicable) and any required final approvals by the University System and the Board of Public Works;

(b) Approve each updated Five-Year Plan;

(c) Approve new research or new Academic Collaboration initiatives;

(d) Resolve the Parties' disagreements that cannot be resolved at the operational level and serve as the forum for negotiation in accordance with Section 24.2.1, provided that resolution of a disagreement or dispute requires the concurrence at least one UMD Member and one Concessionaire Member;

(e) Conduct the Midterm Reviews;

(f) Approve amendments to this Agreement, provided that such approval requires the concurrence of the Council's moderator and at least one UMD Member and one Concessionaire Member, subject to the prior consent of the Lenders and any required approval by the University System and the Board of Public Works;

(g) Approve the date and plan the agenda for the Annual Customer Meeting; and,

(h) Fulfill any other responsibilities or take any additional actions it deems necessary to implement this Agreement.

6.1.6 *MEETINGS.*

(a) The Program Implementation Council shall meet at the request of any member, but no less than twice each Contract Year in April and October (or at such other times as the Council shall set). The UMD Program Manager (or designee) shall notify each member at least 21 days prior to each meeting, provided that in an exigent circumstance, notice may be waived.

(b) At the October meeting, Concessionaire shall present its Annual Report for the immediately preceding Contract Year (the contents of which shall comply with Section 2.0 of Appendix O-7).

6.1.7 *PROGRAM IMPLEMENTATION COUNCIL ADMINISTRATION.*

(a) The UMD Program Manager shall be responsible for Program Implementation Council administration.

(b) The Program Implementation Council shall keep written minutes of all meetings. Such minutes shall be prepared by the UMD Program Manager (or UMD designee) and shall be transmitted electronically to each Program Implementation Council member and alternate no later than 10 days after each meeting. Minutes shall be considered final 30 days after transmittal unless a member or alternate notifies the UMD Program Manager of an objection. The UMD Program Manager shall advise the members of the objection, which shall be sustained only if 4 Members (excluding the Chair) approve it.

6.2 OPERATIONS MANAGEMENT TEAM. The Operations Management Team shall coordinate the interconnected operation of the Energy Systems with the UMD Energy Systems so that these systems operate in a reliable, safe, and efficient manner. Provisions governing the membership, responsibilities, and administration of the Operations Management Team are contained in the Operating Requirements.

ARTICLE 7: KEY CONTRACTORS

7.1 RESPONSIBILITY FOR KEY CONTRACTOR PERFORMANCE. Each Key Contractor shall be subject to the Concessionaire's direction and supervision (by ownership, contract, or otherwise) and any such delegation shall not relieve Concessionaire of any of its obligations, duties, or liability under this Agreement.

7.2 KEY CONTRACT APPROVAL. Concessionaire shall enter into Key Contracts with the firms and organizations identified in Appendix L to serve as Key Contractors under this Agreement. UMD must approve final versions of each Key Contract and each proposed amendment thereto prior to execution in accordance with this Section 7.2. If a Key Contract or any amendment thereto is executed prior to the Effective Date, Concessionaire shall deliver each such contract or amendment to UMD within 5 Business Days following the Effective Date for UMD's review in accordance with this Section 7.2, provided that if UMD objects to such contract or amendment, the Parties shall cooperate in good faith to resolve such objection and Concessionaire shall negotiate with the Key Contractor to amend the Key Contract to reflect the Parties' agreed-upon resolution.

7.2.1 *SCOPE OF UMD'S REVIEW*. UMD's review of Key Contracts shall be limited to assuring that each Key Contract includes the provisions set forth in Section 7.3.

7.2.2 *REVIEW PROCEDURE.*

(a) Concessionaire shall deliver final versions of Key Contracts to the UMD Program Manager no less than 15 Business Days prior to execution. UMD shall approve such submittals or deliver any objection thereon in writing no later than 10 Business Days following receipt. If UMD objects, the Parties shall cooperate in good faith to resolve such objection expeditiously. Following UMD's approval, Concessionaire and the Key Contractor shall not make material changes in the final version without UMD's further approval. If such material changes are made, Concessionaire shall submit the changed document to the UMD Program Manager. UMD's review shall be limited to the changes and shall be completed within 7 Business Days following receipt.

(b) Concessionaire shall deliver the final version of Key Contract amendments to the UMD Program Manager for review and approval pursuant the procedure set forth in Section 7.2.2(a), provided that UMD's review shall be limited to confirming that the amendments do not change or effect any of the provisions required by Section 7.3.

7.3 KEY CONTRACT PROVISIONS. Each Key Contract shall contain express provisions that:

7.3.1 Require the Key Contractor to carry out its scope of work in accordance with applicable requirements of the Law, this Agreement, Governmental Authorizations, and the plans, systems, and manuals developed and used by Concessionaire or the Key Contractor under this Agreement;

7.3.2 Prohibit the Key Contractor from discriminating in any manner against an employee or applicant for employment on any basis identified in Section 14.2.1 and from terminating any contract with an MBE without UMD's prior consent pursuant to Section 14.3.1(e);

7.3.3 Require the Key Contractor to comply with, and implement, the requirements set forth in Section 14.3;

7.3.4 Establish a standard of professional responsibility or a standard for commercial practice equal to the requirements of this Agreement or in accordance with Prudent District Energy Practice for work of similar scope and scale;

7.3.5 Conditions the effectiveness of the Key Contract on UMD's approval of such contract.

7.3.6 To the extent applicable, if not obtained by Concessionaire, requires the Key Contractor to post a Payment Bond and Performance Bond or Performance Letter of Credit (as required under Sections 8.5.2, 9.6.1 and 9.6.2) before commencement of any work by or on behalf of the Key Contractor;

7.3.7 Precludes suspension of performance or demobilization by the Key Contractor unless and until it delivers to UMD notice of Concessionaire's breach or default of its Key Contract;

7.3.8 Prohibit the Key Contractor's assignment of the Key Contract without Concessionaire's prior consent and UMD's prior approval;

7.3.9 Include the requirements and provisions of this Agreement regarding the title to, and other rights and licenses of, Intellectual Property;

7.3.10 Require the Key Contractor to participate in meetings between Concessionaire and UMD concerning matters pertaining to such Key Contractor, its work, or the coordination of its work with other Key Contractors or Subcontractors or its performance of any direction by Concessionaire;

7.3.11 Require the Key Contractor to comply with a direction by UMD if, in UMD's opinion, Key Contractor must act or refrain from acting to remove an immediate and present threat to the safety of Persons or property;

7.3.12 Require the Key Contractor to participate in, be subject to, and give evidence in any Dispute Resolution proceeding, if such participation is requested by either UMD or Concessionaire;

7.3.13 Without cost to Concessionaire or UMD, permit assignment to UMD, the Collateral Agent, or either of their respective successors, assignees, or designees, of all of Concessionaire's or other contracting party's rights under the Key Contract, contingent only upon delivery of UMD's notice following a Termination Date, thereby allowing UMD or its successor, assign, or designee:

(a) To secure the benefit of the rights of Concessionaire or other contracting party under the Key Contract;

(b) To become responsible only for liability on the remaining obligations of Concessionaire or the other contracting party that accrue after the date of UMD's notice;

7.3.14 Include a covenant acknowledging that, subject to the rights of the Collateral Agent and the provisions of Section 19.5.1(d), and upon receipt of a notice from UMD, UMD is entitled to exercise step-in rights with respect to the Key Contract (when UMD is also exercising its step-in rights under Section 19.5.1), without any necessity for a consent or approval from Concessionaire or the making of a determination whether UMD validly exercised its step-in rights;

7.3.15 Include a waiver and release by Concessionaire of any claim or cause of action against the Key Contractor rising out of, relating to, or resulting from, its recognition of UMD's proper exercise of its step-in rights;

7.3.16 Include a covenant that will survive the Key Contract's termination by Concessionaire obligating the Key Contractor to promptly execute and deliver to UMD or its successor, assign, or designee a new contract between the Key Contractor and UMD or its successor, assign, or designee on the same terms as the Key Contract, if:

(a) The Key Contract is rejected by Concessionaire in bankruptcy or is wrongfully terminated by Concessionaire; and,

(b) UMD delivers a request for such new contract within 10 days following the Key Contract's termination and agrees to pay the Key Contractor for any work it performs following the date of the Key Contract's termination;

7.3.17 Include a covenant that will survive termination of the Key Contract requiring that if the Key Contractor was a party to an escrow agreement for an Intellectual Property escrow that is terminated by Concessionaire, the Key Contractor shall execute and deliver to UMD, concurrently with its delivery of the new contract, a new escrow agreement on the same terms as the terminated escrow agreement, and shall concurrently make the same deposits to the new Intellectual Property escrow as made or provided under the terminated escrow agreement. The obligation to include the same terms in each new contract (including new Intellectual Property escrow agreements) is subject to the following limitations:

(a) A new contract is not required to contain terms rendered moot or inapplicable solely due to change in the identity of the contracting party to UMD or its successor, assign, or designee; and,

(b) A new contract is not required to contain terms that must be adjusted due to schedule delays caused solely by Concessionaire's rejection of the Key Contract in bankruptcy or wrongful termination.

7.3.18 Require the Key Contractor to make all payments owing to Subcontractors within 10 days after receiving payment for work satisfactorily performed by each Subcontractor;

7.3.19 Require the Key Contractor to insert in each design or construction Subcontract a provision requiring Subcontractors to make payments to their lower-tier Subcontractors within 10 days after receiving payment from the Key Contractor;

7.3.20 Require the Key Contractor to insert in each design or construction services Subcontract a provision advising Subcontractor of its right to request a remedy pursuant to Md. Code Ann. State Fin. & Proc. §15-226 and COMAR 21.10.08 if it does not receive timely payment from a Key Contractor or higher tier Subcontractor;

7.3.21 Require each Key Contractor at any tier from which retainage has been withheld to provide Concessionaire evidence that all amounts owing to it for design and construction of a Project have been paid pursuant to the terms of the applicable Key Contract;

7.3.22 Grant UMD and the Legislative Auditor the right to audit Key Contractor's Records pursuant to Section 13.3;

7.3.23 Require the Key Contractor to provide progress reports to Concessionaire appropriate to the type and scope of work it is performing, with such reports being sufficient to enable Concessionaire to provide the reports it is required to provide UMD under this Agreement;

7.3.24 Grant UMD and its employees, agents, designees, and legal counsel the right to inspect and copy Records related to work performed under the Key Contract as pursuant to Section 13.2.

7.3.25 Require the Key Contractor to determine its compensation for work pursuant to a Directive Letter and estimates for Project proposals and Change Orders on an Open Book basis utilizing substantially the methodology set forth in Section 16.5.

7.3.26 Provide that any purported amendment of the Key Contract that is contrary to this Article 7 shall be null and void without UMD's approval; and,

7.3.27 Permit Concessionaire to terminate the Key Contract if the work performed, or services rendered, by the Key Contractor or any of its Subcontractors continues to be Defective after Concessionaire notifies the Key Contractor of such Defective work or services and provides the Key Contractor a reasonable opportunity to cure such work or services.

7.4 KEY CONTRACTOR TERMINATION AND REPLACEMENT.

7.4.1 *UMD APPROVAL.* Concessionaire may terminate, or permit the termination of, any Key Contract or permit any substitution, replacement, or assignment of any Key Contractor without UMD's approval, provided that:

(a) Concessionaire notifies UMD prior to the Key Contractor's termination and states in writing that Concessionaire will be solely responsible for all costs and delays associated with the termination and will hold UMD harmless for any damages arising therefrom in accordance with Section 23.1.

(b) Concessionaire affirms in writing that all Project Prices and the Fixed O&M Charges will not increase as the result of the termination; and,

(c) Concessionaire identifies a replacement Key Contractor prior to terminating the incumbent Key Contractor, delivers to the UMD Program Manager information demonstrating the qualifications of the Key Contractor to perform the work required under the applicable Key Contract, and requests that UMD approve the replacement Key Contractor if such approval is required under Section 7.4.3.

7.4.2 *NOTICE.* Concessionaire shall immediately notify UMD upon a Key Contractor's termination or resignation.

7.4.3 *APPROVAL OF NEW KEY CONTRACTOR.*

(a) *Approval Right.* UMD must approve Concessionaire's selection of a new Key Contractor to replace a Key Contractor that resigns or is terminated by Concessionaire.

(b) *Scope of Review*. No later than 25 Business Days following its receipt of Concessionaire's designation of a replacement Key Contractor, UMD shall notify Concessionaire whether it approves, or withholds its approval of, the replacement Key Contractor. UMD may withhold approval of a proposed replacement Key Contractor only if it reasonably determines in writing that engagement of such Key Contractor is prohibited by Law or such proposed Key Contractor is not capable of performing its Key Contract in accordance with this Agreement and Prudent District Energy Practices. UMD's determination shall be based solely upon one or more of the following factors, which it shall support with the evidence upon which its conclusion relies:

(1) The proposed Key Contractor's ability to perform the Key Contract in a manner that complies with the Law and this Agreement;

(2) The proposed Key Contractor's financial strength, capitalization, and integrity;

(3) The guaranty of the proposed Key Contractor's performance of its contractual obligations under the Key Contract provided by its direct or indirect beneficial owners and some or all of their respective Affiliates;

(4) The proposed Key Contractor's experience in providing services to Comparable Energy Systems;

(5) The proposed Key Contractor's background and reputation and the background and reputation of its direct or indirect beneficial owners, each of their respective officers, directors, and employees and each of their respective Affiliates (including the absence of criminal, civil, or regulatory claims or actions against any such Person and the quality of any such Person's past or present performance on other projects); and,

(6) The terms and conditions of the agreement governing the Key Contractor's engagement by Concessionaire.

(c) *Performance Pending Approval*. Concessionaire's selection for a replacement Key Contractor may begin performing the work required by the Key Contract prior to UMD's approval pursuant to Section 7.4.3(a), provided that such Key Contractor serves on an interim basis pending such approval.

7.4.4 *CHANGE IN OWNERSHIP*. A Key Contractor's change of ownership shall be deemed to be the appointment of a replacement Key Contractor subject to prior approval by UMD only if such Key Contractor is also an Equity Participant and such approval is required pursuant to Section 3.6.

ARTICLE 8: SUBCONTRACTORS

8.1 APPLICABILITY. The provisions of this Article 8 apply to:

8.1.1 Subcontracts entered into by Concessionaire or Key Contractors and their direct Subcontractors, excluding personal service contracts and contracts with Suppliers other than Key Contractors; and,

8.1.2 Contracts with Affiliates (other than Key Contracts), regardless of the nature or tier of the contract.

8.2 **SUBCONTRACTING AUTHORITY.** Concessionaire and any Key Contractor may subcontract for the performance of any portion of its obligations under this Agreement or a Key Contract (as applicable).

8.2.1 Each Subcontractor shall be qualified, experienced, and capable in the performance of the work for which they are retained. Concessionaire or Key Contractor (as applicable) shall ensure that each Subcontractor has at the time of its execution of the Subcontract, all licenses, certifications, registrations, permits, approvals, bonds, and insurance required by applicable Laws.

8.2.2 Concessionaire shall manage and be fully responsible to UMD for the actions, omissions, negligence, willful misconduct, fraud, bad faith, violation of applicable Law or University Policy, or breach of contract by Subcontractors and Persons under its supervision and control.

8.2.3 Nothing contained in this Agreement shall create any contractual relationship between any Subcontractor and UMD and nothing in this Agreement is intended to make any Subcontractor a third-party beneficiary of this Agreement or impose any obligation or liability on UMD to any Subcontractor or the Persons under its supervision and control.

8.2.4 The retention of Subcontractors by Concessionaire or Key Contractors does not relieve Concessionaire of its obligations under this Agreement.

8.3 **SUBCONTRACT REQUIREMENTS.** Each Subcontract shall include provisions that:

8.3.1 Require the Subcontractor to carry out its scope of work in accordance with applicable requirements of the Law, this Agreement, Governmental Authorizations, and the plans, systems, and manuals developed and used by Concessionaire or the Key Contractor under this Agreement;

8.3.2 Prohibit the Subcontractor from discriminating in any manner against an employee or applicant for employment on any basis identified in Section 14.2.1 and from terminating any contract with an MBE without UMD's prior consent pursuant to Section 14.3.1(e);

8.3.3 Establish a standard of professional responsibility or a standard for commercial practice equal to the requirements of this Agreement or in accordance with Prudent District Energy Practice for work of similar scope and scale;

8.3.4 Include the requirements and provisions of this Agreement regarding the title to, and other rights and licenses of, Intellectual Property to the extent applicable;

8.3.5 Require the Subcontractor to comply with a direction by UMD if, in UMD's opinion, the Subcontractor must act or refrain from acting to remove an immediate and present threat to the safety of Persons or property;

8.3.6 Include a covenant acknowledging that, subject to the rights of the Lenders under the Direct Agreement and the provisions of Section 19.5.1(d), and upon receipt of a notice from UMD, UMD is entitled to exercise step-in rights with respect to the Subcontract (when UMD is also exercising its step-in rights under Section 19.5.1), without any necessity for consent or approval from Concessionaire or the Subcontractor or a determination whether UMD validly exercised its step-in rights;

8.3.7 Include a waiver and release by Concessionaire of any claim or cause of action against the Subcontractor arising out of, relating to, or resulting from, its recognition of UMD's proper exercise of its step-in rights;

8.3.8 Require the Subcontractor to insert in each design or construction contract with a lower-tier Subcontractor a provision requiring such lower-tier Subcontractor to make payments to their own Subcontractors within 10 days after receiving payment from the Subcontractor;

8.3.9 Require the Subcontractor to insert in each design or construction services Subcontract a provision advising the lower-tier Subcontractor of its right to request a remedy pursuant to Md. Code Ann. State Fin. & Proc. §15-226 and COMAR 21.10.08 if it does not receive timely payment from a Key Contractor or higher tier Subcontractor;

8.3.10 Require each Subcontractor at any tier from which retainage has been withheld to provide Concessionaire evidence that all amounts owing to it for design and construction of a Project have been paid;

8.3.11 Require the Subcontractor to permit audit of its Records by UMD or its designee(s) and the Legislative Auditor as provided in Section 13.3;

8.3.12 Require the Subcontractor to provide any information to the Key Contractor that the Key Contractor may reasonably require to enable Key Contractor or Concessionaire to present accurate progress reports to UMD;

8.3.13 Include rights of inspection by UMD or its designee(s) that are the same as UMD's rights under this Agreement;

8.3.14 Provide that any purported amendment of the Subcontract that is contrary to this Article 8 shall be null and void without UMD's prior approval; and,

8.3.15 Permit the Key Contractor to terminate the Subcontract if the work performed, or services rendered, by the Subcontractor or any of its lower-tier Subcontractors continues to be Defective after the Key Contractor notifies the Subcontractor of such Defective work or services and provides the Key Contractor a reasonable opportunity to cure such work or services.

8.3.16 Ensure Subcontractor's acknowledgment of, and compliance with, the applicable requirements of this Agreement, the Project Documents, Law, and Governmental Authorizations;

8.3.17 Ensure that UMD has the ability to exercise its rights specified in this Agreement;

8.3.18 Require Subcontractor to determine its compensation for work pursuant to a Directive Letter and estimates for Project Proposals and Change Orders on an Open Book basis utilizing substantially the methodology set forth in Section 16.5.

8.3.19 Acknowledge that nothing in this Agreement or the Subcontract creates any contractual relationship between the Subcontractor and UMD, makes the Subcontractor a third-party beneficiary of this Agreement, or imposes any obligation or liability on UMD to the Subcontractor or the Persons under its supervision and control;

8.3.20 Provide for the Subcontract to be assignable without fee by Concessionaire or Key Contractor (as applicable) to UMD and is terminable without fee by UMD after such assignment upon expiration or termination of the Key Contract; and,

8.3.21 Require each MBE Subcontractor at any tier, when actively performing work, to submit monthly an MBE Subcontractor Monthly Payment Report (MBE-5), identifying the payment received from the Key Contractor in the preceding 30 days, outstanding invoices, and each invoice amount.

8.4 UMD REVIEW OF SUBCONTRACTS PRIOR TO EXECUTION.

8.4.1 *NOTICE.*

(a) Concessionaire shall notify the UMD Program Manager no later than 7 Business Days prior to executing, or authorizing a Key Contractor to execute, any of the following Subcontracts:

(1) A Subcontract with an Affiliate;

(2) A Subcontract with a total value over its term greater than $5,000,000;

(3) A Subcontract that is the latest of a series of Subcontracts with the same Subcontractor that causes the total value of the series to exceed $5,000,000; or,

(4) A Subcontract being relied upon by Concessionaire to meet this Agreement's MBE goals and subgoals.

(b) Concessionaire's notice pursuant to Section 8.4.1(a) shall contain the following information and representations regarding the proposed Subcontract:

(1) The identity of the Subcontractor and a statement whether the Subcontractor is an Affiliate;

(2) The scope of work;

(3) The Subcontract's anticipated dollar value;

(4) Confirmation that the State's Prevailing Wage Law, if applicable, and the minimum wage law will apply to all work performed under the Subcontract;

(5) Confirmation that the proposed Subcontract complies with the Subcontract requirements set forth in Section 8.3; and,

(6) If the proposed Subcontractor is an Affiliate, certification that the Subcontract's pricing, scheduling, and other terms are no less favorable to Concessionaire than those that Concessionaire could reasonably obtain in an arms' length, competitive transaction with a Subcontractor that is not an Affiliate.

8.4.2 *UMD REVIEW*. Unless the UMD Program Manager objects, Concessionaire may execute and deliver, or authorize a Key Contractor to execute and deliver, the Subcontract to the Subcontractor upon the expiration of 7 Business Days following

the UMD Program Manager's receipt of the notice provided under Section 8.4.1(a). The failure of the UMD Program Manager to object does not waive any of UMD's rights under this Agreement.

8.4.3 *DELIVERY OF FINAL SUBCONTRACT*. UMD may request Concessionaire to deliver, or cause a Key Contractor to deliver, a copy of a specific Subcontract for UMD's review. No later than 7 days following its receipt of UMD's request, Concessionaire shall deliver, or cause the delivery of, the Subcontract to UMD along with all amendments and supplements thereto. If the Subcontract contains the Subcontractor's confidential or proprietary information, Concessionaire shall protect such information from disclosure to third parties by complying with the procedures set forth in Section 13.5.2.

8.5 PAYMENT OF SUBCONTRACTORS.

8.5.1 *INDEMNIFICATION.* Concessionaire shall indemnify UMD for any claims and damages resulting from its failure, or the failure of any Key Contractor, to pay for labor, materials, supplies, or other goods or services provided under a Subcontract in accordance with such Subcontract's provisions. Such indemnification shall include reimbursement of any costs and expenses incurred by UMD to discharge any lien or encumbrance in accordance with Section 9.5.

8.5.2 *PAYMENT BONDS FOR CONSTRUCTION AND OPERATION.* Except as provided in Section 8.5.2(b), no later than the Initial Financial Closing, Concessionaire shall post and maintain in effect Payment Bonds substantially in the form contained in Appendix F-2 to pay any claims and damages resulting from any failure by Concessionaire or a Key Contractor to make payments to any Subcontractor arising from the design, engineering, construction, installation, testing, and commissioning of Capital Improvements and from the management, operation, or maintenance of the Energy Systems.

(a) *Alternate Posting.* Concessionaire shall not be required to post and maintain a Payment Bond if Concessionaire enters into a Key Contract that requires the Key Contractor to post a Payment Bond to ensure that its Subcontractors performing the Key Contract's scope of work are paid for the work they perform.

(b) *Amount.*

(1) For Phase I Capital Improvements, the total amount of the Payment Bond shall be equal to the total Project Prices of all Projects for such improvements. Concessionaire may reduce the total amount as each Phase I Capital Improvement Project

reaches its Actual Substantial Completion Date, provided that at no time prior to Phase I Substantial Completion shall the Payment Bond amount be less than $15,000,000.

(2) For Additional Capital Improvements, Major Repairs, Replacements, and Material Changes, the total amount of the Payment Bond shall be equal to the Project Price for each Project.

(3) For work performed in the management, operation, or maintenance of the Energy Systems, the total amount of the Payment Bond shall be equal to 100% of the total Fixed O&M Charge payable for the first month of the Contract Year in which it is posted.

(c) The posting of a Payment Bond shall not diminish Concessionaire's obligation to indemnify UMD in the event claims and damages exceed the amount of the Payment Bond.

(d) All Payment Bonds shall be issued by an Eligible Surety.

(e) A Payment Bond posted for a Capital Improvement Project shall expire upon the expiration of one year following that Project's Actual Substantial Completion Date.

ARTICLE 9: MANAGEMENT, OPERATION, AND MAINTENANCE

9.1 GENERAL OBLIGATION. Throughout the Operating Term, Concessionaire shall be responsible for all aspects of the Energy Systems Operation including providing Energy Services from temporary sources for construction or maintenance projects and Major Events as identified by UMD. Concessionaire shall manage, operate, and maintain the Energy Systems in accordance with the Law, this Agreement, and Prudent District Energy Practices.

9.1.1 *EXCLUSIVE USE.* Concessionaire shall cause the Energy Systems to be used exclusively for providing Energy Services to UMD, unless authorized by the Program Implementation Council.

9.1.2 *CONTINUOUS OPERATION*. Concessionaire shall manage, operate, and maintain the Energy Systems so that they operate continuously to deliver Full Requirements Energy Services in accordance with the Operating Requirements, except in the event of a Force Majeure Event or as specifically authorized under the Law or this Agreement and then only to the extent of that authorization.

9.1.3 *COSTS AND EXPENSES*. Except as otherwise specifically provided herein, Concessionaire shall pay or cause to be paid all costs and expenses of managing, operating, and maintaining the Energy Systems as due and payable, including all costs of supplies and materials consumed in performing these obligations.

9.1.4 *ASSUMED LIABILITIES AND EXCLUDED LIABILITIES*.

(a) Concessionaire agrees to assume and discharge or perform when due all debts, liabilities, and obligations whatsoever related to the Energy Systems and their management, operation, and maintenance except those debts, liabilities, and obligations arising:

(1) Prior to Commencement to the extent they were not incurred by Concessionaire to prepare for assuming management, operation, and maintenance responsibility for the Energy Systems;

(2) Prior to Commencement to the extent they were not incurred by Concessionaire to design or engineer Capital Improvements or procure Equipment therefor;

(3) After Commencement as a result of, or in connection with, the management, operation, and maintenance of the Energy Systems prior to Commencement;

(4) As the result of any Preexisting Environmental Matter;

(5) With respect to UMD's obligations under this Agreement;

(6) Out of UMD's exercise of its rights hereunder to test, inspect, audit, repair, maintain, or operate the Energy Systems, without impairment of UMD's remedies for a Concessionaire Default; or,

(7) Any breach by UMD of any covenant or representation set forth in this Agreement, subject to Section 21.2.2(f).

9.1.5 *ACCESS TO THE PUBLIC WAY.*

(a) UMD hereby grants Concessionaire a non-exclusive license during the Term to access and use the Public Way solely to operate, maintain, repair, replace, improve, construct, and service the Energy Systems.

(b) Except in an Emergency, Concessionaire shall not block or impede traffic on any Public Way without first delivering to the UMD Program Manager,

the UMD Police Department, and the UMD Fire Marshal the following information, the accuracy of which Concessionaire shall confirm by notifying the UMD Program Manager at least 10 Business Days prior to the beginning of such blockage or impediment:

(1) The reason for the blockage or impediment;

(2) Whether the blockage is full or partial;

(3) How long the blockage will be in effect;

(4) Concessionaire's plan for maintaining pedestrian and vehicular traffic to UMD Buildings in the work area; and,

(5) Concessionaire's plan for alternative routing, safety signage, and fencing.

(c) Except in an Emergency, UMD shall not block or impede, or allow any of its contractors or subcontractors to block or impede, the Public Way in a manner that would prevent Concessionaire from performing its obligations under this Agreement. UMD shall notify Concessionaire at least 10 Business Days in advance of the beginning of such blockage or impediment.

9.1.6 *PUBLIC HEALTH, SAFETY, AND SECURITY.*

(a) Persons who are employees or duly authorized representatives of the following entities shall have access to the Energy Systems as required to protect the public health and safety, respond to an Emergency, ensure security, and conduct inspections as necessary for Emergency management or homeland security:

(1) UMD police, fire, and emergency services and any other security or emergency personnel retained by, or acting for, or on behalf of, UMD; and,

(2) Any Governmental Authority with jurisdiction over the Energy Systems.

(b) Concessionaire recognizes that UMD has a paramount public interest in protecting Persons on its Campus and adjacent areas. Therefore, notwithstanding anything to the contrary contained in this Agreement and without limiting UMD's other rights and remedies hereunder, UMD may

exercise its rights under Section 9.1.6(c) if, in its good faith judgment, a situation satisfies the following criteria:

(1) Concessionaire has failed to meet the requirements of its Environmental and Safety Assurance Plan that apply to assuring the safety of UMD's faculty, staff, students, and visitors or any Workforce member;

(2) Such failure results in an Emergency that injures, or imminently threatens to injure, any such Persons; and,

(3) Concessionaire is not then diligently taking all necessary steps to rectify or address such Emergency.

(c) Immediately upon learning of the situation and without notice to Concessionaire or awaiting the lapse of any period to cure any breach, UMD may take such action as may be reasonably necessary to protect Persons and property from injury, including cordoning off the affected area and diverting traffic. Concessionaire shall pay UMD on demand the costs of taking such action.

(d) As soon as is reasonably possible during or after taking action under this Section, UMD shall notify Concessionaire of the Emergency and precisely describe the action it has taken.

(e) If UMD undertakes any action under Section 9.1.6(c), such action shall not be deemed unlawful or an act of noncompliance with this Agreement and shall not constitute a Relief Event, unless UMD's action was undertaken negligently.

(f) Immediately upon resolution of the Emergency, Concessionaire may continue Work and, if interrupted, restore Full Requirements Energy Services.

9.1.7 *INTERCONNECTION AGREEMENT.* Concessionaire shall manage, operate, and maintain the Energy Systems in compliance with the 2003 Interconnection Agreement and any successor agreement or agreements negotiated by Concessionaire on UMD's behalf pursuant to Section 10.1.10

9.1.8 *COOPERATION WITH UTILITIES.* Concessionaire shall coordinate its management, operation, and maintenance of the Energy Systems with UMD, Pepco, other utility companies, the Purple Line concessionaire, and other owners or operators of underground utility systems and facilities.

9.1.9 *MAJOR EVENTS.*

(a) UMD and Concessionaire shall plan for Major Events in accordance with the Operating Requirements. Concessionaire shall be compensated by the Fixed O&M Charge for such planning and for Workforce services required onsite at the Major Event during Normal Work Hours.

(b) If a Major Event requires Energy Services that, as a practical matter, cannot be provided economically by the Energy Systems or if a Major Event outside Normal Work Hours requires Concessionaire to incur the cost of Workforce overtime, Concessionaire shall recover the costs of temporary generators or other equipment and Workforce overtime as Reimbursable Costs, provided that such costs are estimated during the Parties' planning for the Major Event and approved by the UMD Program Manager prior to such event.

(c) If UMD does not notify Concessionaire of the Major Event sufficiently in advance to allow Concessionaire to prepare estimates and other information required by the Operating Requirements, Concessionaire shall provide the services necessary and shall recover any associated costs as Reimbursable Costs if:

(1) The total reasonably approximates the costs incurred by Concessionaire for similar Major Events requiring the same services during the Operating Term; or,

(2) Concessionaire submits a report to the UMD Program Manager, supported by invoices and other Records, demonstrating the costs' reasonableness, given the scope of services required, the availability of equipment and personnel, and other factors.

9.2 OPERATING REQUIREMENTS. Concessionaire shall perform this Agreement in accordance with the Operations Plan and the Operating Requirements.

9.2.1 *OPERATIONS PLAN*. The Operations Plan shall contain the information set forth in Part 2 of the Operating Requirements.

(a) Unless otherwise agreed to by the Parties, no later than 90 days prior to Commencement and 90 days prior to the beginning of each Contract Year thereafter, Concessionaire shall submit its proposed Operations Plan for such Contract Year to UMD for its review and comment.

(b) UMD shall review Concessionaire's proposed Operations Plan and, where appropriate, submit comments for Concessionaire's consideration no later than 45 days prior to Commencement for the initial Operations Plan, and thereafter, no later than 45 days prior to the beginning of the Contract Year for which the plan was prepared.

(c) The Operations Management Team shall convene within 10 Business Days following Concessionaire's receipt of UMD's comments to discuss and resolve any issues or concerns identified by them. If Commencement occurs or the Contract Year begins before such discussions have been completed, Concessionaire shall implement the Operations Plan as proposed pending the Operations Management Team's meeting.

9.2.2 *AMENDMENT OF OPERATING REQUIREMENTS DURING THE TRANSITION PERIOD*. During the Transition Period, Concessionaire may propose to amend the Operating Requirements based on its assessment of historic Energy System Operations. Concessionaire shall submit reasonable evidence to UMD to support such modification. UMD shall consider any such proposals in good faith but shall not be obligated to agree to the proposal. If Concessionaire and UMD, each acting reasonably, agree to such modifications, the UMD Procurement Officer shall issue a Change Order to memorialize such modifications.

9.2.3 *AMENDMENT OF OPERATING REQUIREMENTS AFTER COMMENCEMENT*. The Parties acknowledge the importance of amending the Operating Requirements throughout the Operating Term to improve the operation and maintenance of the Energy Systems, to reflect changes in Prudent District Energy Practices, technology, Law, energy use by UMD Buildings, or other factors.

(a) *Concessionaire-Initiated Amendments of the Operating Requirements*.

(1) If Concessionaire, at its sole cost and expense, wishes to amend the Operating Requirements in any respect, it must first submit the proposed amendment to UMD for approval along with an explanation of its rationale for the amendment and information, certificates, reports, studies, investigations, and other materials necessary to demonstrate that the proposed amendment complies with Prudent District Energy Industry Practices and applicable Law and is reasonably designed to:

(i) Accomplish the provision's purpose more efficiently, effectively, or at a lower cost;

(ii) Increase the efficiency, resiliency, or sustainability of the Energy Systems; or,

(iii) Enhance coordinated operation of the Energy Systems and the UMD Building Systems.

(b) Upon receipt of the proposed amendment, UMD may request any additional supporting information, certificates, reports, studies, investigations, and other materials as it reasonably requires for deciding whether to notify Concessionaire of its approval of the proposal. It shall be unreasonable for UMD to withhold its approval if the proposed amendment is reasonably designed to meet one or more of the purposes set forth in Section 9.2.3(a) in a manner that does not increase the Fixed O&M Charge.

(c) If implementation of the proposed amendment would change the total Fixed O&M Charge by $50,000 or less over the remaining Operating Term or require a Capital Improvement with a total cost at or below the Project Threshold, the Parties shall jointly request issuance of a Change Order by the UMD Procurement Officer, who shall issue the Change Order no later than 15 Business Days following receipt of such request. All other amendments shall be approved pursuant to Section 6.1.5(f).

(d) Any increase in the Fixed O&M Charge or any other charge authorized under this Agreement shall be limited to the costs incurred by Concessionaire to cause the Energy Systems to comply initially with the amendment and the Incremental Costs for operating and maintenance services required by the amendment.

(f) Concessionaire shall not implement the proposed amendment until UMD notifies Concessionaire of its approval. If UMD refuses to approve any proposed amendment and Concessionaire disagrees with such refusal, Concessionaire's sole remedy shall be to submit such dispute to the Dispute Resolution Process.

(g) Concessionaire's proposed amendment shall be deemed incorporated into the Operating Requirements upon issuance of a Change Order by the UMD Procurement Officer.

(2) *UMD-Initiated Amendment of the Operating Requirements*. At any time during the Operating Term, UMD may issue a Directive Letter to amend the Operating Requirements subject to Section 16.5's requirements

regarding the Concessionaire's accounting for forced work and process for issuing a Change Order. Unless the Operations Management Team decides otherwise, any such amendment shall become effective no later than 6 months following the date of Concessionaire's receipt of the Directive Letter.

9.3 WORKFORCE REQUIREMENTS. Concessionaire shall recruit, employ (or contract for), train, supervise, and schedule such qualified Persons as necessary to fully perform its obligations under this Agreement and shall manage such Persons in accordance with the Law and applicable University Policies.

9.3.1 *CONCESSIONAIRE'S KEY MANAGERS.* Concessionaire's management team, at a minimum, shall consist of the Program Executive, the Plant Manager, and the Construction Project Manager.

(a) *Program Executive.* The Program Executive shall serve as the Concessionaire's primary point of contract with UMD and will be responsible for implementing the NextGen Program in coordination with Facilities Management and other members of UMD's administration and larger community.

(1) Education. The Program Executive shall hold a bachelor's degree from an accredited institution of higher education in business management, public administration, engineering, or a related field.

(2) Professional Experience and Skills: The Program Executive shall possess at least 15 years of progressive experience in management and customer relations in the energy industry, preferably with entities providing district energy services or operating cogeneration facilities. The Program Executive shall be capable of engaging stakeholders by effectively articulating Concessionaire's approach to achieving the NextGen Objectives. She/he also must demonstrate the ability to build and maintain long-term, effective working partnerships with the Workforce, UMD administrators, staff, and students, and state and local officials and to accommodate competing interests while steadily advancing NextGen's mission. The Program Executive must have strong interpersonal skills, a demonstrated record of creative problem solving in complex situations, and the ability to make well-informed decisions that advance the NextGen Objectives.

(b) *Plant Manager*. The Plant Manager shall serve as Concessionaire's primary supervisor for managing, operating, and maintaining the Energy Systems

in accordance with this Agreement. The Plant Manager shall be an employee of the Concessionaire or the Key Operating Contractor.

(1) Education. The Plant Manager shall hold a bachelor's degree in engineering, facilities management, marine engineering, or a related field and shall be a licensed Professional Engineer in any jurisdiction.

(2) Professional Experience and Skills. The Plant Manager must possess at least 15 years of progressive experience in central utility plant and district energy system operations and management, including steam, heating hot water, chilled water, and electric service. The Plant Manager must demonstrate experience in onsite electric generation and fuels management, as well as principles and methods of workforce management, including scheduling, training, evaluating, and disciplining supervisors, operators, and maintenance personnel and Subcontractors. The Plant Manager must communicate effectively and build and maintain long-term, successful working relationships with Workforce members and UMD personnel. The Plant Manager will not serve as Project Manager for any Capital Improvements.

(c) *Construction Project Manager*. The Construction Project Manager shall serve as Concessionaire's primary supervisor for all aspects of Capital Improvement construction, including overall Project planning, timetable management, benchmark setting, construction budget development and management, construction crew and Subcontractor management, and, in cooperation with the Program Executive, coordination of construction activities with key UMD stakeholders.

(1) Education. The Construction Project Manager shall hold a Bachelor of Science degree in construction engineering, construction management, project management, or another related field.

(2) Professional Experience and Skills. The Construction Project Manager must possess at least 15 years of experience in construction management with increasing levels of responsibility and project cost and a demonstrated record of completing complex energy projects (with total costs greater than $100 million) on time and under budget.

(d) *UMD Approval.* UMD shall approve each Person selected by Concessionaire to serve in a Key Manager position before that Person

begins any work assigned to that position and receives compensation therefor.

(1) No later than 30 days prior to the Initial Financial Closing (or such other time designated by the Parties) and thereafter, no later than 20 days prior to the expected beginning of work by a replacement Key Manager, Concessionaire shall deliver a summary of each proposed Key Manager's education and qualifications to UMD and provide an opportunity for the UMD Program Manager and other key UMD administrators and personnel to meet with the candidate.

(2) Within 5 Business Days following the last of these meetings, the UMD Program Manager shall notify Concessionaire whether UMD approves the candidates' retention in the designated positions. UMD shall not unreasonably withhold its approval.

9.3.2 *OTHER KEY WORKFORCE MEMBERS.* Concessionaire's technical team shall consist of the following Persons:

(a) *Energy Systems Mechanical Engineer*. The Energy Systems Mechanical Engineer shall serve as Concessionaire's subject matter expert for all mechanical facets of its performance of the Concession Agreement as they relate to mechanical components, Equipment, and systems associated with the Energy Systems.

(1) Education. The Energy Systems Mechanical Engineer shall hold a bachelor's degree from an accredited institution of higher education in mechanical engineering.

(2) Professional Experience and Skills. The Energy Systems Mechanical Engineer shall be a registered professional engineer in the State and have at least 10 years of direct experience in the analysis, design, and operation of district energy systems including, but not limited to, underground thermal distribution systems and steam/hot water/chilled water generation equipment/systems.

(3) Other Position Requirements. The Energy Systems Mechanical Engineer shall be dedicated solely to the NextGen Program and will not have Affiliate engineering responsibilities. This individual will be physically present on-Campus at least five days during each standard work week and available at all other times in the event of an Emergency.

(b) *Energy Systems Electrical Engineer*. The Energy Systems Electrical Engineer shall serve as Concessionaire's subject matter expert for all electrical, instrumentation and control facets of its performance of this Agreement as they relate to electrical, instrumentation, and control components, Equipment, and systems associated with the Energy Systems.

(1) Education. The Energy Systems Electrical Engineer shall hold a bachelor's degree from an accredited institution of higher education in electrical engineering.

(2) Professional Experience and Skills. The Energy Systems Electrical Engineer shall be a registered professional engineer in the State and have at least 10 years of direct experience in the analysis, design, and operation of electrical equipment/systems, including, but not limited to, electric distribution systems (equal to and greater than 13,800 kilovolts), electric power generation and distribution equipment, and industrial instrumentation and control systems.

(3) Other Position Requirements. The Energy Systems Electrical Engineer shall be dedicated solely to the NextGen Program and will not have Affiliate engineering responsibilities. This individual will be physically present on-campus at least five days during each standard work week and available at all other times in the event of an Emergency.

(c) *NextGen Safety Manager*. The NextGen Safety Manager will serve as Concessionaire's primary supervisor for managing safety of the Energy Systems and adjacent Campus areas in accordance with this Agreement. The NextGen Safety Manager will be responsible for the creation, management, and implementation of comprehensive health and safety programs and will provide direction regarding appropriate health and safety practices. The NextGen Safety Manger will implement, evaluate, and communicate safety initiatives that meet and exceed regulatory requirements.

(1) Education. The NextGen Safety Manager shall hold a bachelor's degree from an accredited institution of higher education in mechanical or electrical engineering, construction safety, or another related field.

(2) Professional Experience and Skills. The NextGen Safety Manager must have at least 10 years of direct health and safety experience, preferably with the construction and operation of district energy systems and medium voltage electric distribution systems.

(3) Other Position Requirements. The NextGen Safety Manager will be dedicated solely to the NextGen Program and will not have Affiliate management responsibilities. This individual will be physically present on-Campus at least five days during each standard work week and available at all other times in the event of an Emergency.

9.3.3 *NON-HIRING OF STATE EMPLOYEES*. No official employee of the State or any unit thereof whose duties as such employee include matters relating to or affecting the subject matter of this Agreement shall, while so serving or employed, also become an employee of Concessionaire or any of its Subcontractors.

9.3.4 *WORKPLACE POLICIES*. Concessionaire shall adopt, maintain, and enforce workplace conduct policies that are at least as stringent as substantially similar University Policies and are in accordance with Prudent District Energy Practices. These policies shall include those related to workplace behavior; anti-harassment; weapons; confidentiality; security and safety; possession of alcohol; illegal drugs or weapons in the workplace; violation of criminal statutes that have a direct relationship to work performed by the employee; negligent or incompetent performance of work hereunder; gross misconduct related to work; conduct or interactions with UMD employees, students, or visitors that impair or prejudice UMD or its relationship with such persons; and unsafe practices or work performance that create a risk of harm to the employee, other persons or property.

9.3.5 *LABOR DISPUTES.*

(a) Concessionaire shall take all reasonable steps to resolve any alleged or actual labor dispute between it and the Workforce. Any work stoppage, strike, boycott, or other disruption arising out of a dispute between Concessionaire or a Concessionaire Party and members of the Workforce shall not excuse Concessionaire's obligation to provide Full Requirements Energy Services unless such work stoppage, strike, boycott, or other disruption occurs in conjunction with, or as the result of, a general regional or national labor dispute or work stoppage, strike, or boycott across all or substantially all segments of the economy.

(b) For the purposes of Section 9.3.5(a), a labor dispute arising at a private or governmental sector energy facility in the Washington, D.C. metropolitan

region owned, managed, or operated by Concessionaire or a Concessionaire Party that results in a work stoppage, strike, boycott, or other disruption by Workforce members does not constitute a regional or national labor dispute or work stoppage, strike, or boycott under Section 9.3.5(a) unless it occurs in conjunction with, or as the result of, a general regional or national labor dispute across all or substantially all segments of the economy.

(c) *Labor Peace Agreements.*

(1) No later than Commencement, Concessionaire and each Key Contractor and Subcontractor providing operation and management services for the Energy Systems shall execute and deliver to UMD a labor peace agreement with a labor organization provided that such organization:

(i) Contacted Concessionaire, Key Contractor, or a Subcontractor in writing before the Initial Financial Closing; and,

(ii) Is actively engaged in representing, or is attempting to represent, individuals who are to perform operation and management services for the Energy Systems.

(2) Concessionaire and each Key Contractor and Subcontractor shall be bound by the terms of its labor peace agreement, which, at a minimum, shall prohibit the labor organization and its members from engaging in any picketing, work stoppages, boycotts, or other disruption, economic or otherwise, affecting operations and maintenance work pursuant to this Agreement, the delivery of Energy Services, or the construction of any Project.

(d) If, despite the existence of a labor peace agreement, members of a labor organization engage in picketing, work stoppages, boycotts, or other disruptions, and such activities obstruct ingress or egress of any Public Way, UMD Building, or any portion of the Campus, or prevent the production or delivery of Full Requirements Energy Services, Concessionaire, alone or in conjunction with the affected Key Contractor or Subcontractor, shall immediately seek injunctive relief to terminate such picketing, work stoppages, boycotts, or other disruptions.

9.3.6 *UNIFORMS*. Any uniforms, badges, logos, and other identification worn by Workforce members shall bear colors, lettering, design, or other features to ensure clear differentiation from those of UMD and its employees.

9.3.7 *LIVING WAGE.*

(a) Throughout the Operating Term, Concessionaire shall pay Workforce members who are subject to the Living Wage Statute at least the living wage in effect at the time the employee renders service pursuant to this Agreement. Concessionaire shall ensure that Key Contractors and Subcontractors who are not exempt from the provisions of the Living Wage Statute also pay their employees such living wage.

(b) Concessionaire shall comply with, and shall ensure Key Contractors and Subcontractors comply with, changes in the rate set under the Living Wage Statute during Operating Term. Such changes shall be effective immediately upon the effective date set by the State without additional action by either Concessionaire or Workforce members.

(c) Concessionaire shall post notices, submit reports, and take all other actions required by the Living Wage Statute and related State regulations.

9.4 WORKPLACE HARASSMENT.

9.4.1 In recognition of UMD's commitment to maintaining a working and learning environment in which students, faculty, and staff can develop intellectually, professionally, personally, and socially free of intimidation, fear, coercion and reprisal, Concessionaire, Key Contractors, and Subcontractors and any Persons employed by, or under contract with, any of them, shall not engage in any acts of sexual harassment including the following behaviors:

(a) Unwelcome sexual advances, unwelcome requests for sexual favors, or other behavior of a sexual nature where:

(1) Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or participation in UMD's sponsored educational program or activity;

(2) Submission to, or rejection of, such conduct by an individual is used as the basis for employment decisions affecting that individual; or,

(3) Such conduct has the purpose or effect of unreasonably interfering with an individual's academic work performance, or of creating an intimidating, hostile, or offensive working environment.

(b) Any unsolicited and/or unwelcome comment or conduct related to a person's race, color, religion, creed, age, sex, sexual orientation, marital status, national origin, ancestry, or physical or mental disability;

(c) Any other harassing comment or conduct prohibited by Law;

(d) Lewd remarks or suggestive sounds, such as whistling or wolf calls;

(e) Unwanted physical contact; or,

(f) Persistent and offensive sexual jokes or comments.

9.4.2 Concessionaire shall conduct from time to time, and shall require all Key Contractors and Subcontractors to conduct from time to time, programs to educate their employees, laborers, and Subcontractors about preventing workplace harassment. In addition, Concessionaire shall develop, and shall require all Key Contractors to develop, procedures to address allegations of workplace harassment on the work site.

9.4.3 Concessionaire shall remove any employee (or other person working under its authority and control), Key Contractor, Subcontractor, or Supplier from the Leased Property whom UMD deems, in the exercise of its sole discretion, to be in violation of this Section 9.4 or to pose a threat of imminent harm to any person or property. Concessionaire shall replace such employee or person with a competent person at no additional cost to UMD.

9.5 PROMPT PAYMENT; REMOVAL OF LIENS.

9.5.1 Concessionaire shall pay for all labor, materials, supplies, or other goods or services in a timely manner consistent with good business practices and shall not directly or indirectly create, or cause to be created, any lien or Encumbrance on the Energy Systems, the Campus, the Leased Property, or any portion thereof.

9.5.2 UMD, upon 30 days' notice to Concessionaire, may satisfy or remove any liens, Encumbrances, charges, or impositions levied against the Energy Systems or may post with the court a bond in the lien's amount.

(a) UMD shall not satisfy or remove any such liens, Encumbrances, charges, or impositions that Concessionaire is contesting in good faith and has posted a bond with the court in the lien's amount.

(b) Concessionaire shall reimburse UMD for the costs and expenses (including reasonable attorney fees) it reasonably incurs to post a bond with the court or to remove any lien, encumbrance, charge, or imposition created by any failure of Concessionaire to meet its obligations under any Key Contract or Subcontract within 30 days after UMD submits an invoice to Concessionaire detailing the charges. UMD may set off the amount of such invoice against any amounts due and owing to Concessionaire.

9.6 PERFORMANCE SECURITY FOR MANAGEMENT, OPERATION, AND MAINTENANCE.

9.6.1 *PERFORMANCE BOND REQUIREMENTS.*

(a) At the Initial Financial Closing and thereafter no later than June 1 of each Contract Year, Concessionaire shall deliver to UMD a Performance Bond issued by an Eligible Surety substantially in the form set forth in Appendix F-3. Such Performance Bond shall have a value equal to at least 100% of the total Fixed O&M Charge payable for the first 6 months of the Contract Year for which it is posted.

(b) In lieu of posting the Performance Bond required in Section 9.6.1(a), Concessionaire may cause its Key Operating Contractor to post the required Performance Bond. Such bond shall name Concessionaire as the obligee, and UMD and Lenders as additional obligees.

(c) UMD's rights in respect of any Performance Bond posted under this Section shall be subject to the rights of the Lenders under the Direct Agreement. UMD acknowledges that the original Performance Bond will be held by the Lenders.

9.6.2 *PERFORMANCE LETTER OF CREDIT.* In lieu of the Performance Bond, Concessionaire may deliver (or cause the Key Operating Contractor to deliver) to UMD and Lenders at or before Commencement and thereafter each Contract Year no later than June 1, a Performance Letter of Credit, which shall have the same value as the Performance Bond, shall be substantially in the form set forth in Appendix F-4, and shall meet the following criteria or otherwise be reasonably acceptable to UMD:

(a) The Performance Letter of Credit must be issued by a major U.S. commercial bank or the U.S. branch office of a foreign bank, which, in either case, has counters for presentment and payment located in the City

of Baltimore, Maryland, and a current credit rating of A-2 or better by Standard & Poor's Ratings Group and an equivalent credit rating by another Credit Rating Agency (or such other commercial bank or trust company approved by UMD prior to the Performance Letter of Credit's delivery);

(b) The Performance Letter of Credit must not expire for at least 1 year following its date of issuance;

(c) The Performance Letter of Credit must be payable in whole or in part (and shall permit multiple draws up to its maximum amount) upon presentation of a sight draft and a certificate by UMD of the occurrence in at least one of the following circumstances:

(1) Concessionaire has not provided, at least thirty (30) days prior to the expiration date of the existing Performance Letter of Credit, a renewal or substitute Performance Letter of Credit having a term of at least 1 year and the same terms and conditions as the existing Performance Letter of Credit;

(2) Concessionaire has failed to pay or perform any of its management, operation, and maintenance obligations under this Agreement and UMD submits a sight draft in an amount equal to its good faith estimate of the damages payable by Concessionaire to UMD in accordance with the terms hereof; or,

(3) Concessionaire has failed to complete the Reversion Work in accordance with the Reversion Work Plan by the Reversion Date and other provisions of this Agreement.

(d) The issuing bank must allow presentment of the Performance Letter of Credit by facsimile or electronic means.

(e) UMD's rights in respect of the Performance Letter of Credit shall be subject to the rights of the Lenders under the Direct Agreement. Concessionaire shall deliver, or cause a third party to deliver, the original Performance Letter of Credit to the Lenders.

9.7 PURCHASE AND DELIVERY OF COMMODITIES.

9.7.1 *PURCHASE.* Unless UMD exercises its option under Section 9.7.3, UMD, in consultation with Concessionaire, shall purchase, and arrange for delivery to the

Input Points, Commodities in quantities sufficient to enable the Energy Systems to deliver Full Requirements Energy Services.

(a) Concessionaire shall deliver Records to UMD or provide UMD access to Records and real-time data relating to the operation of, and energy consumption by, the Energy Systems as necessary to facilitate UMD's purchase of Commodities.

(b) Concessionaire shall serve as a non-voting adviser to the UMD committee or working group that procures Commodities. UMD shall notify Concessionaire at least ten (10) days prior to the committee or working group's meeting.

9.7.2 *CHANGES IN UTILITY TARIFFS AND INFORMATION REQUESTS.*

(a) UMD shall promptly notify Concessionaire of any change in Commodity supply or delivery services, including changes in tariffs applicable to such services, that may affect their availability, price, or impact on the Energy Systems Operation.

(b) UMD shall conduct such interruption and other tests required to qualify UMD for lower-priced natural gas distribution service pursuant its local gas utility's interruptible delivery service tariff or other tariff. UMD shall notify Concessionaire at least fifteen (15) days prior to the requested test.

(c) UMD shall deliver to Concessionaire all notices, requests for operational information, or requests for action submitted by a utility or energy supplier as soon as possible under the circumstances, but in no case later than 2 days following receipt of such notices or requests. In an Emergency or under utility system curtailment conditions, UMD shall deliver any such notice or request to Concessionaire as soon as reasonably possible, but in no event more than one (1) hour following its receipt of the notice or request.

9.7.3 *CONCESSIONAIRE'S PURCHASE OF COMMODITIES*. At any time during the Term, UMD may direct Concessionaire to assume the obligation to purchase and cause the delivery of one or more of the Commodities required for the Energy Systems Operation. UMD shall issue a Directive Letter to Concessionaire of this requirement at least 90 days prior to its effective date.

(a) Concessionaire shall serve as UMD's agent for negotiating contracts to purchase Commodities and delivery services. UMD shall approve each such

contract before it is executed and shall retain all payment obligations thereunder.

(b) UMD shall compensate Concessionaire for its agency services by paying a fixed fee or other charge that is commensurate with the amount of fee or charge customarily paid for Commodity purchasing services for Comparable Energy Systems. Concessionaire shall not be required to assume any commodities risk. Concessionaire shall notify UMD of the type and amount of the fee or charge no later than 30 days following its receipt of UMD's directive. Concessionaire's assumption of the obligation under this Section shall not change the amount of the Fixed O&M Charge.

(c) At any time during the Operating Term, UMD, upon 90 days advance notice, may revoke its Directive Letter to Concessionaire under this Section and reassume its obligations under Section 9.7.1.

9.8 SIGNAGE.

9.8.1 Unless required to comply with applicable Law, Concessionaire shall not name, or modify the name, of the Energy Systems or any portion thereof or install signage of any kind thereon, without UMD's approval, which UMD may withhold in its sole discretion.

9.8.2 UMD may, in its sole discretion, install, replace, display, and maintain signage that relates to identification or naming of the Energy Systems or portions thereof, or for informational or educational purposes, provided that:

(a) Concessionaire has no obligation to replace or maintain any such signage; and,

(b) UMD does not install any signage that relates to naming of the Energy Systems or portions thereof or the immediately surrounding areas for a Person that competes directly with the Concessionaire or Concessionaire's Equity Participants or Affiliates.

9.9 VENDING MACHINES.

9.9.1 UMD may access any portion of the Energy Systems to install, operate, and remove vending machines provided that:

(a) The location of any such vending machine is limited to locker rooms, lunchrooms, or office areas; and,

(b) UMD personnel installing, operating, or removing vending machines comply with all of Concessionaire's safety requirements and do not obstruct or interfere with any Workforce members performing services pursuant to this Agreement or damage any portion of the Energy Systems;

9.9.2 UMD shall receive the revenue generated by vending machines installed and operated under this Section.

9.9.3 Concessionaire shall not install vending machines in any portion of the Energy Systems other than the locations identified in Section 9.9.1. Concessionaire may install vending machines in those locations only if such installation does not violate any brand exclusivity agreement UMD may have entered with a vendor. UMD shall notify Concessionaire of any such agreements.

9.10 COORDINATED OPERATION.

9.10.1 *SYSTEM INTERCONNECTION*.

(a) Subject to Section 3.1.4, the Energy Systems and each UMD Building System shall continue to be interconnected throughout the Term.

(b) The drawings contained in Appendices I-1 through I-5 identify the typical Demarcation Points of the Parties' thermal, condensate return, chilled water, and electric distribution systems, including the points of demarcation for each Parties' management and operation responsibilities. The Parties may agree to set another point of demarcation on a case-by-case basis, provided that the Operations Management Team approves a statement describing the new demarcation point that is incorporated, along with a schematic drawing showing the interconnection and identifying the demarcation point, into the minutes of the Operations Management Team and the appropriate Appendix.

9.10.2 *EMERGENCY DISCONNECTION*. In the event of an Emergency, either Party shall have the right to disconnect its equipment and facilities from the other Party's system as necessary to prevent or mitigate damage to its system. The Parties shall cooperate to restore the interconnection as soon as it can be reasonably and safely accomplished.

9.10.3 *OPERATION DURING UMD CONSTRUCTION PROJECTS*. Concessionaire shall coordinate its management, operation, and maintenance of the Energy Systems with the work and delivery schedules of construction contractors, suppliers, subcontractors,

and others involved in the construction of UMD Buildings, facilities, roads, highways, and other projects (including the Purple Line) to assure that, to the extent commercially reasonable and practicable, during such construction, Full Requirements Energy Services are continued without reduction or interruption. If any such reduction or interruption is required, Concessionaire shall coordinate such reduction or interruption with UMD to minimize to the extent reasonably practicable any adverse impact on UMD's classes and operations.

9.10.4 *UMD CAPITAL PLANNING.* Concessionaire shall participate in the development, modification, and discussion of UMD's Campus plans, new building plans, and utility master plans and UMD Building energy initiatives, including participating in capital planning and capital plan forecasting processes, attending planning meetings, providing Energy Systems load studies, and, upon UMD's request, attending, and participating in, presentations related to UMD's capital plans.

9.11 ANNUAL CUSTOMER MEETING; MIDTERM REVIEW.

9.11.1 *ANNUAL CUSTOMER MEETING.* Concessionaire shall hold an annual customer meeting during November of each Contract Year (or such other date the Parties may set following the October meeting of the Program Implementation Council), which shall be open to all members of the UMD community and the general public. Concessionaire shall make a presentation about the Annual Report and the then-current Five-Year Plan and shall respond to questions about the presentation and any other matters raised by meeting attendees.

9.11.2 *MIDTERM REVIEW*. No later than the end of the tenth Contract Year and every tenth Contract Year thereafter, the Program Implementation Council, in conjunction with such personnel and consultants as it deems necessary, shall review the Parties' performance to date, discuss ways in which the value of the transaction for both Parties can be enhanced and persistent challenges resolved, and to negotiate such amendments of this Agreement as may be necessary to implement changes and adapt this Agreement to reflect then-current circumstances.

9.12 ENERGY SYSTEMS REVERSION.

9.12.1 *GENERAL OBLIGATION*.

(a) On the Reversion Date, Concessionaire shall surrender and deliver to UMD all of its rights, title, and interest in and to the Energy Systems, including all Capital Improvements, and all of Concessionaire's tangible and intangible personal property (including Inventory) necessary for managing, operating, and maintaining the Energy Systems and

performing Concessionaire's responsibilities under this Agreement, provided that Concessionaire's delivery of Intellectual Property shall be governed by Section 9.12.4(a).

(b) Concessionaire waives any notice that may be required by Law at any time with respect to transfer of the Energy Systems on the Reversion Date.

9.12.2 *CONDITION OF ENERGY SYSTEMS AT REVERSION*. On the Reversion Date, the Energy Systems shall be in Good Working Order in accordance with Prudent District Energy Practices, in compliance with the Law and Governmental Authorizations, and free and clear of all Encumbrances. In addition, the Energy Systems shall meet the following requirements:

(a) The CEP and other civil and structural components shall not exhibit any undue signs of damage, wear, stress, cracking, settlement, corrosion, or weather erosion such that they cannot reasonably be expected to satisfy their full useful life and support reliable service operations for a period of at least 7 years beyond the Reversion Date;

(b) Major Equipment and other major mechanical components shall have been repaired, refurbished, or replaced by Concessionaire as appropriate if their condition indicates that they are unlikely to be capable of supporting the provision of Energy Services in accordance with the applicable KPIs (without recourse to unanticipated Major Repair) for a period of 7 years beyond the Reversion Date; and,

(c) Limited life and "wear and tear" components:

(1) Have been replaced by Concessionaire following Phase I Substantial Completion in accordance with Prudent District Energy Practices and the Preventive Maintenance Plan as and when they failed, wore out, or reached their design life or customary replacement frequency;

(2) Have at least 7 years of remaining design life or at least 7 years remaining Useful Life.

9.12.3 *REVERSION WORK.*

(a) No later than 5 Contract Years prior to the end of the Term, or within a reasonable time before any earlier termination date (other than a termination for Concessionaire's default), the Program Executive and

the UMD Program Manager (and such other Workforce and UMD personnel as necessary) shall jointly inspect the Energy Systems to:

(1) Identify the Reversion Work required for the Energy Systems to meet Section 9.12.2's requirements; and,

(2) Determine the schedule for Concessionaire's completion of the Reversion Work.

(b) In lieu of repairing or refurbishing an individual piece of Major Equipment or a major mechanical component or replacing such Equipment or component with an identical or similar counterpart to meet the requirements of Section 9.12.2, Concessionaire may propose an Additional Capital Improvement to upgrade the Equipment or component itself or the Energy System (or portion thereof) of which it is a part, provided that:

(1) Parts for repairing, refurbishing, or replacing such Equipment or component are no longer available, or are only available at a price that renders repair, refurbishment, or replacement uneconomic; or,

(2) The upgraded Equipment or component will increase their Energy System's efficiency, reliability, or sustainability or otherwise produce savings that will offset its cost within 7 years following the Reversion Date;

(c) Upon its receipt of a proposal submitted pursuant to Section 9.12.3(b), UMD shall evaluate the proposal in accordance with Section 10.5 and if it agrees with the proposal, UMD shall recommend its acceptance by the Program Implementation Council. Upon the Council's acceptance, Concessionaire shall incorporate the Additional Capital Improvement into the Reversion Work Plan. If UMD does not recommend acceptance of the proposal, or the Program Implementation Council does not accept it, Concessionaire shall repair, refurbish, or replace the Major Equipment or major components to meet Section 9.12.2(b)'s requirement to the greatest extent possible.

(d) Concessionaire shall compile the Reversion Work list, Additional Capital Improvements (if any), and schedule into the Reversion Work Plan, which shall be complementary to, but separate from, the Operations Plan. Maintenance Services scheduled to be completed in the due course of implementing the Operations Plan shall not be included in the

Reversion Work Plan. Concessionaire shall deliver its proposed Reversion Work Plan to the UMD Program Manager for review.

(e) If UMD and Concessionaire cannot agree upon a Reversion Work Plan to recommend to the Program Implementation Council, the Parties shall retain an Independent Engineer to inspect the Energy Systems and propose a Reversion Work Plan.

(1) UMD and Concessionaire shall each nominate one to three engineers or engineering firms with directly applicable experience in evaluating the condition of district energy systems to serve as the Independent Engineer. If UMD and Concessionaire each nominate the same engineer or firm, that engineer or firm shall be designated as the Independent Engineer. Otherwise, the Independent Engineer shall be selected from the list of nominees through random selection.

(2) The Parties shall share the Independent Engineer's fees and expenses equally.

(f) The Reversion Work Plan shall be effective upon its approval by the Program Implementation Council. Following such approval, Concessionaire shall update the approved plan no later than 90 days prior to the beginning of each Contract Year. The Operations Management Team shall determine whether any changes in the Reversion Work Plan's scope or schedule should be made, and if so, recommend such changes for consideration by the Program Implementation Council.

(g) Concessionaire shall diligently perform and complete all Reversion Work in accordance with the Reversion Work Plan. Concessionaire shall be responsible for the full cost of implementing the Reversion Work Plan, except with regard to the cost of any Additional Capital Improvements incorporated into such Plan.

(h) Beginning one year prior to the Reversion Date, Concessionaire and UMD shall conduct inspections of the Energy Systems at the times and according to procedures specified in the Implementation Protocols or otherwise determined by the Operations Management Team. These inspections shall have the following purposes:

(1) Determining and verifying the condition of the Energy Systems' components and their residual service life;

(2) Adjusting, to the extent necessary based on inspection and analysis, the ages of the Energy Systems' components, their residual lives, and the timing for Reversion Work related thereto;

(3) Revising and updating the Operations Plan for the last Contract Year of the Term to incorporate such adjustments;

(4) Determining the final Reversion Work required to be completed prior to the Reversion Date, based upon the updated Reversion Work Plan and the adjusted Operations Plan; and,

(5) Verifying that all Reversion Work has been properly performed and completed.

(i) If, on or before the Reversion Date, the Energy Systems do not comply with the requirements set forth in Section 9.12.2 or Reversion Work has not been performed properly or in a timely manner, then Concessionaire shall be liable for UMD's direct costs and expenses in bringing the Energy Systems into compliance with such requirements. In recovering such amounts, UMD may:

(1) Invoice Concessionaire for such amount, as a lump sum payment;

(2) Set off such amount against any other amount then due and owing from UMD to Concessionaire, provided that UMD shall not set off such amount against any Availability Payment;

(3) Draw against the Performance Bond or Performance Letter of Credit posted pursuant to Section 9.6; or,

(4) Utilize any combination of the foregoing options.

(j) Concessionaire's implementation of the Reversion Plan shall not excuse or supplant its obligation to manage, operate, and maintain the Energy Systems in accordance with the KPIs and all other provisions of this Agreement.

9.12.4 *SURRENDER*.

(a) Subject to Section 13.6.2(i), with respect to any third-party Intellectual Property or proprietary software utilized by Concessionaire in managing, operating, or maintaining the Energy Systems, Concessionaire and UMD

shall negotiate in good faith appropriate license rights and terms for UMD's continued use of such property and software on a no-cost basis in connection with the management, operation, and maintenance of the Energy Systems.

(b) UMD shall pay, or cause to be paid, to Concessionaire an amount equal to the unamortized balance of any Additional Capital Improvement.

(c) *Defective Work Correction Funding.* On or before the last day of the Term, Concessionaire shall provide funds upon which UMD may draw for the first two years after Reversion to pay for the correction or repair of Defective work performed by Concessionaire during the Operating Term, but not discovered until after Reversion.

(1) Concessionaire shall make available to UMD an amount equal to the total of the Availability Payment and the Fixed O&M Charge for the penultimate Contract Year either by posting a Letter of Credit or funding an account held by UMD that is dedicated solely to correcting Defective work.

(2) A Letter of Credit posted under this Section 9.12.4(c) must satisfy the requirements set forth in Section 9.6.2, provided that UMD may draw upon the Letter of Credit by presenting to the commercial bank or trust company holding the funds a sight draft and a certificate that Concessionaire performed Defective work prior to Reversion that UMD must correct.

(3) On the date that is two years after the Reversion Date, UMD shall cause the Letter of Credit (if posted) to be returned to Concessionaire and the amounts remaining in the funded account (if any) to be paid to Concessionaire.

(d) Concessionaire, at its sole cost and expense, shall facilitate the transfer of responsibility for managing, operating, and maintaining the Energy Systems by:

(1) Notifying all applicable Governmental Authorities of the anticipated change in the management of the Energy Systems;

(2) Cooperating with UMD in transferring, assigning, and delivering such Governmental Authorizations as required to a Successor Operator designated by UMD;

(3) Completing all work orders, Preventive Maintenance, and repairs required pursuant to this Agreement for completion prior to Reversion;

(4) Reasonably demonstrating compliance with all Environmental Laws and the completion of all corrective actions necessitated by any Environmental Claim or Environmental Matter to the extent Concessionaire is responsible for such corrective action under this Agreement;

(5) Delivering to UMD or a Successor Operator all Records, including the database for the CMMS and the Records identified in Section 13.1.2(a);

(6) Assigning to UMD or a Successor Operator all contracts with vendors, Subcontractors, or others and any warranties of such vendors, Subcontractors, and others, to the extent that such contracts and warranties are assignable, and obtain all requisite consents to such assignments; and,

(7) Providing all training and orientation services for UMD or Successor Operator personnel for a period of 6 months prior to the Reversion Date (except for a Reversion resulting from a termination for Concessionaire Default); and,

(8) Taking such further action as may be reasonably requested by UMD to assure the complete and efficient transfer of the management, operation, and maintenance of the Energy Systems to UMD or a Successor Operator.

ARTICLE 10: DESIGN AND CONSTRUCTION

10.1 CONCESSIONAIRE'S RESPONSIBILITIES. Concessionaire shall be responsible for all Capital Improvements, all Major Repairs, all Replacements, and all Material Changes required to be completed throughout the Term under this Agreement. Concessionaire shall make only those Capital Improvements, Major Repairs, Replacements, and Material Changes approved by UMD in accordance with Sections 10.2 through 10.5 (as applicable). Concessionaire shall complete all such work in accordance with the Construction Requirements.

10.1.1 *SCOPE.* Each Capital Improvement, Major Repair, Replacement, and Material Change shall constitute a Project. Concessionaire shall be solely responsible for

each Project's design, means, methods, techniques, sequences, construction procedures, testing, and safety precautions and programs incident thereto.

10.1.2 *MATERIALS, SUPPLIES, AND SERVICES*. Concessionaire shall furnish or cause to be furnished all Subcontractors, materials, services, temporary utility services, implements, machinery, Equipment, tools, supplies, transportation, labor, and all other items and services necessary or incidental to completing each Project undertaken pursuant to this Article 10 in compliance with its Project Documents.

10.1.3 *TIMELY COMPLETION.* Concessionaire shall complete each Project within the time specified in the Project's Project Schedule and at or below the applicable Project Price (as adjusted by any Change Orders).

10.1.4 *GOVERNMENTAL AUTHORIZATIONS.* Concessionaire shall secure all Governmental Authorizations necessary to complete each Project, including the Governmental Authorizations for construction activities identified in Appendix M-2. Concessionaire shall support UMD's application for Environmental Authorizations in accordance with Section 11.2. UMD shall reasonably cooperate with Concessionaire as necessary to secure all Governmental Authorizations.

10.1.5 *ACCURACY.* Concessionaire shall prepare all Preliminary Design Documents and all Plans and Specifications to reflect accurate information and locations and shall correct all omissions and errors in the Plans and Specification, Shop Drawings, and other Project Documents. Concessionaire shall also coordinate design and resolve discrepancies, conflicts, and errors occurring therein during construction.

10.1.6 *CONSTRUCTION MANAGEMENT.* Concessionaire shall supervise and direct each Project, using its best skill and attention, and shall comply with the Law, all Governmental Authorizations, the Construction Requirements, and the Design Criteria.

10.1.7 *CORRECTION OF DEFECTIVE WORK*. Concessionaire shall conduct such inspections and tests and supervise and manage each Project to identify and correct as soon as is reasonably possible any Defective materials, supplies, equipment, construction, or work.

10.1.8 *PERFORMANCE SECURITY.*

(a) Concessionaire shall post, or cause the Key Construction Contractor to post, in either of the forms permitted under Section 9.6 and containing the same conditions set forth therein, Performance Security in an amount equal to the total of all Phase I Capital Improvements' Project

Prices. Such Performance Security shall be effective for the first 12 months following Phase I Substantial Completion.

(b) For each Additional Capital Improvement Project, Concessionaire shall post, or cause the Key Construction Contractor to post, Performance Security in either of the forms permitted under Section 9.6, in an amount equal to the total Project Price. Concessionaire may replace the Performance Security with a Warranty Bond on the Project's Actual Substantial Completion Date. The Parties shall determine the amount and duration of such Warranty Bond when Concessionaire proposes an Additional Capital Improvement's Project Price.

(c) UMD's rights in the Performance Security and the Warranty Bonds posted pursuant to this Section shall be subject to the rights of the Lenders under the Direct Agreement. Concessionaire shall deliver, or cause a third party to deliver, the original bonds or letters of credit to the Lenders.

10.1.9 *COORDINATION WITH UTILITIES*. To the extent required by Law, utility tariffs, or this Agreement, Concessionaire shall coordinate, in accordance with the Construction Requirements, the design, engineering, construction, and testing of all Capital Improvements, Major Repairs, Replacements, and Material Changes with Pepco, other utilities, the Purple Line, and other owners and operators of underground systems and facilities adjacent to the Energy Systems. UMD shall reasonably cooperate with Concessionaire in such coordination efforts.

10.1.10 *INTERCONNECTION*.

(a) If any Capital Improvement Project requires replacement of the Electric Production Units present in the CEP at Commencement, Concessionaire, acting on behalf of, and in consultation with, UMD, shall conduct discussions with Pepco, prepare and submit all interconnection requests, negotiate amendments to, or replacement of, the 2003 Interconnection Agreement and secure all necessary Governmental Authorizations to complete such Project. UMD shall review all interconnection requests prior to submittal and, at its discretion, may participate in all discussions with Pepco.

(b) UMD shall pay Pepco directly for the cost of any interconnection facilities study and electric distribution system upgrades charged by Pepco related to the design and construction of the Phase I Capital Improvements.

(c) Concessionaire shall not obligate UMD to pay the cost of any upgrades of Pepco's distribution system associated with the installation of any Electric Production Units without:

(1) Submitting Pepco's rationale and estimated cost to the UMD Program Manager; and,

(2) Obtaining authorization to incur such obligation by UMD, the University System, or the Board of Public Works, as may be required.

10.2 PHASE I CAPITAL IMPROVEMENTS. UMD's execution of this Agreement shall constitute its approval for each Phase I Capital Improvement Project. Immediately following the Initial Financial Closing, UMD shall issue to Concessionaire a notice to proceed with the Phase I Capital Improvement Projects and Concessionaire shall issue a notice to proceed to the Key Construction Contractor to design, engineer, obtain necessary Governmental Authorizations for, construct, install, and commission each such Project in accordance with this Agreement and the applicable Project Documents.

10.3 PHASE II CAPITAL IMPROVEMENTS/PHASE III CAPITAL IMPROVEMENTS. Capital Improvements recommended by the Decarbonization Strategy Development conducted by Concessionaire in accordance with the methodology set forth in Appendix P-5 and completed by the deadline set therein shall be deemed Additional Capital Improvements and shall be proposed and approved pursuant to the procedures set forth in Section 10.5.

10.4 PLANNED IMPROVEMENTS: THE FIVE-YEAR PERFORMANCE IMPROVEMENT PLAN.

10.4.1 *PLAN CONTENTS*. No later than November 1 of each Contract Year beginning on November 1, 2025 (or such other date as the Parties may set), Concessionaire shall deliver to UMD the Five-Year Plan. At a minimum, each Plan shall contain the following information:

(a) A description and updated assessment of the need, benefits, and estimated Project Price for each Planned Improvement and each Scheduled Replacement included in the latest approved Five-Year Plan;

(b) An updated indicative Project Price for each Project that has been approved by UMD and scheduled to commence during the first Contract Year of the Five-Year Plan's planning horizon and for which UMD has not yet issued a Change Order;

(c) A description of each Capital Improvement, Major Repair, or Replacement Concessionaire recommends for one or more UMD Building Systems that would materially improve the overall reliability, resiliency, efficiency, or sustainability of the Energy Systems and the UMD Building Systems along with a preliminary estimated cost of each recommendation (assuming Concessionaire completes the work on UMD's behalf) and the economic justification therefor; and,

(d) A table of the projected Annual Maximum Concessionaire Charge for each Contract Year in the Five-Year Plan's planning horizon calculated in accordance with Appendix O-4.

10.4.2 *PLAN REVIEW*.

(a) The UMD Program Manager shall convene the Operations Management Team to review the Concessionaire's updated Five-Year Plan at one or more meetings held during November of each Contract Year. Such meetings may be held concurrently with the Annual Operating Budget review meeting held pursuant to Section 17.4.

(b) The Operations Management Team shall review each of the Plan's recommendations separately and discuss what, if any, energy efficiency improvements, incentives, grants, or other measures could be available to reduce or mitigate its cost.

(c) Based on the Operations Management Team's discussion, Concessionaire shall modify the proposed Five-Year Plan and deliver an updated version to the UMD Program Manager for transmittal to the Program Implementation Council for consideration at the Council's next regular meeting. If the Council does not approve a proposed Five-Year Plan, the most recent Five-Year Plan approved by the Council shall remain in effect until the Council approves a new Plan.

(d) UMD shall notify Concessionaire within 30 days (or such other time on which the Parties agree) following the Program Implementation Council's approval of a Five-Year Plan whether it intends to pay Concessionaire directly for any Additional Capital Improvement, Major Repair, or Replacement scheduled to occur in a Five-Year Plan's first Contract Year or the 6 months immediately thereafter. If UMD elects not to pay Concessionaire directly, Concessionaire shall plan to include the final cost of such Additional Capital Improvement, Major Repair, or Replacement in the Availability Payment for recovery over the proposed

Capital Recovery Period on and after the Project's Actual Substantial Completion Date.

10.5 APPROVAL AND FUNDING OF ADDITIONAL CAPITAL IMPROVEMENTS AND UNPLANNED IMPROVEMENTS

10.5.1 *PROPOSAL.*

(a) At any time during the Term, Concessionaire may propose a new Project to complete an Additional Capital Improvement or Unplanned Improvement by delivering a Proposal to the UMD Program Manager.

(b) Concessionaire shall not be required to submit a Proposal under this Section 10.5 for any Repair or other work required to restore Full Requirements Energy Services on a temporary basis in response to an Emergency, which shall be governed by Sections 6.5.2 and 6.5.3 of the Operating Requirements.

10.5.2 *TYPES OF PROPOSALS*. Concessionaire may submit either a Preliminary Proposal or a Project Proposal for UMD's approval.

(a) *Preliminary Proposal*.

(1) Concessionaire shall submit a Preliminary Proposal based on cost estimates or ranges of costs when:

(i) Additional information regarding the scope, design, or cost of the Project is required to determine the Project's feasibility or additional design or engineering is necessary to secure a quotation of a guaranteed maximum price or lump sum contract; and,

(ii) UMD approval is necessary to authorize Concessionaire to incur the costs of securing such information.

(2) In addition to the information set forth in Section 10.5.2(a)(1), each Preliminary Proposal shall identify exactly the additional information required, the services necessary to secure such information, and their estimated cost.

(b) *Project Proposal*. Concessionaire shall submit a Project Proposal when seeking UMD's approval for the proposed Project. All Project Proposals shall contain the information set forth in Section 10.5.3 along with a guaranteed maximum price or lump sum payment for the Project.

10.5.3 *PROJECT PROPOSAL CONTENTS.* Each Project Proposal shall be submitted with a cover page setting forth the information required by Section 1.4.1 and with the following supporting information (as applicable):

(a) A detailed description of the proposed Project, including such narratives, equipment specifications, drawings, and other information as necessary to fully explain the Project;

(b) A statement identifying the proposed Project as an Additional Capital Improvement or Unplanned Improvement;

(c) The proposed Project's purpose, rationale, and potential benefits for UMD (such as increased efficiency, resiliency, sustainability, direct payments or grants by the federal government, or economic benefit) and Concessionaire (such as Tax incentives);

(d) The estimated Useful Life of the Project's Equipment and major components;

(e) The proposed Project's impact (if any) on the then-current Five-Year Plan;

(f) If the proposed Project would create Tax or other financial benefits, a statement whether such benefit will reduce the proposed Project's cost;

(g) If Concessionaire proposes an Additional Capital Improvement, an indicative Project Price, along with a statement describing (and quantifying to the extent possible) the sensitivity of such price to change based upon prevailing economic conditions, and stating whether Concessionaire expects such Project Price will be paid by UMD directly or financed by Concessionaire and recovered from UMD through the Availability Payment.

(1) If Concessionaire proposes to finance the Additional Capital Improvement, Concessionaire shall deliver to UMD the proposed Financial Model update reflecting the effect of such financing and shall state the assumptions on which the update is based.

(2) If Concessionaire proposes to finance the Additional Capital Improvement and the Capital Recovery Period for such cost extends beyond the Term, Concessionaire shall state the

estimated balance remaining to be recovered on the Reversion Date or assumed by UMD.

(h) If Concessionaire proposes an Unplanned Improvement, a statement identifying the Party it expects to bear the cost responsibility for the Project under Section 10.5.6 and its rationale therefor. If Concessionaire expects UMD to bear the cost responsibility for the Project, it shall state the estimated Project Price and include the information identified in Section 10.5.3(g).

(i) An estimate of any annual increase or reduction in the Fixed O&M Charge or the Reimbursable Costs Charge (if any) resulting from changed operation and maintenance activities or costs;

(j) A statement of whether the proposed Project would affect any Required Insurance Coverage and an estimate of any premium increase or reduction associated with the Project;

(k) A preliminary Project Schedule and description of the impact of construction or other work necessary to complete the Project on Persons, traffic flow, the Campus, operation of the Purple Line and other Campus transportation services, and on any UMD Building System;

(l) An explanation of all relevant assumptions, variables, and data sources used to prepare the proposal; and,

(m) If any of the above-listed information is unavailable or inapplicable, a statement explaining the omission.

10.5.4 *UMD'S RESPONSE TO CONCESSIONAIRE'S PROPOSAL.* UMD shall respond within 30 days following its receipt of a Preliminary Proposal or a Project Proposal.

10.5.5 *OPTIONS FOR UMD RESPONSE.* UMD shall review each Preliminary Proposal and Project Proposal and shall take one of the following actions. If a single Project Proposal includes multiple individual Capital Improvements, Major Repairs, Unplanned Replacements, or Material Changes, UMD may provide different responses for each such Improvement or change.

(a) UMD may approve the Preliminary Proposal or the Project Proposal in accordance with its terms or as negotiated by the Parties and if the Project's work is scheduled to begin in the then-current Contract Year or the first six months of the subsequent Contract Year, issue a Change

Order directing Concessionaire to proceed with the Project at or below the proposed Project Price;

(b) UMD may approve the Preliminary Proposal or the Project Proposal in accordance with its terms or as negotiated with the Parties and direct Concessionaire to include the proposed Project in the next Five-Year Plan as a Planned Improvement;

(c) UMD may authorize Concessionaire to incur the costs and expenses for developing a Preliminary Proposal into a Project Proposal, provided that such authorization, as appropriate, shall set a cap on such costs and that all reasonable costs incurred by Concessionaire under that cap shall be considered Reimbursable Costs and recovered pursuant to Section 17.1.

(d) UMD may notify Concessionaire that additional information is required before UMD can approve the Proposal, provided that such notice specifies what information must be compiled and authorizes Concessionaire to incur the reasonable costs associated therewith up to a stated amount;

(e) UMD may provide comments on the Proposal (which may include comments intended to align the Project with Campus improvement plans) and require Concessionaire to incorporate such comments into the Project and submit a revised Proposal;

(f) UMD may reject the Proposal and provide Concessionaire a reasonably detailed explanation for such rejection, provided that UMD shall not reject a Proposal when all of the following criteria have been met:

(1) The proposed Project is required to cause the Energy Systems to comply with a Change in Law;

(2) Concessionaire has reasonably investigated alternatives to the proposed Project and provided UMD reasonable evidence of such investigation;

(3) Concessionaire has demonstrated to UMD's reasonable satisfaction that the proposed Project represents the alternative that best balances technical feasibility, efficiency, resiliency, sustainability, and cost; and,

(4) UMD, after performing an engineering and financial assessment, has identified no reasonable alternative to address compliance with the Change in Law that it would approve.

10.5.6 *COST RESPONSIBILITY FOR UNPLANNED IMPROVEMENTS.* Concessionaire shall complete all Unplanned Improvements approved by UMD pursuant to Section 10.5.5. Cost responsibility for such Unplanned Improvements shall be determined pursuant to this Section 10.5.6.

(a) *Cost Responsibility for Legacy Components.*

(1) Throughout the Operating Term, UMD shall be responsible for the cost of any Major Repair or Unscheduled Replacement of a Legacy Component unless UMD is able to demonstrate that the Major Repair or Unscheduled Replacement resulted primarily from Concessionaire's failure to operate and maintain the affected portion of the Energy Systems in accordance with this Agreement, the Law, and Prudent District Energy Practices, in which case, Concessionaire shall bear such cost.

(2) If a Legacy Component is scheduled to be replaced or reconstructed as part of a Phase I Capital Improvement Project, but requires a Major Repair or Unscheduled Replacement at any time prior to the date on which the replacement or reconstruction is set to begin under the applicable Project Schedule, Concessionaire shall utilize commercially reasonable efforts to adjust the sequencing of work or accelerate the Project's Project Schedule so that the replacement or reconstruction can be completed on the earliest practicable date.

(b) *Cost Responsibility for New Components.* On and after a Phase I Capital Improvement Project's Actual Substantial Completion Date, Concessionaire shall be presumed to be responsible for the cost of any Unplanned Improvement of the Project's New Components unless it is able to demonstrate that such Unplanned Improvement resulted primarily from UMD's failure to operate and maintain the UMD Building Systems in accordance with this Agreement, in which case, UMD shall bear such cost.

(c) *Disputed Cost Responsibility.* If UMD disagrees with Concessionaire's determination of cost responsibility under this Section 10.5.6, it may approve the Project Proposal for the Unplanned Improvement and

authorize Concessionaire to fund completion of the Project by drawing on the NextGen Reserve.

(1) If UMD ultimately bears the cost responsibility for the Unplanned Improvement, UMD shall reimburse the NextGen Reserve in an amount equal to the final cost of the Unplanned Improvement in accordance with Section 17.1.2.

(2) If Concessionaire is determined to bear the cost responsibility for the Unplanned Improvement, Concessionaire shall reimburse the NextGen Reserve in an amount equal to the final cost of the Unplanned Improvement according to a schedule agreed upon by the Parties.

(3) Cost responsibility for the Unplanned Improvement may be shared by the Parties with each Party reimbursing the NextGen Reserve in an amount equal to its agreed-upon portion of the Unplanned Improvement's final cost.

(d) *Means of Payment.* If UMD is responsible for the total cost of any Unplanned Improvement, UMD may authorize Concessionaire to pay such costs from the NextGen Reserve or to recover them as Reimbursable Costs.

10.5.7 *PROJECT ABANDONMENT.* If UMD directs Concessionaire's abandonment of any Project it approved under this Section 10.5, Concessionaire shall include in the Availability Payment the amount of all progress payments for Project work it performed or caused to be performed on or before the date of UMD's notice of abandonment, unless UMD otherwise directs another cost recovery method.

10.6 RETAINAGE.

10.6.1 *GENERAL OBLIGATION*. The Parties recognize that for the purposes of Md. Code Ann. State Fin. & Proc. Article §17-110(c), UMD is paying for the design and construction of Capital Improvements through the Availability Payment, which therefore authorizes Concessionaire to withhold retainage of 5% of the payments owing to the Key Contractor(s) responsible for performing design, construction, and related services.

10.6.2 *SUBCONTRACTOR RETAINAGE.* Concessionaire shall require each Key Contractor for which it withholds retainage pursuant to Section 10.6.1 to authorize such Key Contractor to withhold retainage of 5% from payments owing its Subcontractors and to require such Key Contractor to include in its Subcontracts a provision

authorizing its Subcontractors to withhold 5% retainage from payments owing its lower-tier Subcontractors.

10.6.3 *PAYMENT OF RETAINAGE*. Concessionaire shall provide evidence to UMD, as a condition to UMD's approval for the inclusion of the final cost of a Project in the Availability Payment, that all retainage withheld for a Project from each Key Contractor and each Subcontractor at all tiers has been paid in full.

10.7 PREVAILING WAGE.

10.7.1 *GENERAL OBLIGATION.* The minimum wage rates and benefits paid to individuals performing work on each Project undertaken pursuant to this Agreement shall be those rates set pursuant to the State's Prevailing Wage Law on July 1, 2023, for the Phase I Capital Improvement Projects and at the time of the Financial Closing on the funding of any Additional Capital Improvement Projects (or, if applicable, such other date on which the Project's funding is final).

10.7.2 *CHANGES.* Concessionaire shall be solely responsible for determining the wage rates required to be paid for Project work. Concessionaire shall have no right to file a Claim against UMD on account of any change in wages and benefits occurring after July 1, 2023 for the Phase I Capital Improvements Projects or other applicable date for final Additional Capital Improvement Project funding except for a change in wages and benefits occurring as a result of a Change in Law.

10.7.3 *REPORTING.* Concessionaire and each Key Contractor and Subcontractor performing work on a Project shall comply with the recordkeeping and reporting requirements set forth in COMAR 21.11.11.02.

10.7.4 *ENFORCEMENT*.

(a) *Complaints; Investigations.* Concessionaire shall notify the UMD Program Manager within 5 Business Days following its receipt of a complaint filed against it or any Key Contractor or Subcontractor alleging violation of the State Prevailing Wage Law. Concessionaire shall include a copy of the complaint along with notice.

(b) Upon its receipt of a notice pursuant to Section 10.7.4(a) or its receipt of a notice of the initiation of an investigation by the State, UMD shall withhold from any payment due to Concessionaire for the Project affected an amount sufficient to:

(1) Pay each affected employee of Concessionaire, the Key Contractor, or the Subcontractor the full amount of wages due under the State Prevailing Wage Law; and,

(2) Satisfy the liability of Concessionaire, the Key Contractor, or the Subcontractor for liquidated damages and any other amount authorized by the State Prevailing Wage Law.

(c) Upon receiving an order determining the amount of unpaid wages and liquidated damages due from Concessionaire, a Key Contractor, or a Subcontractor, UMD or Concessionaire (as applicable) shall draw on the amounts withheld pursuant to Section 10.7.4(b) to:

(1) Pay the affected employees the full amount of wages due them; and,

(2) Satisfy the obligation of the Concessionaire, Key Contractor, or Subcontractor to pay liquidated damages in accordance with the State Prevailing Wage Law.

(d) If Concessionaire, a Key Contractor, or a Subcontractor is deemed not to have violated the State Prevailing Wage Law, UMD or Concessionaire (as applicable) promptly shall pay the amounts withheld to the Concessionaire, Key Contractor, or Subcontractor, as appropriate.

10.7.5 *CONCESSIONAIRE DEFAULT.* Failure by Concessionaire to pay an employee a rate of wages set in accordance with the State Prevailing Wage Law, or to require its Key Contractors and direct Subcontractors to pay such rate to their employees, shall be a material breach of Concessionaire's obligations under Section 19.1.11.

ARTICLE 11: ENVIRONMENTAL MATTERS

11.1 COMPLIANCE WITH ENVIRONMENTAL LAWS. Concessionaire shall manage, operate, and maintain the Energy Systems in compliance with all applicable Environmental Laws and the Environmental Authorizations issued pursuant thereto. A Change in Law shall not excuse Concessionaire's failure to comply with any Environmental Law, Environmental Authorization, or directive issued by a Governmental Authority under any Environmental Law.

11.2 ENVIRONMENTAL AUTHORIZATIONS. The Parties shall cooperate, through the Operations Management Team, in applying for, securing, maintaining, modifying, and renewing all Environmental Authorizations necessary for operating and maintaining the Energy

Systems and for designing, constructing, engineering, and testing any Capital Improvements thereto.

11.2.1 *APPLICATION*. Concessionaire shall deliver to the UMD Program Manager the draft of any application seeking approval, modification, or renewal of an Environmental Authorization and all supporting data, Records, and other information. The UMD Program Manager shall distribute the draft application and supporting information immediately to UMD personnel for review and comment, provided that such Persons shall return their comments to the UMD Program Manager within 10 Business Days following the UMD Program Manager's receipt of the draft from Concessionaire. The UMD Program Manager shall transmit the comments to Concessionaire, which shall make required changes and return the application and supporting information to the UMD Program Manager, who shall file them with the appropriate Governmental Authority.

11.2.2 *SUPPORTING TESTIMONY.* Upon UMD's request, Concessionaire shall testify before Governmental Authorities and otherwise support all applications for Environmental Authorizations required for the Energy Systems to provide Full Requirements Energy Services in full compliance with the Law, this Agreement, and Prudent District Energy Practices.

11.2.3 *DISCUSSIONS WITH GOVERNMENTAL AUTHORITIES*. Concessionaire shall have the right to be notified of, and participate in, all discussions and communications with Governmental Authorities regarding an application for approval, modification, or renewal of an Environmental Authorization.

11.2.4 *CONCESSIONAIRE'S COSTS*. Except as provided in Section 11.3.3, Concessionaire shall bear its own costs associated with its preparation of information for, review of, and testimonial support for, applications for approval, modification, or renewal of any Environmental Authorization required for the Energy Systems to provide Full Requirements Energy Services in full compliance with the Law, this Agreement, and Prudent District Energy Practices.

11.2.5 *FEES*. Concessionaire shall not be responsible for paying fees (including annual fees) associated with Environmental Authorizations related to air emissions and water or other discharges from the Energy Systems.

11.3 PRE-EXISTING ENVIRONMENTAL MATTERS AND CLAIMS.

11.3.1 *PRE-EXISTING ENVIRONMENTAL MATTERS OR CLAIMS.* Except as provided in Section 11.4.1, as between the Parties, UMD shall be responsible under this Agreement for the costs and expenses of Environmental Matters and Environmental Claims existing at, or arising as the result of, Environmental Matters present or existing at Commencement.

11.3.2 *HAZARDOUS WASTE*. As between the Parties, UMD (and not Concessionaire) shall be deemed to be the generator of any Hazardous Waste existing on the Leased Property at Commencement.

11.3.3 *CONCESSIONAIRE ENVIRONMENTAL LEGAL COSTS.* UMD shall pay the Environmental Legal Costs of Concessionaire and its Key Contractors or Subcontractors that arise from, or are incurred in connection with, any Environmental Matter or Environmental Claim for which Concessionaire does not have responsibility under Section 11.3.1 except to the extent such costs are paid with insurance proceeds.

(a) Concessionaire shall notify UMD promptly upon discovering an Environmental Matter in accordance with Section 11.5.1 or its receipt of a third party's assertion of an Environmental Claim against Concessionaire, a Key Contractor, or a Subcontractor. UMD shall assume the defense of such Environmental Claim and shall engage counsel reasonably acceptable to Concessionaire. Concessionaire shall cooperate with UMD and its counsel in such defense.

(b) UMD may consent to the entry of a judgment or enter into a settlement agreement of an Environmental Claim based solely on an Environmental Matter for which it is responsible under Section 11.3.1 without first obtaining Concessionaire's written consent thereto, provided that such judgment or agreement includes an unconditional and complete release of Concessionaire and all applicable Key Contractors and Subcontractors from all liabilities with respect to the demand or claim and UMD or an insurer pays the full amount of any award or settlement costs.

11.4 POST-COMMENCEMENT ENVIRONMENTAL MATTERS AND CLAIMS.

11.4.1 *CONCESSIONAIRE'S RESPONSIBILITY*. Concessionaire shall be responsible under this Agreement for the costs and expenses of all Environmental Matters and Environmental Claims occurring on or after Commencement to the extent caused by, or resulting from, any acts or omissions in violation of the obligations of Concessionaire or any Concessionaire Party under this Agreement.

11.4.2 Concessionaire shall pay all penalties, fines, and other amounts imposed on Concessionaire. any Concessionaire Party, UMD, or any UMD Party to the extent resulting from Concessionaire's violations of Environmental Law occurring on and after Commencement, including those related to violations of Governmental Authorizations issued pursuant to Environmental Law.

11.4.3 UMD shall be responsible under this Agreement for the cost and expense of all Environmental Matters and Environmental Claims occurring on or after Commencement to the extent that they are not the responsibility of Concessionaire pursuant to Section 11.4.1. As between the Parties, UMD shall pay all penalties, fines and other amounts imposed on Concessionaire, any Concessionaire Party, UMD, or any UMD Party to the extent they are not the responsibility of Concessionaire pursuant to Section 11.4.2.

11.4.4 As between the Parties, UMD shall be deemed to be the generator of any Hazardous Waste existing on the Leased Property except to the extent such Hazardous Waste was produced; improperly stored; or illegally or negligently handled, spilled, distributed, or dispersed, by Concessionaire or any Concessionaire Party.

11.5 NOTIFICATION OF ENVIRONMENTAL MATTERS OR ENVIRONMENTAL CLAIMS.

11.5.1 *NOTICE TO UMD.*

(a) If Concessionaire encounters any Environmental Matter or commits any act, or omits to act, during its performance of this Agreement and such act or omission either actually causes, or results in, or is likely to cause or result in, any of the following events, Concessionaire shall immediately, and before any substance is disturbed or any action taken (other than any action required to respond to an Emergency), notify the UMD Program Manager and UMD's Department of Environmental Safety, Sustainability and Risk of:

(i) A violation of an Environmental Law or Governmental Authorization issued pursuant thereto that is required by Law to be reported;

(ii) An Environmental Matter that could result in an Environmental Claim; or,

(iii) An Environmental Claim.

(b) Concessionaire's notice to UMD shall include a complete and detailed description of the Environmental Matter or act or omission resulting in the Environmental Matter or Environmental Claim; any action taken by Concessionaire with respect thereto; and any proposed contact or communication with any Governmental Authority regarding the Environmental Matter, act, or omission.

11.5.2 *NOTICE TO GOVERNMENTAL AUTHORITIES.* If Concessionaire encounters any Environmental Matter or commits any act, or omits to act, during its performance of this Agreement and such act or omission either causes or results in, or is likely to cause or result in, a violation of an Environmental Authorization held in the name of UMD or held jointly by UMD and Concessionaire, UMD shall be responsible for all subsequent notices, communications, responses and follow-up meetings with such Governmental Authorities regarding, or with respect to, such Environmental Matter or violation. UMD shall notify Concessionaire prior to, and Concessionaire may participate in, all contacts and meetings with Governmental Authorities. UMD shall review all written communications with any Governmental Authority prior to submission unless UMD notifies Concessionaire otherwise, provided that if a proposed communication is subject to the attorney-client privilege, the Concessionaire Party must share the final version of the communication with UMD prior to submission to the Governmental Authority.

11.6 REMEDIATION REQUIREMENTS AND PROCEDURES.

11.6.1 *REMEDIATION DECISIONS.* The Parties shall cooperate in remediating any Environmental Matter that arises during the Operating Term. After having consulted with Concessionaire, UMD shall make the final decision, in its sole discretion, of how an Environmental Matter will be remediated, subject to the requirements of any applicable Environmental Law.

11.6.2 *REMEDIATION PROCESS*.

(a) *Generally.* Concessionaire shall remediate at its sole cost and expense Environmental Matters occurring or discovered during the Operating Term for which it bears responsibility under Section 11.4.1. If responsibility for the Environmental Matter is allocated to, or shared with, UMD pursuant to Sections 11.3.1 or 11.4.3, Concessionaire shall charge UMD, and UMD shall pay Concessionaire, only those remediation costs and expenses for which UMD is responsible under this Agreement. With UMD's prior approval, Concessionaire may draw upon the NextGen Reserve to complete the remediation. If Concessionaire bears responsibility for remediation costs, it shall promptly reimburse the Reserve upon its receipt of insurance proceeds or according to a reasonable reimbursement schedule set by UMD. If UMD bears responsibility for the remediation costs, then it shall reimburse the Reserve as provided in Section 17.1.

(b) *Remediation of Preexisting Environmental Matters*. Concessionaire shall remediate Preexisting Environmental Matters as directed by UMD pursuant to Section 11.6.1 at UMD's sole cost and expense. Concessionaire shall recover the remediation's costs and expenses as Reimbursable Costs

unless UMD authorizes Concessionaire to draw upon the NextGen Reserve.

(c) Concessionaire shall take all actions reasonably necessary for restoring the portion of the Campus affected by an Environmental Matter under this Section 11.6.2 and for cleaning up, controlling, removing, and disposing of Hazardous Substance associated therewith to the extent required by Law and to eliminate, reduce, and minimize any potential Environmental Claim.

(d) *Asbestos.*

(1) Except in Emergencies, Concessionaire shall immediately stop work and notify UMD if it encounters asbestos or asbestos containing material while maintaining or repairing any Energy System and if removal of such asbestos is required by Law or necessary to perform the required maintenance or repair.

(2) In an Emergency, Concessionaire shall take all precautions necessary to ensure the safety of persons and property before stopping work and providing such notice.

(3) Concessionaire shall deliver to UMD a plan and detailed estimated cost for asbestos abatement or removal. Upon UMD's approval of the plan and estimated cost, Concessionaire shall abate or remove such asbestos or asbestos containing materials using a Subcontractor qualified under the Law to perform such work or its Workforce, provided such Persons have been trained as Class III asbestos workers under 29 C.F.R. 1910.1101 (or equivalent or stricter standards). Following completion of this work, Concessionaire shall proceed with the repair or maintenance.

(4) Concessionaire shall charge UMD, and UMD shall pay, the costs of the abatement or removal work it performs or causes to be performed under this Section 11.6.2(d) as Reimbursable Costs, provided that Concessionaire shall notify UMD and secure its consent before incurring costs that exceed the approved estimated cost by more than 10%.

ARTICLE 12: ACADEMIC SYNERGIES

12.1 GENERAL PURPOSE. The Parties acknowledge that Concessionaire's energy production, distribution, and sustainability activities pursuant to this Agreement create the opportunity for synergies with UMD's mission of education, research, and service through

applied energy research in real-world settings, education and training of future energy industry professionals, and studies and seminars to inform policymakers and the UMD community on issues of sustainable energy generation and use. Throughout the Operating Term, the Parties shall cooperate to identify, develop, and implement projects, programs, and learning opportunities to advance UMD's mission of education, research, and service in these respects.

12.2 ENERGY RESEARCH AND EDUCATION.

12.2.1 *UMD-SPONSORED RESEARCH.* UMD reserves the right to use portions of the Energy Systems for the installation, evaluation, testing, operation, and replacement of energy apparatus, equipment, or improvements to serve research and academic purposes.

(a) UMD's exercise of this right must receive prior authorization by the Program Implementation Council.

(b) UMD must commence and diligently complete the contemplated use in a good and professional manner, in accordance with any applicable Operating Requirements and in such a manner as not to unreasonably interfere with the Concessionaire's conduct of business in or use of such space.

(c) UMD must work in accordance with Prudent District Energy Practices, and requirements of applicable Law and Required Insurance policies.

(d) UMD must comply with Concessionaire's safety protocols and procedures. Concessionaire shall deliver such protocols and procedures to the UMD Program Manager and other UMD personnel who will be accessing the Energy Systems.

(e) Upon UMD's request, Concessionaire shall take all reasonable actions to cause any energy research apparatus, equipment, or improvement to be connected to the Energy Systems (including any associated data collection apparatus, or improvement) in a manner that complies with Concessionaire's reasonable interconnection standards. Costs (if any) incurred by Concessionaire for such connection shall be reimbursed by UMD provided that:

(1) Concessionaire is not otherwise compensated for the connections through the O&M Charge;

(2) Concessionaire delivered a written estimate of such work to the UMD Program Manager prior to the Program Implementation Council's approval of the work (unless the need for such work arises after the Council's initial approval, in which case, Concessionaire shall deliver the written estimate to the UMD Program Manager promptly upon learning of such need and the UMD Program Manager shall submit the estimate to UMD's Council members for approval);

(3) The Program Implementation Council approved the estimated cost along with its approval of the overall utilization; and,

(4) Concessionaire has delivered to UMD an accurate and complete invoice detailing the costs it has incurred.

(f) Unless disclosure is required by applicable Law, UMD shall hold any trade secret information it receives from Concessionaire pursuant to this Section as confidential in compliance with Section 13.5.2, provided Concessionaire has clearly marked such information as confidential trade secret information.

(g) Any Intellectual Property, including copyrights, patents, trade secrets, and trademarks created or generated by, or related to, any of UMD's actions under this Section shall not be considered owned or created by Concessionaire, notwithstanding that UMD or its research partners may access or use the Energy Systems with respect thereto. Concessionaire shall acquire rights to such intellectual property only if UMD enters into a separate agreement with Concessionaire granting such rights.

12.2.2 *EDUCATION/EXPERIENTIAL LEARNING.* Concessionaire shall implement the education programs set forth in Appendix Q.

ARTICLE 13: RECORDS, INSPECTIONS, AND INTELLECTUAL PROPERTY

13.1 GENERAL OBLIGATION. Concessionaire shall create, keep, and maintain all Records in accordance with this Agreement, the Operating Plan, the Construction Requirements, the Law, and Prudent District Energy Practice.

13.1.1 *LOCATION*. Concessionaire shall keep and maintain all Records at the Central Energy Plant unless UMD approves another location.

13.1.2 *RECORD RETENTION*. Subject to the exceptions noted in Section 13.1.2(a), Concessionaire shall retain Records for the greatest of 7 years following their

date of origination, such time as required by Law, or such time as reasonably directed by UMD, except for electronic or digitally maintained Records, which shall be retained in accordance with Concessionaire's established retention policy with respect to electronic or digital data, but in all events not less than 7 years.

(a) Concessionaire shall retain throughout the Operating Term, and transfer to UMD on the Reversion Date, the following Records:

(1) All As-Built Documents related to all Capital Improvements under this Agreement and all updates thereto;

(2) All As-Built Documents related to the Energy Systems provided Concessionaire at Commencement;

(3) All monthly, annual, and other reports prepared by Concessionaire in compliance with this Agreement;

(3) All Records associated with all Force Majeure Events and any insurance claims related thereto;

(4) All meeting minutes;

(5) All Preventive Maintenance and Predictive Maintenance Records for each item of Major Equipment;

(6) All Records, including all plans, operating manuals, and operating procedures required to operate the Energy Systems;

(7) All Governmental Authorizations and records pertaining to the Energy Systems' compliance therewith;

(8) All Records summarizing daily, monthly, and annual energy production and delivery for each Energy System;

(9) All Records and other pertinent documents and materials related to asbestos removal, Hazardous Substance and Hazardous Waste safe handling and disposal procedures, PCB transformer information, Environmental Matters, and Environmental Claims;

(10) Project Documents for each Project completed by Concessionaire; and,

(11) All other Records required by Prudent District Energy Practices to be permanently retained by operators of Comparable Energy Systems.

(b) If any Dispute Resolution Process, litigation, claim, audit, or other proceeding is commenced during a retention period, then Concessionaire shall retain all Records pertinent thereto until such time as the Dispute Resolution Process, litigation, claim, audit, or other proceeding is completed.

13.1.3 *DESTRUCTION OF RECORDS.* Except with respect to electronic mail and other equivalent electronic means of communication, upon expiration of any applicable retention period, Concessionaire shall notify the UMD Program Manager at least 30 days prior to destroying any Records. The UMD Program Manager may direct Concessionaire to deliver such Records to UMD in lieu of destruction.

13.2 INSPECTION OF RECORDS.

13.2.1 At all reasonable times during normal business hours and upon 24 hours' notice, UMD and its employees, agents, designees, and legal counsel may inspect and copy all Records maintained by, or otherwise in the possession of, Concessionaire and any Key Contractor or Subcontractor under this Agreement, provided that neither UMD nor its employees, agents, designees, or legal counsel shall be entitled to access any Records that would be protected from disclosure in either of the following instances:

(a) In a judicial or regulatory proceeding by the attorney-client privilege or the attorney work product privilege, unless such disclosure is required by Law or Governmental Authority; or,

(b) In accordance with Law or an act of a Governmental Authority.

13.2.2 Concessionaire shall cooperate with UMD in promptly making available all Records requested by UMD and its employees, agents, designees, and legal counsel. UMD shall pay all costs of inspecting and copying these Records.

13.2.3 The right of UMD and its employees, agents, designees, and legal counsel to inspect and copy Records shall continue until the expiration of 7 years following UMD's final payment of funds due and owing to Concessionaire pursuant to this Agreement.

13.2.4 Each time UMD inspects Records pursuant to this Section, Concessionaire shall make available the Program Executive, the Plant Manager, the Construction Project Manager, or other employee with responsibility for the Records to respond to questions about Concessionaire's recordkeeping and accounting procedures or the content of particular Records. Concessionaire shall respond promptly to any request by UMD or its employees, agents, designees, or legal counsel to confirm verbal responses in writing.

13.3 AUDITS. UMD may review and audit Concessionaire, Key Contractors, Subcontractors, and their Records as and when UMD deems necessary for purposes of verifying compliance with this Agreement and the Law and verifying Claims.

13.3.1 *AUDIT PROCEDURES*. UMD may audit the Operation Plan, Records for Capital Improvements, and other plans and Records created or held by Concessionaire, Key Contractors, or Subcontractors related to its performance of this Agreement and may inspect the Energy Systems and Concessionaire's work and other activities to verify the accuracy and adequacy of any plan, work, or activity.

(a) UMD's audits may be performed by UMD's employees or by an auditor or other representative under contract with UMD.

(b) Concessionaire shall provide adequate and appropriate workspace for UMD and its representatives to conduct audits.

(c) During Normal Work Hours, Concessionaire shall provide UMD's auditors or representatives access to all Records, allow interviews of any Person who might have information related to such Records, and otherwise cooperate with such auditors or representatives, including a management representation letter upon request.

13.3.2 *AUDIT COSTS*. If any audit conducted pursuant to this Section results in a material correction to the Records or identifies a material deficiency in Concessionaire's plans or procedures or a material failure by Concessionaire to perform this Agreement in accordance with any such plans or procedures, Concessionaire shall pay UMD's reasonable costs of performing the audit. In any other circumstances, UMD shall bear all costs of such audit.

13.3.3 *CLAIMS.*

(a) The failure of Concessionaire, any Key Contractor, or any Subcontractor to maintain and retain Sufficient Records to allow UMD's auditors to verify a Claim or to provide its auditors access to the Records necessary

to verify a Claim shall be sufficient basis for the UMD Procurement Officer to deny recovery by Concessionaire of the amount subject to the Claim to the extent of such failure.

(b) For the purposes of this Section, "Sufficient Records" includes:

(1) All documents that relate to a Claim, including all documents supporting the amount of damages sought; and,

(2) All work sheets used by Concessionaire to prepare the Claim establishing the cost components of the Claim, including labor, benefits, and insurance; materials and equipment; all documents that establish relevant time periods; individuals involved, their hours, and hourly rates; and any lost revenues.

(c) Concessionaire's full compliance with the provisions of this Section 13.3.3 is a condition precedent to its right to seek determination of a Claim by the UMD Procurement Officer pursuant to the formal Dispute Resolution Process.

13.3.4 *STATE AUDITS*. Nothing in this Agreement shall in any way limit the constitutional and statutory powers, duties, and rights of elected State officials, including the independent rights of the Legislative Auditor, to carry out their legal responsibilities.

(a) The Legislative Auditor may conduct an audit or investigation of Concessionaire, any Key Contractor, any Subcontractor, or any other entity associated with their performance of this Agreement and other related agreements.

(b) Concessionaire shall require each Key Contract and each Subcontract to which it is a party to contain a provision in which the Key Contractor or the Subcontractor accepts the authority of the Legislative Auditor under the direction of the legislative audit committee, to conduct an audit or investigation in connection with this Agreement and commits to cooperate fully with the Auditor in such audit or investigation.

(c) Concessionaire, each Key Contractor, and each Subcontractor shall provide the Legislative Auditor, upon request, with access to such Records and other information that the Auditor considers relevant to an audit or investigation.

13.4 JOB SITE AND OTHER INSPECTIONS.

13.4.1 At all times during Normal Work Hours, Concessionaire shall provide UMD access to the Energy Systems and any site at which Concessionaire or a Concessionaire Party performs work pursuant to this Agreement for observation, inspection, and testing. Concessionaire shall cooperate with UMD in such inspections, shall provide proper and safe conditions for such access, and shall inform UMD of its safety procedures and programs. UMD shall conduct such inspections so as not to interfere with Concessionaire's performance of its obligations under this Agreement or create unreasonable burdens or costs for Concessionaire. UMD may conduct such observations, inspections, and testing with its own employees or Persons designated by the UMD Program Manager.

13.4.2 Observations, inspections, and tests conducted by UMD are for the exclusive benefit of UMD and shall confer no rights upon Concessionaire. UMD's failure to discover Defective work during such observations, inspections, and tests shall not preclude re-inspection, re-testing, and rejection if such construction or work is subsequently found to be Defective.

13.5 PUBLIC INFORMATION ACT.

13.5.1 All submittals, documents, drawings, plans, specifications, and other materials in UMD's possession, including any Records submitted by Concessionaire to UMD or any of its representatives, may be considered public information subject to disclosure under the Public Information Act.

13.5.2 *CONCESSIONAIRE'S CONFIDENTIAL INFORMATION*.

(a) Any confidential or proprietary information of the Concessionaire furnished to UMD and/or its duly authorized representative shall not be disclosed to third parties without Concessionaire's prior consent unless such disclosure is required by Law or Governmental Authority.

(b) Concessionaire shall clearly and conspicuously mark those documents containing confidential or proprietary information for which it seeks confidential treatment by placing "CONFIDENTIAL" in the header or footer of each page or Record affected but shall not do so in a wholesale or indiscriminate manner. Concessionaire shall accompany each such designation with a concise statement of reasons supporting the designation and the provision of the Public Information Act authorizing the nondisclosure.

(c) UMD and its representative shall take all reasonable precautions to safeguard the confidentiality of Concessionaire's properly designated

documents and information, including requiring any successor operator to enter into a confidentiality agreement that prohibits disclosure or use of the Concessionaire's confidential and proprietary information in any manner except to manage, operate, or maintain the Energy Systems, and then only to the extent necessary, and not further.

(d) If disclosure is required by Law or Governmental Authority, UMD shall use reasonable efforts to notify Concessionaire in advance to afford it an opportunity to protect its information.

13.5.3 *DISCLOSURE EXCEPTIONS.* Concessionaire's confidential or proprietary information that falls within any of the following categories or any combination thereof may be disclosed without the Concessionaire's prior consent:

(a) Information that was in the public domain prior to receipt by UMD or its representative or that subsequently becomes part of the public domain by publication or otherwise, except by any wrongful act of UMD or its representatives;

(b) Information that UMD or its representative can show was in UMD or the representative's possession prior to receipt thereof from Concessionaire or Concessionaire's representative;

(c) Information legally received by UMD or its representative from a third party having no obligation of confidentiality with respect thereof; or,

(f) Information that is independently developed by UMD or its representative without violating its obligations hereunder.

13.5.4 *CONCESSIONAIRE'S NON-DISCLOSURE OF UMD'S CONFIDENTIAL INFORMATION*. Any information furnished by UMD to Concessionaire or a Concessionaire Party or developed by Concessionaire or a Concessionaire Party in the course of performing this Agreement that is protected from disclosure under the Public Information Act shall not be disclosed to third parties without UMD's prior consent, unless such disclosure is required by Law or Governmental Authority or necessary for the performance of work under this Agreement. If disclosure is required by Law or Governmental Authority, Concessionaire shall use reasonable efforts to notify UMD in advance to afford it an opportunity to protect the information.

13.5.5 *DURATION OF CONFIDENTIALITY OBLIGATIONS.* The confidentiality obligations of this Section 13.5 shall remain in full force and effect for a period of 2 years after the later of the date of disclosure or the date of expiration or termination of this

Agreement. With regard to any information provided for the work associated with a Project, the confidentiality obligations under this Section 13.5 shall remain in full force and effect for a period of 2 years after the later of the date of disclosure or the date of the Project's Actual Substantial Completion Date.

13.5.6 *LIABILITY.* Subject to the State's Tort Claims Act, UMD's liability to Concessionaire for disclosures of confidential and proprietary information entitled to protection under the Public Information Act and this Section 13.5 shall be limited to those disclosures resulting from UMD's gross negligence or intentional misconduct.

13.5.7 *LITIGATION*. If any proceeding or litigation concerning the disclosure of any confidential or proprietary Records to third parties, UMD's sole involvement shall be as the stakeholder retaining the material until otherwise ordered by a court or other Governmental Authority having jurisdiction. Concessionaire shall be responsible for prosecuting or defending any action, acting on its own behalf, concerning such materials at its sole expense and risk, provided, however, that UMD may intervene or participate in the proceeding or litigation in such manner as it deems necessary or desirable.

13.6 INTELLECTUAL PROPERTY.

13.6.1 *IN GENERAL.* Except for licenses expressly granted pursuant to this Agreement, nothing in this Agreement will function to transfer any other right, title, or interest in either Party's Intellectual Property or that of any Key Contractor or Subcontractor to the other Party. Each Party shall retain exclusive interest in, and ownership of, its Intellectual Property developed before or during the Term or outside the scope of this Agreement.

13.6.2 *CONCESSIONAIRE INTELLECTUAL PROPERTY.*

(a) *Ownership*. All Concessionaire Intellectual Property shall remain exclusively the property of Concessionaire, its Affiliates, Key Contractors, or Subcontractors as applicable, subject to UMD's rights as set forth in this Agreement.

(b) *License*. Concessionaire grants UMD a perpetual, nonexclusive, transferable, royalty-free, irrevocable, worldwide, fully paid up right and license to use, reproduce, modify, adapt, and disclose, and to sublicense others to use in accordance with Section 13.6.2(d) and (e) the Concessionaire Intellectual Property for use solely in connection with the Energy Systems and the provision of services identified in this Agreement, provided that UMD may exercise such license only:

(1) From and after the expiration or earlier termination of the Term for any reason whatsoever;

(2) During any time that UMD is exercising its step-in rights under this Agreement, in which case, UMD may exercise such license only in connection with the Energy Systems and the provision of services identified in this Agreement;

(3) During any time that a receiver is appointed for Concessionaire, or during any time that there is a voluntary or involuntary proceeding in bankruptcy in which Concessionaire is the debtor;

(4) During any time that Concessionaire has been replaced.

(c) *Sale*. UMD shall not sell or sublicense any Concessionaire Intellectual Property or use, reproduce, modify, adapt, or disclose, or permit any party to use, reproduce, modify, adapt, or disclose, any Concessionaire Intellectual Property for any purpose other than as set forth in Section 13.6.2(d) and (e).

(d) *Transfer to Successor*. UMD may transfer the license granted under this Section 13.6 to any Governmental Authority that succeeds to UMD's interests generally in all or any portion of the Energy Systems or UMD's authority generally. This license is divisible if UMD transfers a portion of the Energy Systems in accordance with this Agreement.

(e) *Rights of Use*. UMD's right and license to the Concessionaire Intellectual Property granted hereunder includes use, reproduction, modification, adaptation, disclosure, and sublicense to others related to interfaces and interconnections between the Energy Systems and other facilities, and specifically to grant the Persons responsible for those facilities a sublicense to use applicable Concessionaire Intellectual Property for and at such interfaces and interconnections, provided that Concessionaire expressly approves in writing any proposed reproduction, modification, or adaptation prior to its completion.

(f) *Covenants*.

(1) UMD shall not disclose any Concessionaire Intellectual Property to any third party other than:

(i) UMD's employees, agents, officers, directors, representatives, consultants, and sublicensees who

agree to be bound by its confidentiality obligations under this Agreement; or,

(ii) Disclosures under the Public Information Act pursuant to Section 13.5.

(2) UMD shall enter into a commercially reasonable confidentiality agreement if requested by Concessionaire with respect to the licensed Concessionaire Intellectual Property; and,

(3) UMD shall include, in each contract with a sublicensee provisions to require such licensee to employ sound business practices no less diligent than those used for its own confidential information, and no less diligent than required by Prudent District Energy Practices, to protect all Concessionaire Intellectual Property and other materials provided under the sublicense against disclosure to third parties not in receipt of a sublicense, and to use the sublicense only for the permitted purposes.

(g) *Liability*. Notwithstanding any other provision of this Agreement, UMD or any of its officers, employees, consultants, or agents shall not be liable to Concessionaire, any Key Contractor, or any Subcontractor for any damages, including loss of profit, arising out of, relating to, or resulting from, breach of the duty of confidentiality in this Section 13.6 unless such breach is the result of gross negligence, or intentional misconduct. Concessionaire irrevocably waives all claims to any such damages for itself and all Concessionaire Parties but does not waive its right to seek equitable remedies.

(h) *Right to Use Duplicates*. Concessionaire shall continue to have a full and complete right to use any and all duplicates or other originals of the Concessionaire Intellectual Property in any manner it chooses consistent with the Law.

(i) *Third Party Owned Concessionaire Intellectual Property*. The provisions set forth in this Section 13.6 shall apply with respect to any Proprietary Intellectual Property that is considered Concessionaire Intellectual Property but is owned by a Third-Party Owner, including any Affiliate of Concessionaire, except for mass-marketed software products (sometimes referred to as “shrink wrap software”) owned by a Third-Party Owner where such a license cannot be extended to UMD using commercially reasonable efforts.

(i) Concessionaire shall use commercially reasonable efforts to obtain from each Third-Party Owner, (concurrently with execution of any contract, subcontract, or purchase order with such Third-Party Owner or with the first use or adaptation of the Concessionaire Intellectual Property in connection with the Energy Systems), a perpetual, nonexclusive, transferable, royalty-free, irrevocable, worldwide, fully paid-up license to use, reproduce, modify, adapt, and disclose, such Concessionaire Intellectual Property with identical scope, purpose, duration, and applicability as the license granted to UMD under Section 13.6.2(b).

(ii) The limitations on sale, transfer, sublicensing, and disclosure by UMD in Sections 13.6.2(c) and 13.6.2(f) also apply to UMD's licenses from Third-Party Owners. Concessionaire shall cause each Key Contract, Subcontract, and other agreement between Third-Party Owners and Concessionaire to acknowledge the application of those limitations to UMD's license.

(iii) Concessionaire shall either cause Concessionaire Intellectual Property owned by a Third-Party Owner to be delivered to UMD or secure the consent of such Third-Party Owner to place the relevant Concessionaire Intellectual Property into an Intellectual Property Escrow under Section 13.6.4.

13.6.3 *UMD INTELLECTUAL PROPERTY.*

(a) *Ownership.* Except as provided in Section 13.6.3(b), Concessionaire shall not acquire any license, interest, or other right in or to:

(1) Any UMD Intellectual Property;

(2) Any work product or other materials, including data, sketches, charts, inventions, research, programs, programming code, know-how, calculations, plans, drawings, layout, depictions, specifications, manuals, electronic files, artwork, correspondence, equipment, completed construction, and documents created or collected under the terms of any agreement (including this Agreement) or otherwise developed under the terms of any agreement (including this Agreement) and any other work product and other related materials that disclose such UMD Intellectual Property; or,

(3) Any improvements, modifications, enhancements, or derivative works to (or of) the UMD Intellectual Property, whether such improvements, modifications, enhancements, or derivative works are developed by UMD, Concessionaire, any Key Contractor, or Subcontractor individually or jointly.

(b) *License.*

(1) UMD hereby grants to Concessionaire a non-exclusive, non-transferable, non-sublicensable (without UMD's prior approval) license to use and implement the UMD Intellectual Property solely in connection with its performance of this Agreement for the Term and any period of Concessionaire's performance of post-termination or post-expiration obligations.

(2) If Concessionaire or any of its Affiliates, Key Contractors, or Subcontractors creates or develops any improvements, modifications, enhancement, or derivative works, to (or of) UMD Intellectual Property, Concessionaire shall promptly notify UMD thereof and provide UMD all data, sketches, charts, calculations, plans, drawings, layouts, depictions, specifications, manuals, electronic files, artwork, correspondence, and other documents, information, and other work product and other related materials that disclose such UMD Intellectual Property related to such improvements, modifications, enhancements, or derivative work.

13.6.4 *INTELLECTUAL PROPERTY ESCROWS.*

(a) UMD and Concessionaire acknowledge that Concessionaire or contractors that supply software, Source Code, and Source Code Documentation (including related modifications, updates, revisions, replacements, and upgrades) and similar Intellectual Property, may not wish to deliver such property directly to UMD, since public disclosure could deprive Concessionaire or contractors of commercial value. Concessionaire further acknowledges that UMD nevertheless must be given access to such Proprietary Intellectual Property at any time, and that such Proprietary Intellectual Property must be released and delivered to UMD under either of the following circumstances:

(1) When such Proprietary Intellectual Property is owned by Concessionaire or any Controlling Affiliate and:

(i) This Agreement is terminated for Concessionaire Default;

(ii) A business failure of Concessionaire (including voluntary or involuntary bankruptcy and insolvency) occurs;

(iii) Concessionaire is dissolved or liquidated; or,

(iv) Concessionaire fails or ceases to provide services as necessary to permit continued use of such Proprietary Intellectual Property under the applicable license or relevant sublicense.

(2) When such Proprietary Intellectual Property is owned by a Third-Party Owner that is not a Controlling Affiliate and this Agreement is terminated for any reason other than non-payment by UMD pursuant to Section 20.3 and either:

(i) A business failure of such Third-Party Owner (including voluntary or involuntary bankruptcy and insolvency) occurs; or,

(ii) The Third-Party Owner is dissolved or liquidated or otherwise ceases to engage in the ordinary course of the business of manufacturing, supplying, maintaining, and servicing the software, product, part, or other item containing such Proprietary Intellectual Property that is the subject of a license under Section 13.6.2(i).

(b) Under the circumstances set forth in Section 13.6.4(a), Concessionaire, in lieu of delivering Proprietary Intellectual Property directly to UMD, may elect to deposit it with a neutral custodian. In such event, Concessionaire shall:

(1) Select, subject to UMD's prior approval, one or more escrow companies or other neutral custodian engaged in the business of receiving and maintaining escrows of source code and source code documentation; and,

(2) Establish one or more escrows with such company or companies on terms reasonably acceptable to UMD and Concessionaire for the deposit, retention, upkeep, and release of such Proprietary Intellectual Property.

(c) All escrows established under Section 13.6.4(b) shall comply with the following requirements:

(1) The location of all escrows shall be limited to the City of Washington and its surrounding Maryland suburbs unless UMD approves another location;

(2) Escrows may include Affiliates and contractors as parties and may include deposit of such Proprietary Intellectual Property owner by such entities; and,

(3) UMD shall not be responsible to pay for any fees and costs associated with the establishment, operation, maintenance, and dissolution of an escrow.

(d) Concessionaire shall deliver Proprietary Intellectual Property to an escrow agent in accordance with the procedures set forth in this Section 13.6.4(d).

(1) For software existing prior to Commencement, Concessionaire shall deliver Source Code and Source Code Documentation to the escrow agent immediately upon execution of this Agreement or, if provided by a contractor, execution of the relevant contract.

(2) Concessionaire shall deliver software, Source Code, and Source Code Documentation used in Concessionaire's performance of this Agreement to the escrow agent, by the first to occur of:

(i) 15 days following the day on which software, Source Code, or Source Code Documentation is first used;

(ii) A Capital Improvement Project's Actual Substantial Completion Date for software, Source Code, and Source Code Documentation incorporated into, or first used in, that Project;

(iii) For technology enhancements, 15 days after the end of the calendar quarter in which the software, Source Code, or Source Code Documentation is first incorporated into the Energy Systems or first used.

(3) UMD shall be a named, intended third party beneficiary of each escrow agreement and each Intellectual Property Escrow with direct rights of enforcement against Concessionaire and the escrow Agent. Each escrow agreement shall provide that neither Concessionaire nor the escrow agent

shall have any right to amend or supplement it, or waive any of its provisions, without the Parties' prior approval.

(4) Intellectual Property escrows shall provide rights of access and inspection to UMD and its designees at any time, subject to terms reasonably necessary to protect the confidentiality and proprietary nature of its contents.

(5) Intellectual Property escrows shall survive expiration or earlier termination of this Agreement regardless of the reason, until both Parties mutually agree, in their respective discretion, that the Intellectual Property contained in the Intellectual Property Escrow is of no further use or benefit to the Energy Systems.

ARTICLE 14: COMPLIANCE WITH LAW

14.1 GENERAL OBLIGATIONS.

14.1.1 Concessionaire shall comply with, and shall cause all Management Services, Operating Services, and Maintenance Services, all Capital Improvements, and all other work pursuant to this Agreement to conform to, all Laws applicable to its performance of this Agreement, now existing or later in effect throughout the Term. Concessionaire shall be solely responsible for the costs and expenses associated such compliance and conformity, subject to its rights under Section 15.3 to request a Change Order to recognize the costs and expenses of compliance or conformity with any Change in Law.

14.1.2 Concessionaire shall notify UMD promptly after receiving written notice from a Governmental Authority that Concessionaire may have violated any Law, including any Governmental Authorization. Except for any alleged violation of an Environmental Law or Environmental Authorization under Section 11.5.2, Concessionaire shall be responsible for all subsequent communications, responses and follow-up meetings with such Governmental Authorities regarding, or with respect to, such condition or violation. Concessionaire shall notify UMD prior to, and UMD may participate in, all contacts and meetings with Governmental Authorities. Subject to the need of a Concessionaire Party to maintain attorney-client privilege on any matter, UMD shall review all written communications with any Governmental Authority prior to submission unless UMD notifies Concessionaire otherwise, provided that if a proposed communication is subject to the attorney-client privilege, the Concessionaire Party must share the final version of the communication with UMD prior to submission to the Governmental Authority.

14.1.3 Reference to specific Laws or legal obligations under this Article 14 does not diminish or in any way lessen Concessionaire's obligation to comply with all applicable Laws.

14.2 NON-DISCRIMINATORY EMPLOYMENT PRACTICES.

14.2.1 *GENERAL OBLIGATION.* Concessionaire shall not discriminate in any manner against an employee or applicant for employment because of:

(a) Race, color, religion, creed, age, sex, gender identity and expression, sexual orientation, marital status, national origin, ancestry, genetic information, physical or mental disability, or any otherwise unlawful use of characteristics or disability of a qualified individual with a disability unrelated in nature and extent so as reasonably to preclude the performance of such employment; or,

(b) The individual's refusal to submit to a genetic test or make available the results of a genetic test.

14.2.2 *KEY CONTRACTS; SUBCONTRACTS.* Concessionaire shall include a provision similar to that contained in Section 14.2.1 in each Key Contract and Subcontract except a Subcontract for standard commercial supplies or raw materials.

14.2.3 *POSTING.* Concessionaire shall post, and cause Key Contractors and Subcontractors to post, in conspicuous places available to employees and applicants for employment, notices setting forth the substance of Section 14.2.1.

14.2.4 *INVESTIGATIONS.*

(a) Upon the filing of a complaint against Concessionaire or any Concessionaire Party alleging violation of any federal, State, or local Law barring the types of discrimination set forth in Section 14.2.1, Concessionaire shall cooperate, and shall cause its Key Contractors and Subcontractors to cooperate, in any investigation initiated by any Governmental Authority into such allegations and comply with any final, non-appealable decision resulting from such investigation and related proceedings.

(b) Concessionaire shall not retaliate against, and shall forbid its Key Contractors and Subcontractors from retaliating against, any person filing a complaint alleging violation of any federal, State, or local Law barring the types of discrimination set forth in Section 14.2.1, regardless

of whether the complainant ultimately prevails in any complaint proceeding.

14.2.5 *ENFORCEMENT.* If, as the result of a complaint proceeding, a Governmental Authority determines in a final, non-appealable decision that Concessionaire or any Concessionaire Party has violated a federal, State, or local Law barring the types of discrimination set forth in Section 14.2.1 or has otherwise breached its obligations under this Section 14.2, UMD may:

(a) Withhold payment of the Fixed O&M Charge until the Concessionaire or Concessionaire Party complies with the decision; or,

(b) If the decision has been preceded by one or more decisions finding Concessionaire or the same Concessionaire Party to have violated such Laws or breached its obligations under Section 14.2.1, UMD may:

(1) Terminate Concessionaire's performance of this Agreement pursuant to Section 19.1; or,

(2) If a Concessionaire Party committed such violation, require Concessionaire to terminate such Party's performance of its Key Contract or Subcontract, as the case may be.

14.2.6 *AFFIRMATIVE ACTION/EQUAL EMPLOYMENT OPPORTUNITY.* To the extent applicable to its performance of this Agreement, Concessionaire shall comply with University Policies on affirmative action and equal employment opportunity and shall require its Key Contractors and Subcontractors to comply with such policies.

14.3 MINORITY BUSINESS ENTERPRISES/WOMEN OWNED BUSINESSES.

14.3.1 *GENERAL OBLIGATIONS*.

(a) *Overall MBE Goal*. Concessionaire shall utilize, to the greatest commercially reasonable extent, Minority Business Enterprises to perform work equal to, or greater than, the following amounts, and shall implement a robust MBE Plan during the design and construction of the Phase I Capital Improvements to identify qualified Minority Business Enterprises to allow Concessionaire to meet the higher MBE targets for Phase II Capital Improvements, Phase III Capital Improvements, and Additional Capital Improvements:

(1) 15% of the total cost of the Phase I Capital Improvements (excluding financing, financing costs, interest on financing, and

related fees; insurance costs; and any costs attributable to any Major Equipment or supplies that are unavailable for purchase from an MBE);

(2) 30% of the Fixed O&M Charge (excluding the portion of such charge attributable to insurance, Equipment, supplies, or services unavailable for purchase from an MBE);

(3) 50% of the total cost of any design and construction work required for Phase II Capital Improvements and Phase III Capital Improvements for the Thermal Distribution System, unless UMD sets a different percentage in the Change Order authorizing such Capital Improvements; and,

(4) 30% of the total cost of any Additional Capital Improvement, of any design and construction work for any Phase II Capital Improvements and Phase III Capital Improvements (except Thermal Distribution System capital improvements) unless UMD sets a different percentage in the Change Order authorizing such Additional Capital Improvement.

(b) *MBE Subgoals.*

(1) Concessionaire shall utilize, to the greatest commercially reasonable extent, 8% of the total amounts identified in Section 14.3.1(a)(1) and (2) to those certified MBEs classified as African American-Owned Businesses and 11% to those classified as Women-Owned Businesses.

(2) The subgoals set forth in Section 14.3.1(b)(1) shall apply to the Phase II Capital Improvements, Phase III Capital Improvements, and Additional Capital Improvements unless UMD sets a different percentage in the Change Order authorizing each Capital Improvement or group of Capital Improvements.

(c) Concessionaire's utilization of African American-Owned Businesses and Women-Owned Businesses shall count toward its satisfaction of the overall goal set in Sections 14.3.1(a).

(d) Concessionaire and its Key Contractors and Subcontractors shall utilize only State-certified MBEs to achieve the MBE goal and subgoals set in Sections 14.3.1(a) and (b).

(e) Concessionaire shall not cancel or terminate contract with an MBE without UMD's prior consent upon Concessionaire's showing of good

cause for such cancellation or termination. Concessionaire shall notify the UMD Program Manager no later than 30 days prior to such cancellation or termination except in an Emergency or other exigent circumstance in which case, the Parties shall agree on a shortened period for UMD's review of Concessionaire's request.

(f) Concessionaire shall include provisions to implement the requirements of this Section 14.3 in every Key Contract and Subcontract to which it is a party (including purchase orders and task orders for work), so that these provisions are binding upon each applicable Contractor and Subcontractor.

(g) Concessionaire shall require each Key Contractor to ensure that each MBE Subcontractor submits the monthly report required under Section 14.3.3.

14.3.2 ***MBE PLAN.*** No later than 60 days prior to Commencement, Concessionaire shall submit to the UMD Program Manager its final MBE Plan to describe the methods Concessionaire intends to employ for achieving the goals set forth in Section 14.3.1.

(a) Such MBE Plan shall contain the following information:

(1) The specific categories of services and work anticipated for MBE participation under the Agreement;

(2) The MBE firms that Concessionaire has already arranged to provide services for its performance of this Agreement;

(3) Concessionaire's methods and procedures for ensuring its compliance with its hiring and reporting obligations under this Section 14.3;

(4) To the extent necessary and possible, procedures (which may include partnership and mentorship initiatives) to increase MBE participation in the Projects and Concessionaire's management, operations, and maintenance of the Energy Systems; and,

(5) All documents required to be submitted pursuant to COMAR 21.11.03.13(4).

(b) No later than Commencement, UMD shall review, comment, and approve the MBE Plan, provided that UMD shall not change the

percentages set forth in Section 14.3.1 without prior approval by the Program Implementation Council.

(c) Following UMD's approval of Concessionaire's initial MBE Plan, such Plan shall become Appendix O-8.

(d) Except for the documents required under Section 14.3.2(a)(4), Concessionaire shall update its MBE Plan annually and submit it to the UMD Program Manager concurrently with its submittal of its annual update of the Operations Plan.

(1) Concessionaire shall not change the percentages set forth in Section 14.3.1 without prior approval by the Program Implementation Council.

(2) Upon UMD's approval of the updated portions of the MBE Plan, such Plan, as updated, shall replace the previously approved Plan as Appendix O-8.

14.3.3 *REPORTING*. Beginning at end of the first calendar quarter following Commencement and on a quarterly basis thereafter throughout the Term, Concessionaire shall submit to the UMD Program Manager the following information:

(a) A list of all contracts related to Project design and construction, including dollar value, for which work is to begin within the next 180-days;

(b) A list of all contracts related to management, operation, and maintenance of the Energy Systems, including the dollar value of each contract, for which work is scheduled to begin within the next 180 days;

(c) A list of all contracts for Equipment, supplies, and materials, including the dollar value of each contract, for which delivery is scheduled to begin within the next 180 days;

(d) All required MBE reporting forms for all contracts awarded since Concessionaire's last submission of such forms;

(e) A brief description of the scope of work for each contract to be issued for bid by Concessionaire in the next 90 days; and,

(f) A Subcontract report that shall:

(1) Include an updated list of Subcontractors at all tiers;

(2) Identify MBE firms and the work they have contracted to perform;

(3) Report the results of all procurements consummated during the quarter being reported, including those procured competitively and by other means;

(4) Indicate the type of work or product procured and the size of the procurement (in dollars), the names of the firms competing for the Subcontract, and the name of the selected Subcontractor;

(5) State the total number of Subcontractors and the total dollar value of all Subcontracts awarded to date;

(6) List the total number of Subcontracts awarded to MBEs, the total dollar value of all awards to MBEs and all awards to African American-Owned Businesses and Women-Owned Businesses; and,

(7) Indicate, for each Subcontract:

(i) The original Subcontract amount;

(ii) The value of any modifications to date; and,

(iii) The payments made to date.

(8) Submit the Prime Contractor MBE Monthly Payment Report (MBE-4A) for each month during the quarter identifying unpaid invoices over 30 days old received from any MBE Subcontractor at any tier and the reason payment has not been made.

(g) Any other forms or information reasonably requested by UMD related to the total dollar value of the awarded contracts and total commitments to MBEs.

14.3.4 *WAIVER*.

(a) *Requirement.* If Concessionaire is unable to meet a specific MBE goal or subgoal established in Section 14.3.1, it shall submit to the UMD Program Manager a request for waiver therefrom.

(b) *Standard*. To be granted a waiver from Section 14.3.1's goals, Concessionaire must demonstrate good faith efforts to meet the goal, which includes a reasonable demonstration by Concessionaire that it was unable to obtain certified MBEs or was unable to obtain such participation at a reasonable price.

(c) *Required Documentation.* To support its request for waiver under this Section 14.3.4, Concessionaire shall submit the following information:

(1) A detailed statement of the efforts made to increase the portions of the work required by this Agreement that it has selected for performance by certified MBEs to increase the likelihood of achieving the stated goal;

(2) A detailed statement of the efforts made to contact and negotiate with certified MBEs including the name and contact information of each firm contacted and the Person with whom contact was made and a description of the information provided to the MBE firms regarding the plans, specifications, and anticipated time schedule for the work to be performed;

(3) For each quotation or offer submitted by a MBE not accepted by Concessionaire, a detailed statement of the reasons for such nonacceptance; and,

(4) If Concessionaire found a certified MBE not to be available to perform the work, a statement of unavailability on the form provided by UMD, that includes the name and contact information for the firms Concessionaire contacted and the reason such firm was unavailable.

(d) If UMD grants Concessionaire's waiver request, it shall work with Concessionaire to establish an improvement plan as part of the MBE Plan.

14.3.5 *ENFORCEMENT.* UMD shall monitor Concessionaire's compliance with this Section 14.3 and shall enforce such compliance as necessary.

(a) UMD may perform an onsite review of Concessionaire's Records to verify that the certified MBEs listed on the applicable MBE participation forms and other relevant submissions are performing contracted work and receiving payments on undisputed invoices within 30 days after the invoice date.

(1) Concessionaire shall provide UMD and its representatives access to Records to conduct such review in accordance with Sections 13.2 and 13.3, provided that UMD and its representatives shall not be required to provide advance notice of such review.

(2) UMD's review may include inspecting any relevant matter, conducting periodic reviews, reviewing Records, visiting jobsites, and interviewing Subcontractors and their workers and Workforce members.

(b) UMD shall notify Concessionaire of any findings of noncompliance with this Section 14.3 and applicable Law and shall specify what corrective actions are required. Concessionaire shall be required to initiate the corrective actions within 14 days of Concessionaire's receipt of such notice and complete them within the time specified by UMD.

(c) If UMD determines that Concessionaire has not complied with this Section 14.3 or applicable Law and that Concessionaire refuses or fails to take the corrective action required by UMD, then UMD shall notify the Program Implementation Council, which may require Concessionaire to take corrective action.

(d) If the Program Implementation Council deadlocks on whether to require Concessionaire to take corrective action, then UMD, as a Governmental Authority charged with enforcing the MBE requirements, may take any or all of the following actions:

(1) Withhold payment of the Availability Payment or the Fixed O&M Charge, whichever is most relevant to the Section 14.3.1 goal at issue;

(2) Commence an action for specific performance;

(3) Charge Concessionaire liquidated damages in accordance with Section 14.3.6; or,

(4) Refer the matter to the Office of the Attorney General for appropriate action.

(e) If any reports or Records submitted to UMD pursuant to this Section 14.3 contain materially false, misleading information or other material misrepresentations, UMD shall refer enforcement to the State Attorney General for appropriate action.

14.3.6 *LIQUIDATED DAMAGES*.

(a) The Parties agree that the State will incur such damages as loss of goodwill, detrimental impact on economic development, diversion of internal staff resources, and other damages if Concessionaire does not make good faith efforts to comply with its obligations pursuant to this Section 14.3. The Parties further agree that such damages are difficult to calculate precisely and therefore have agreed upon the amounts set forth herein as liquidated damages and not as penalties. Concessionaire agrees that for each violation identified in Section 14.3.6(c), the liquidated damages associated therewith are approximate to the loss the State is anticipated to incur as a result of such violation.

(b) UMD shall notify Concessionaire in writing of the amount of, and reason for, imposing liquidated damages under this Section 14.3.

(c) Liquidated damages for the purposes of this Section 14.3 shall be calculated as follows:

(1) If Concessionaire does not submit a quarterly payment report as required under Section 14.3.3, liquidated damages shall be $25 per day until the quarterly report is submitted as required.

(2) If Concessionaire does not include in its subcontracts with MBE subcontractors requiring submission of payment reports as required by Section 14.3.3, liquidated damages shall be $100 per day for each MBE subcontractor.

(3) If Concessionaire cancels or terminates a contract with an MBE Subcontractor in violation of Section 14.3.1(e), liquidated damages shall be equal to the difference between the dollar value reported on the MBE commitment form submitted to UMD when Concessionaire and the Subcontractor entered into the Subcontract and the dollar value of the work performed by the MBE Subcontractor under such Subcontract.

(4) If Concessionaire, without UMD's prior consent or obtaining a waiver under Section 14.3.4, reduces the value of a Subcontract with an MBE Subcontractor or amends a previously submitted MBE participation schedule, liquidated damages shall be calculated in accordance with Section 14.3.6(c)(3).

(5) If Concessionaire does not meet the MBE goal and subgoal commitments under Section 14.3.1 and does not obtain a waiver under 14.3.4, liquidated damages shall be equal to the difference between the dollar value of the total MBE participation commitments stated on the MBE participation schedules and the dollar value of MBE participation actually achieved.

14.4 CONCESSIONAIRE REPORTING OF SUSPECTED CHILD ABUSE AND NEGLECT. Concessionaire shall comply with the University Policy on reporting of suspected child abuse and neglect. UMD may terminate this Agreement for default if Concessionaire fails to comply with this policy or if UMD judges such termination to be necessary to protect a child's safety or welfare.

14.5 DRUG AND ALCOHOL-FREE WORKPLACE. Concessionaire shall make a good faith effort to maintain a drug and alcohol-free workplace throughout the Term in compliance with all applicable Laws by implementing the measures and taking the actions set forth in this Section 14.5. Concessionaire acknowledges and agrees that its violation or failure to implement these measures and take these actions may result in the suspension of payments under, or termination of, this Agreement pursuant to Section 19.5.

14.5.1 *PROHIBITION*. Concessionaire shall prohibit Workforce members from working under the influence of drugs or alcohol.

14.5.2 *NOTICE*. Concessionaire shall publish a statement notifying the Workforce that the unlawful manufacture, distribution, dispensing, possession, or use of drugs and the abuse of drugs and alcohol is prohibited in the workplace. Concessionaire shall provide all Workforce members with a copy of this statement. The statement shall advise Workforce members that, as a condition of continued employment in performing work to implement the Agreement, such member will:

(a) Abide by the terms of the statement; and,

(b) Notify Concessionaire of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace no later than 5 days after conviction.

14.5.3 *CRIMINAL CONVICTION.*

(a) Concessionaire shall notify the UMD Program Manager within 10 days after receiving a Workforce member's notice under Section 14.5.2(b) or otherwise receiving actual notice of a Workforce member's conviction for violation of Laws prohibiting the manufacture, distribution, dispensing, possession, or use of drugs and the abuse of drugs and alcohol in the workplace.

(b) Within 30 days after receiving the Workforce member's notice under Section 14.5.2(b) or otherwise receiving actual notice of a Workforce member's conviction, Concessionaire shall:

(1) Take appropriate personnel action against a Workforce member, up to and including termination of the member's employment or contract; or,

(2) Require the Workforce member to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program.

14.5.4 *HIRING*. Concessionaire shall not hire or assign to work on the Energy Systems any Person who it knows, or in the exercise of its due diligence should know, abuses drugs or alcohol at the time of hiring or assignment and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program.

14.5.5 *REPORTING*. Concessionaire shall promptly inform the UMD Police Department and other appropriate law enforcement agencies of every drug-related crime that occurs in its workplace if Concessionaire or Workforce member has observed the violation or otherwise has reliable information that a violation has occurred.

14.5.6 *EDUCATION*. Concessionaire shall establish drug and alcohol abuse awareness programs to inform its Workforce members about:

(a) The dangers of drug and alcohol abuse in the workplace;

(b) Concessionaire's policy of maintaining as drug and alcohol-free workplace;

(c) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and,

(d) The penalties that may be imposed upon Workforce members who abuse drugs and alcohol in the workplace.

14.6 HIGH-PERFORMANCE BUILDINGS. To the extent applicable to Capital Improvements undertaken pursuant to this Agreement, Concessionaire shall utilize green building technologies, comply with the requirements under State Finance and Procurement Code §3-602.1, and the criteria and standards for high-performance buildings adopted by the Maryland Green Building Council.

14.7 POLITICAL CONTRIBUTION DISCLOSURE.

14.7.1 *REQUIRED REPORTING.* Concessionaire shall comply with Election Law Article, Title 14 of the Annotated Code of Maryland, which requires that every Person entering into a procurement contract with the State during a calendar year in which the Person receives the amount of $200,000 or more, file with the State Board of Elections a statement disclosing:

(a) All contributions made during the reporting period to a candidate for State elective office in any primary or general election; and,

(b) The name of each candidate to whom one or more contributions in a cumulative amount of $500 or more were made during the reporting period.

14.7.2 *REPORTING DEADLINES.* The statement required under Section 14.7.1 shall be filed with the State Board of Elections twice during each calendar year throughout the Term, on or before:

(a) May 31, to cover the six (6) month period ending April 30; and,

(b) November 30, to cover the six (6) month period ending October 31.

14.8 FINANCIAL DISCLOSURE. Concessionaire shall comply with Maryland State Finance and Procurement Code §13-221, which requires that every business that enters into contracts, leases, or other agreements with the State or its units or both during a calendar year under which the business is to receive a total of $200,000 or more, shall, within thirty 30 days of the time when the total of these contracts, leases or other agreements reaches two hundred thousand dollars $200,000, file with the State's Secretary of State certain specified information including the disclosure of beneficial ownership of the business.

14.9 UMD ACCREDITATION. Concessionaire shall cooperate with UMD to ensure that the Energy Systems provide Energy Services in such quantities and at such levels of reliability and

sustainability necessary to support UMD's maintenance of third-party academic, research, and energy performance accreditations existing on the Effective Date. UMD shall notify Concessionaire if it intends to seek additional accreditations or if required standards for maintaining existing accreditations change such that an Additional Capital Improvement, additional Workforce members, or enhanced operating standards are required to qualify for the new accreditation or meet the new standard. In that event, Concessionaire may seek UMD's approval of an Additional Capital Improvement or an adjustment of the Fixed O&M Charge to recover the Incremental Costs of compliance.

ARTICLE 15: CHANGE IN LAW

15.1 **NOTICE.** A Party shall notify the other Party or promptly of any proposed or final Change in Law that the Party reasonably believes will affect the Energy Systems or the management, operation, maintenance, or capital improvement thereof. For the purposes of this Section 15.1 only, a proposed Change in Law shall mean a proposal by a Governmental Authority that (i) has been favorably reported out of a legislative committee, (ii) the subject to a notice of proposed rulemaking, or (iii) other formal federal or State governmental process.

15.2 **REPORT.** Within 30 days after delivery of the notice required by Section 15.1 (or such other time as the circumstances may require), the Party affected by the Change in Law shall deliver to the other Party a report that contains the following information:

15.2.1 The potential effect of such Change in Law on the Energy Systems, the UMD Buildings, the costs for any Project, the Program Debt, and the Base Case Equity IRR (as applicable);

15.2.2 Alternatives for complying with the Change in Law (including an analysis of measures to mitigate any adverse effects or increased costs);

15.2.3 Technical feasibility and estimated cost of each such alternative; and,

15.2.4 The Party's recommended alternative and the reasons for such recommendation.

15.3 **PROCEDURE.**

15.3.1 In determining any equitable adjustments in Concessionaire's compensation under this Agreement required to comply with a Change in Law, the Parties shall consider changes in UMD's administrative costs and out-of-pocket expenses resulting from the change in addition to changes in Concessionaire's costs and expenses.

15.3.2 Changes in Law without significant cost savings or revenue benefits may be approved by the UMD Procurement Officer as Variances in accordance with Section 16.3. Any other change requires the issuance of a Change Order or a Directive Letter.

15.3.3 Within 30 days following issuance of the report(s) required by Section 15.2, the Operations Management Team shall meet to authorize a final scope of work, Project Price, or Concessionaire Charge adjustment, or any change in the Parties' performance of this Agreement necessary to comply with the Change in Law. If the Parties agree and implementation of their agreement requires changes in Concessionaire's compensation, the scope of work, or any other adjustment to this Agreement, UMD's members of the Operations Management Team shall forward a proposed Change Order to the Program Implementation Council for approval within 15 days following the Council's receipt thereof.

15.3.4 If the Parties cannot agree upon a proposed Change Order to address the Change in Law, then Concessionaire shall submit a Change Order Request no later than 45 days following issuance of the report(s) required by Section 15.2. UMD shall not reject, or refuse to take timely action upon, Concessionaire's Change Order Request. Instead, within 15 days following its receipt of such Change Order Request, UMD shall take one of the following actions:

(a) Issue a Change Order that accepts the requested modification; or,

(b) Issue a Directive Letter, provided that Concessionaire shall be entitled to recover its Incremental Costs to comply with such Directive Letter pursuant to Section 16.4.

ARTICLE 16: CHANGE ORDERS; DIRECTIVE LETTERS; VARIANCES

16.1 UMD PROPOSED CHANGES.

16.1.1 *UMD RIGHT TO ISSUE CHANGE ORDER.* At any time during the Term and without notice to any Lender or surety, the UMD Procurement Officer may issue a Change Order to make changes within the general scope of this Agreement, (including changes in the method, manner, or price of the work; the time within which work must be performed, and other matters specifically identified in this Agreement) or to approve an Additional Capital Improvement, a Major Repair, a Replacement, or a Material Change.

(a) No other written or oral order, direction, instruction, interpretation, or determination by, or any conduct of, the UMD Procurement Officer,

the UMD Program Manager, or any other UMD employee, consultant, or representative shall be considered a Change Order.

(b) The UMD Procurement Officer shall not issue a Change Order to require any change that would give rise to a threat to health and safety, be inconsistent with applicable Law, or force Concessionaire to breach its obligations to its Lenders.

16.1.2 *UMD REQUEST FOR CHANGE PROPOSAL.*

(a) If UMD desires to initiate or evaluate whether to initiate a Change Order, then the UMD Program Manager may issue a Request for Change Proposal. The Request for Change Proposal shall state the nature, extent, and details of the proposed UMD Change.

(b) Within 5 Business Days after Concessionaire receives a Request for Change Proposal, or such longer period approved by the UMD Program Manager, the Parties shall consult to define the scope of the proposed Change. Within 10 Business Days after this initial consultation, or such longer period approved by the UMD Program Manager, the Parties shall consult concerning the change's estimated cost and its impact on the Energy Systems, pending work, time, financing, required Lender approvals, and other related factors.

(c) At any time, UMD may provide Concessionaire UMD's assessment of avoided costs and impacts on schedules, costs, and deadlines, as well as any other relevant information related to implementing the proposed Change.

16.1.3 *CONCESSIONAIRE'S RESPONSE TO CHANGE PROPOSAL.* As soon as possible through the exercise of diligent efforts, and in any event within 30 days following Concessionaire's receipt of the Request for Change Proposal, Concessionaire shall either object to UMD's proposal or respond to the Request with the information set forth in Section 16.1.3(b).

(a) If Concessionaire objects to the Request for Change Proposal, Concessionaire shall explain in detail how the proposed change gives rise to a threat to health and safety, is inconsistent with applicable Law, forces Concessionaire to violate any provision of this Agreement or to breach or cause a default under any of its obligations to the Lenders.

(b) If Concessionaire determines that the Request for Change Proposal does not raise any ground for objection under Section 16.1.3(a), it shall submit the following information:

(1) If UMD seeks an extension of time to meet a deadline, a time impact analysis meeting the requirements set forth in Section 21.3.7(e) to support the proposed change and an assessment regarding feasibility of accelerating work to meet the original deadline or to reduce the total delay period and, if such acceleration is feasible, an estimate of the costs associated therewith;

(2) Concessionaire's planned actions to mitigate the additional compensation, extension of time, excuse from compliance, and other consequence of the proposed change according to the standards set in Section 21.3.5;

(3) The effect (if any) of the proposed change on the Operating Requirements, KPI Events, the Concessionaire Charge or other charges, Project work, the Operations Plan, and the Reversion requirements set forth in Section 9.12; and,

(4) Any other relevant information related to the proposed Change, including any required Lender approvals.

16.1.4 *NEGOTIATION OF CHANGE; DIRECTIVE LETTER*.

(a) Following UMD's receipt of Concessionaire's response to the Request for Change Proposal and UMD's further assessment of the cost, schedule, and other impacts of the proposed Change, the Parties, giving due consideration to such assessment, shall engage in good faith negotiations to reach agreement on the terms of the Change Order, including:

(1) Adjustment of the affected Project Schedule as appropriate;

(2) Any Availability Payment or Fixed O&M Charge adjustments to which Concessionaire is entitled or any lump sum payment to be made by UMD to Concessionaire;

(3) Any net cost savings and schedule savings to which UMD is entitled;

(4) Specification of the timing and method for payment for any adjustment in the Availability Payment or Fixed O&M Charge or any lump sum payment and for realizing any net cost and schedule savings; and,

(5) A procedure and timing for obtaining Lender approvals.

(b) If the Parties agree upon the terms and conditions pursuant to Section 16.1.4(a), the UMD Procurement Officer shall issue a Change Order with those terms and conditions. If the Parties are unable to reach agreement on a Change Order, UMD may seek to resolve the disagreement under the Dispute Resolution Process without issuing a Directive Letter, or it may issue a Directive Letter under Section 16.4 directing Concessionaire to proceed with the performance of some or all of the activities of the proposed Change notwithstanding the disagreement.

16.2 CONCESSIONAIRE CHANGE ORDER REQUESTS.

16.2.1 Concessionaire may request UMD to approve a Change Order to make changes within the scope of this Agreement (excluding Additional Capital Improvements and Material Changes) by submitting a Change Order Request using a form approved by the Operations Management Team. Except as provided in Section 16.2.2, each Change Order Request shall set forth:

(a) Concessionaire's detailed estimate of net impacts (positive and negative) attributable to the requested change;

(b) The effect (if any) of the requested change on the Operating Requirements, the KPIs, the Operation Plan, the Reversion Requirements, or any other obligation or work of the Parties under this Agreement; and,

(c) Other relevant information related to implementation of the requested change.

16.2.2 UMD may approve or reject Change Order Requests for any reason. UMD may approve a Change Order Request subject to certain conditions or refinements, in which case, the Parties shall engage in good faith negotiations to reach agreement on the terms for a Change Order.

16.2.3 Change Order Requests for Relief Events and Force Majeure Events shall be governed by Section 21.3.7.

16.3 VARIANCES.

16.3.1 *ISSUANCE.* Certain minor changes without significant impacts on operations, a Project's construction, costs, revenue, or schedule may be approved by UMD as Variances on a "no cost" basis and shall not require a Change Order. Any other change shall require a Change Order.

16.3.2 *REQUEST*. Concessionaire's submission of, and UMD's consideration of, Variance Requests shall be governed by Sections 15.3.2 and 16.2.1.

16.4 DIRECTIVE LETTERS.

16.4.1 *ISSUANCE.* At any time, UMD may issue a Directive Letter to Concessionaire for any matter for which a Change Order can be issued or in the event of a Dispute regarding the scope or work or Concessionaire's performance of work in accordance with this Agreement.

16.4.2 *CONTENTS.* Each Directive Letter shall:

(a) State that it is being issued under this Section 16.4;

(b) Describe the work to be performed;

(c) State the basis for determining any compensation and schedule adjustment required by such work;

(d) State the frequency at which UMD will pay Concessionaire, which shall not be greater than monthly.

16.4.3 *IMPLEMENTATION*. Upon its receipt of a Directive Letter, Concessionaire shall proceed immediately to perform as directed in the letter, pending execution of a Change Order.

(a) If a Directive Letter states that the work is within Concessionaire's original scope of work or is necessary to comply with the requirements of this Agreement, Concessionaire shall proceed with the work as directed but may assert a Claim that a UMD Change has occurred.

(b) The fact that UMD has issued a Directive Letter shall not be considered evidence that a UMD Change has occurred. The determination of whether a UMD Change has occurred shall be based on an analysis of the original requirements of this Agreement and a determination as to

whether the Directive Letter in fact constituted a change in those requirements.

(c) Concessionaire shall maintain force account Records for work it performs in accordance with the Directive Letter pending execution of a Change Order.

(d) Pending execution of a Change Order, UMD shall pay Concessionaire for any work performed pursuant to this Section 16.4 on a time and material basis, at the interval specified in the Directive Letter.

(e) Concessionaire's compensation for work required by the Directive Letter shall be determined pursuant to Section 16.5.

16.5 PRICING. Whenever Concessionaire claims additional compensation resulting from a Change in Law, is required to estimate costs pursuant to a Request for Change Proposal, a Change Order Request or Project Proposal or must account for forced work it performs pursuant to a Directive Letter, Concessionaire's compensation shall be determined on an Open Book basis in accordance with the requirements set forth in this Section 16.5.

16.5.1 *LABOR COSTS*.

(a) Concessionaire shall determine additional labor and supervisory costs by multiplying the estimated total hours for the work by one of the following benchmarks rates, provided that the number of laborers and supervisors assigned to the work shall not exceed the number Concessionaire deems most practical and economical for the work:

(1) The hourly rates actually paid by Concessionaire to Workforce members or a contractor for the same type of work;

(2) If the hourly rates in Section 16.5.1(a)(1) do not apply to the type of work being estimated, the hourly rates for the required work as set forth in the RS Means online database or latest appropriate printed publication unless both sources are no longer available, in which case Concessionaire may request, and the UMD Program Manager may approve, on a case-by-case basis, another recognized source of such data; or,

(3) If the hourly rates in Section 16.5.1(a)(2) do not apply to, or are unsuitable for, the work being estimated, the hourly rates determined pursuant to the State's Prevailing Wage Law or the Living Wage Statute, as applicable.

(b) Concessionaire shall determine the labor cost for operators of Equipment rented to complete the work by utilizing the same approach as in Section 16.5.1(a) unless such cost is included in the Equipment rental price.

16.5.2 *MATERIALS*. For materials used in the performance of the work, Concessionaire shall receive the actual cost of such materials, including the transportation charges it pays.

16.5.3 *EQUIPMENT*.

(a) For owned machinery and equipment (other than small tools) used in the performance of the work, Concessionaire shall receive the hourly rates derived from the applicable edition of the Rental Rate Blue Book for Construction Equipment by Penton Business Media/Equipment Watch (or another recognized source of estimating data accepted by the UMD Program Manager and the Construction Project Manager). The rate for each item of equipment shall be equal to the sum of the base machine rate, specialized attachment rate as applicable (since common attachments are considered included in the base rate), and the operating rate(s) established at the time the equipment is being used. The rate for rented machinery and equipment shall be based on rental rates prevailing in the Washington, D.C. metropolitan area.

(b) For equipment that is not listed in the Rental Rate Blue Book for Construction Equipment, Concessionaire shall receive an equitable hourly rate based on Concessionaire's cost data and basic information concerning the equipment. Such basic information includes manufacturer, year, size, model, capacity, rental or acquisition cost, and operating costs and shall be delivered to the UMD Program Manager prior to the equipment's use.

(c) Equipment rates shall apply for equipment in good working condition. The equipment shall be of approved size and capacity to perform the work specified. Equipment not meeting these requirements may be used only with the approval of the UMD Program Manager and at an agreed-upon reduced rate.

16.5.4 *KEY CONTRACTOR AND SUBCONTRACTORS*. Concessionaire shall include in each Key Contract or Subcontract a provision requiring Key Contractors and Subcontractors to determine costs associated with the work on an Open Book

basis utilizing substantially the same methodology as set forth in this Section 16.5.

16.5.5 *OVERHEAD AND PROFIT.* Concessionaire shall receive a mark-up for general administrative expenses, supervision, overhead, and profit not to exceed 5% of the Incremental Costs under Section 16.5.1 and 5% of such costs under Section 16.5.4.

ARTICLE 17: CONCESSIONAIRE COMPENSATION

17.1 CONCESSIONAIRE CHARGE.

17.1.1 As compensation for providing the Energy Services under this Agreement, Concessionaire shall bill UMD, and UMD shall pay Concessionaire, the Concessionaire Charge for each month or portion thereof during the Operating Term. The Concessionaire Charge shall be comprised of the following charges:

(a) *AVAILABILITY PAYMENT.* The Availability Payment is a monthly charge that Concessionaire will charge beginning in the first month following Phase I Substantial Completion. The Availability Payment shall be calculated in accordance with Appendix O-4, Section 1.2.

(b) *ENERGY SERVICES CHARGE*. The Energy Services Charge constitutes Concessionaire's compensation for managing, operating, and maintaining the Energy Systems in accordance with this Agreement and is calculated in accordance with Appendix O-4, Section 1.3. The Energy Services Charge is comprised of two charges:

(1) *Fixed O&M Charge*. The Fixed O&M Charge includes all ordinary and necessary costs for managing, operating, and maintaining the Energy Systems in accordance with this Agreement. The Base Fixed O&M Charge shall be effective from Commencement through the month in which Phase I Substantial Completion occurs at which time it shall be replaced by the Restated Base Fixed O&M Charge, which shall be effective until the termination or expiration of this Agreement, subject to any redetermination pursuant to Section 9.11.2.

(2) *Reimbursable Costs Charge*. The Reimbursable Costs Charge is a charge determined in accordance with Appendix O-4, Section 1.5 by which Concessionaire recovers costs that are:

(i) Not reasonably susceptible to prediction as to when (if ever) they may be incurred and therefore are not covered in the Annual Operating Budget;

(ii) Subject to periodic price volatility that cannot be mitigated by Concessionaire through prudent fiscal management or change in operating or maintaining the Energy Systems, provided that such volatility exceeds the annual Fixed O&M Charge adjustment for inflation under Appendix O-4, Section 1.1.3;

(iii) The result of a Relief Event, a Change Order, or a Directive Letter arising from the management, operation, or maintenance of the Energy Systems, the costs of which are not recurring and therefore not recoverable through an adjustment of the Fixed O&M Charge;

(iv) Required to pay Insurance Costs incurred by Concessionaire in accordance with Section 18.6.2; or,

(v) Expressly identified in this Agreement as costs authorized to be recovered by Concessionaire as Reimbursable Costs.

17.1.2 *NEXTGEN RESERVE CHARGE*.

(a) *Calculation.*

(1) The NextGen Reserve Charge is a monthly amount agreed upon by the Parties while developing the Annual Operating Budget pursuant to Section 17.4 that Concessionaire shall charge UMD until the balance in the NextGen Reserve reaches the Fully Funded Reserve Target.

(2) After the balance in the NextGen Reserve reaches the Fully Funded Reserve Target, Concessionaire shall not charge the NextGen Reserve Charge until the beginning of the first Contract Year following the time when the balance in the NextGen Reserve declines below $5 million. Concessionaire shall then begin charging the NextGen Reserve Charge in such

amount, and for such time, as the Parties shall determine. Concessionaire shall continue charging such amount until the balance in the NextGen Reserve again reaches the Fully Funded Reserve Target.

(3) The Fully Funded Reserve Target for each of the first three Contract Years shall be $6 million unless the Parties set a higher amount. At no time shall the Fully Funded Reserve Target be less than $6 million.

(4) Beginning in the Annual Operating Budget for the fourth Contract Year, the Fully Funded Reserve Target shall be adjusted annually utilizing the same CPI escalator as that utilized for the Fixed O&M Charge pursuant to Appendix O-4, Section 1.1.3.

(b) *Use.* The NextGen Reserve shall be dedicated to providing a source of Available Funds to pay for, with UMD's prior approval:

(1) Additional Capital Improvements, Unplanned Improvements, and other NextGen Program improvements;

(2) Reimbursable Costs that arise outside UMD's energy services budget for the Contract Year in which the payment is due;

(3) Remediation of Preexisting Environmental Matters;

(4) Incremental Costs authorized by a Change Order issued pursuant to Section 21.3.7;

(5) Such other NextGen Program-related costs and expenses as UMD may authorize; and,

(6) Payment of past-due Concessionaire Charges pursuant to Section 20.3.

(c) *Structure.* The NextGen Reserve shall be owned by UMD and held in an escrow account. Concessionaire shall deposit all proceeds of the NextGen Reserve Charge into the NextGen Reserve upon its receipt of UMD's payment thereof.

(d) *Draws.* Both UMD and Concessionaire may draw funds from the NextGen Reserve, but Concessionaire may only do so with UMD's prior consent or explicit authorization by this Agreement.

(e) *Initial Funding.* The NextGen Reserve shall be established at the Initial Financial Closing with UMD's transfer of at least $500,000, with the balance being funded through UMD's payments of the NextGen Reserve Charge beginning with its payment of Concessionaire's first invoice for the Concessionaire Charge following Commencement.

17.1.3 *KPI DEDUCTION.* The Energy Services Charge shall be adjusted by the KPI Deduction as calculated in accordance with Appendix O-4, Section 1.4 and Appendix O-5, Sections 8.1-8.4.

17.2 BILLING.

17.2.1 *BILLING DATE.* Concessionaire shall submit invoices for the Concessionaire Charge monthly in arrears, at least 5 days after the end of the month in which the Energy Services being billed were rendered.

17.2.2 *REQUIRED INVOICE FORM AND CONTENT.*

(a) *Invoice Form*. No later than 30 days before Commencement, Concessionaire shall submit to the UMD Program Manager for approval forms for its monthly and annual invoices that set forth the charges and supporting calculations and information required under this Section in a clear and concise manner and facilitate UMD's verification of the calculations and amounts being billed. All spreadsheets shall be submitted in dynamic Microsoft Excel format, with clearly marked inputs and outputs and with all formulas being unlocked. The Parties shall finalize these forms no later than the fifteenth day of the month in which Commencement occurs.

(b) *Monthly Invoices*. Each monthly invoice shall state the amount of each component of the Monthly Maximum Concessionaire Charge calculated in accordance with Appendix O-4, Section 1.1.2. Each invoice shall be accompanied by information as necessary to support the amounts being charged or deducted. At a minimum, such information shall include:

(1) The calculation of the Monthly Maximum Concessionaire Charge; showing:

(i) The portion of the Monthly Maximum Concessionaire Charge attributable to the Availability Payment;

(ii) The portion of the Monthly Maximum Concessionaire Charge attributable to the Fixed O&M Charge;

(iii) The product of the KPI Deduction and applicable escalation factor for the latest completed Contract Year and applicable in the first year in the Five-Year Plan's planning horizon;

(iv) The determination of the Reimbursable Costs Charge;

(v) The determination of the NextGen Reserve Charge.

(2) A KPI Report as described in Appendices O-5 and O-7;

(3) Adjustments to reflect prior over-payments and under-payments, if any;

(4) A calculation of any interest payable with respect to any amounts owed;

(5) A statement showing deposits to, and withdrawals from, the NextGen Reserve, along with its beginning and ending balances;

(6) A statement comparing the budgeted and actual Contract Year-to-date Reimbursable Costs Charges; and,

(7) Any other amount due and payable from Concessionaire to UMD or from UMD to Concessionaire under this Agreement.

(c) *Annual Invoice*. Concessionaire's invoice for Energy Services rendered in the last month of each Contract Year shall contain, in addition to the information required to be submitted with its monthly invoices, information to support its calculation of annual KPI Deductions.

17.2.3 *UMD'S VERIFICATION OF INVOICES*.

(a) UMD shall return to Concessionaire any invoices that are incomplete or inaccurate in any material respect for completion, correction, and resubmission.

(b) UMD's verification of each of Concessionaire's invoices shall include:

(1) Examining the invoice;

(2) Verifying the results reported by Concessionaire, including through UMD's independent oversight and auditing process; and,

(3) Reconciling the actual monthly Concessionaire Charge earned and any other amount due and payable from Concessionaire to UMD or from UMD to Concessionaire under this Agreement.

17.3 PAYMENT.

17.3.1 *PAYMENT DEADLINE.* UMD shall pay each of Concessionaire's invoices within 30 days following UMD's receipt of an accurate and complete invoice. An accurate and complete invoice is an invoice that, in addition to the information required in Section 17.2.2(a), contains:

(a) The contract number;

(b) Concessionaire's Federal Tax Identification Number;

(c) Information about the payee and receiving account sufficient to allow the payment to be made; and,

(d) The supporting information required in Section 17.2.2(b).

17.3.2 *WITHHOLDING.* UMD may withhold any amounts due and payable by Concessionaire to UMD from amounts otherwise due and payable by UMD to Concessionaire, provided that UMD shall not withhold any Availability Payments.

17.3.3 *PAYMENT METHOD.* UMD shall pay Concessionaire by electronic funds transfer. No later than Commencement, Concessionaire shall register to receive such payments using the COT/GAD x-10 Vendor Electronic Funds Registration Request Form or such other form or forms prescribed by UMD or the State.

17.3.4 *INTEREST ON FUNDS PAYABLE TO CONCESSIONAIRE.* If UMD has not paid Concessionaire within 37 days after the date of its receipt of an accurate and complete invoice,

then Concessionaire shall be entitled to interest on the undisputed amount owed at the then-effective late payment rate established by, and in accordance with the requirements of, Md. Code Ann., State Fin. and Proc., Sections 15-104 and 15-104 or other applicable Law.

17.3.5 *INTEREST ON FUNDS PAYABLE TO UMD.*

(a) If, as a result of any inaccuracy in an invoice, any overpayment is made by UMD to Concessionaire, then in addition to Concessionaire's reimbursement of the overpayment amount, UMD shall be entitled to deduct or receive interest on such amount at a rate equal to the then-effective rate established by Law for late payments to Concessionaire. Such interest shall begin accruing on the date UMD made its overpayment and shall continue until the date on which the amount of the overpayment is deducted or repaid.

(b) UMD's right to deduct or receive payment of interest is without prejudice to any other rights UMD may have under this Agreement.

17.3.6 *DISPUTED INVOICES*.

(a) If UMD disputes any invoiced charge, it shall notify Concessionaire promptly of the reason for the dispute and the Parties shall attempt to resolve the dispute prior to the due date for UMD's payment of the invoice. If the Parties are unable to resolve the dispute prior to such due date, UMD shall pay Concessionaire the undisputed charges and shall withhold payment of the disputed charges. UMD shall only be obligated to pay the disputed charges (along with interest thereon from the date it was originally due) if, and to the extent, it is determined through the Dispute Resolution Process that such amount is due. UMD shall make such payment within 30 days following conclusion of the Dispute Resolution Process and any appeals or other judicial proceedings related thereto.

(b) UMD shall not withhold payment or make any reductions from the Availability Payment.

17.4. ANNUAL OPERATING BUDGET.

17.4.1 *BUDGET PREPARATION.* No later than November 1 of the first Contract Year, and each November 1 thereafter during the Operating Term, Concessionaire shall deliver to the UMD Program Manager a proposed Annual Operating Budget for

the immediately succeeding Contract Year. The proposed budget shall include the following amounts along with workpapers to support all calculations:

(a) The product of the Annual Maximum Availability Payment and estimated applicable annual escalation factor;

(b) The product of the Annual Maximum Fixed O&M Charge and estimated applicable annual escalation factor;

(c) The product of the KPI Deduction and the applicable annual escalation factor for the latest completed Contract Year;

(d) The estimated annual Reimbursable Costs Charge; and,

(e) Concessionaire's recommended NextGen Reserve Charge.

17.4.2 *BUDGET REVIEW.* The UMD Program Manager shall convene the Operations Management Team to review the proposed Annual Operating Budget within 15 days after receiving the proposal. Such meeting may be held concurrently with the Operations Management Team's review of Concessionaire's proposed Five-Year Plan under Section 10.4.2. The UMD Program Manager shall convene such additional meetings as required for the Operations Management Team to agree upon an Annual Operating Budget to be recommended to UMD's administration.

17.4.3 *BUDGET APPROVAL.* Based on the Operations Management Team's discussions, Concessionaire shall modify the proposed Annual Operating Budget and deliver an updated version to the UMD Program Manager, who shall forward the recommended Annual Operating Budget to UMD's administration for inclusion in its annual funding request to the University System.

17.5 APPROPRIATIONS.

17.5.1 *LIMITED OBLIGATIONS*. All obligations of UMD and the State are subject to all applicable Laws and appropriations by the Maryland General Assembly. UMD's obligation to make payments under this Agreement does not constitute an indebtedness of the State within the meaning or application of any constitutional provision or limitation and does not constitute a pledge of the faith, credit, or Taxing power of the State or any political subdivision thereof within the meaning or application of any constitutional provision or limitation. Furthermore, UMD has no Taxing power, and Concessionaire has no right to have Taxes levied or to compel appropriations by the General Assembly for any

payment owing under this Agreement, subject to Concessionaire's right to file a Claim pursuant to Section 24.2.

17.5.2 *BUDGET REQUEST*. UMD shall include in its annual budget request submission to the University System funds sufficient to make scheduled payments to Concessionaire under this Agreement for the next Contract Year. UMD will utilize its best efforts with the University System, the Governor, and the General Assembly to obtain their authorization, appropriation, and allocation of all such funds prior to the beginning of the next Contract Year.

17.5.3 *NON-APPROPRIATION*. If UMD becomes aware that it is likely not to obtain appropriations for the next Contract Year that will be sufficient, in combination with other available funds, to pay all compensation owing to Concessionaire under this Agreement for that year, UMD shall notify Concessionaire promptly regarding the anticipated degree and duration of the funding shortfall and will consult with Concessionaire to develop contingency plans or identify alternative funding sources so that Concessionaire can continue to provide Energy Services under this Agreement. If UMD determines that it will not have sufficient funds to perform its obligations in accordance with this Agreement or any such contingency plan and alternative funding is not available for the next Contract Year and the conditions giving rise to the insufficiency of funds are not likely to change in the subsequent Contract Year, then this Agreement will terminate pursuant to Section 22.2.

ARTICLE 18: INSURANCE

18.1. REQUIRED INSURANCE COVERAGE.

18.1.1 *GENERAL OBLIGATION.*

(a) Except as provided in Sections 18.1.11(b) and 18.1.13, Concessionaire shall provide and maintain throughout the Operating Term (and during period following expiration that Concessionaire is required to return and perform any additional work), commercially reasonable policies of Required Insurance.

(b) Concessionaire may satisfy its obligation under Section 18.1.2(a) by purchasing and administering a Contractor Controlled Insurance Program.

18.1.2 *REQUIRED INSURANCE.* Except as provided in Sections 18.1.11(b) and 18.1.13, Concessionaire shall purchase and maintain at least the following insurance coverage:

(a) *Property Insurance.* Concessionaire shall purchase and maintain "all risk" property insurance coverage insuring itself as the named insured and UMD, the University System, and the State (and their respective officials, officers, agents, employees, and representatives), as loss payees as their interests may appear against all risks of direct physical loss or damage to the Energy Systems, with no restrictions or exclusions (except certain sub-limits as noted below) for earthquake, earth movement, volcanic activity, tsunami, flood, ground water, storm, tempest, windstorm, hurricane, tornado, ice flow, subsidence, or terrorism. The policy shall contain extensions of coverage and exclusions typically required under Prudent District Energy Practices.

(1) The policy of property insurance required by this Section shall provide coverage for:

(i) Buildings, structures, boilers, machinery, Equipment, energy distribution lines, facilities, fixtures, supplies, fuel, and other properties constituting the Energy Systems;

(ii) Foundations, including pilings, but excluding normal settling, shrinkage, or expansion;

(iii) Spare parts inventory for the Energy Systems;

(iv) Property of others in the care, custody, or control of UMD or Concessionaire relating to the Energy Systems;

(v) Plans, blueprints, and specifications for the Energy Systems;

(vi) Physical damage resulting from faulty work or faulty materials, but excluding the cost of making good such faulty work or faulty materials;

(vii) Physical damage resulting from design error or omission but excluding the cost of making good such design error or omission;

(viii) Physical damage resulting from mechanical breakdown or electrical apparatus breakdown;

(ix) Demolition and debris removal coverage for the buildings, structures, boilers, machinery, Equipment, materials, facilities, fixtures, and all other properties comprising the Energy Systems;

(x) Computers and other electronic equipment;

(xi) Increased replacement cost due to inflation or any Change in Law;

(xii) Expenses to reduce loss;

(xiii) Local building ordinance compliance, with the building ordinance exclusion deleted;

(xiv) Property coverage as required by the Interconnection Agreement; and,

(xv) Business Interruption Insurance with a limit of not less than $12,000,000 for Concessionaire.

(2) *Coverage Limits*. The policy required under this Section shall provide coverage per occurrence sufficient to repair or replace fully the insured property at full replacement cost, including professional fees, demolition, and debris removal, without risk of co-insurance. For the first Contract Year, the full replacement cost of the Energy Systems and associated coverages shall be $125,000,000.

(b) *WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY*. Concessionaire shall provide and maintain Workers' Compensation Insurance to cover liability imposed by Federal and State Governmental Authorities having jurisdiction over Concessionaire's employees engaged in the performance of this Agreement and Employer's Liability Insurance coverage with limits of not less than $1,000,000 for each employee and $1,000,000 for each accident. The policy shall be endorsed with the Voluntary Compensation and the Alternate Employer endorsements.

(c) *COMMERCIAL GENERAL LIABILITY*.

(1) Concessionaire shall provide and maintain Commercial General Liability Insurance or equivalent with limits of not less than $5,000,000 per occurrence and $10,000,000 in the annual

aggregate. Coverage shall be written on ISO form CG 00 01 04 13, CG 00 01 10 93, or substitute form providing equivalent coverage and include the following: bodily injury and property damage including personal injury, coverage for contractual employees (excluding any UMD employees), all premises and operations, including blanket contractual and products/ completed operations, explosion, collapse, mobile equipment not suitable for roadways, underground, separation of insureds, advertising injury, defense of terrorism (to the extent commercially available) and liability assumed under an insured contract. Losses from acts of terrorism may be insured through a standalone, terrorism specific policy.

(2) Each policy of Commercial General Liability Insurance shall identify UMD as an additional insured and the State and the University System (and their respective officials, officers, agents, employees, and representatives) as additional insured as their interests may apply. Pepco shall be identified as an additional insured under such policy if coverage is required by an Interconnection Agreement.

(3) Concessionaire shall maintain products/completed operations coverage under its Commercial General Liability policy until expiration of the limitation period set by the State's statute of repose following expiration or termination of this Agreement. Concessionaire shall provide UMD evidence of the continuing effectiveness of such coverage at least annually in accordance with Section 18.3.3.

(4) Concessionaire may achieve the required limits and coverage for Commercial General Liability Insurance and Umbrella/Excess Liability Insurance through a combination of primary and excess or umbrella liability insurance, provided that such primary and excess or umbrella liability insurance policies result in the same or greater coverage as the coverages required under Sections 18.1.2(c) and 18.1.2(j) and names the same entities as additional insureds as their interests may apply.

(d) *COMMERCIAL AUTOMOBILE LIABILITY*.

(1) Concessionaire shall provide and maintain, or require the Key Construction Contractor or the Key Operating Contractor (as applicable) to provide and maintain, Commercial Automobile

Liability Insurance with a combined single limit of $1,000,000. The policy shall be endorsed with CA 99 48 and MCS 90.

(2) Each policy of automobile liability insurance shall identify UMD and the State and the University System (and their respective officials, officers, agents, employees, and representatives) as additional insured as their interests may apply.

(e) *PROFESSIONAL LIABILITY*. Concessionaire shall require the Key Construction Contractor to purchase and maintain Professional Liability Insurance, with limits not less than $15,000,000 per claim and in the aggregate or such other limit (whether lower or higher) as the UMD and Concessionaire may agree with respect to such policy for a particular Capital Improvement, Major Repair, Unscheduled Replacement, or Material Change, which other limit shall be included as part of the approval of such Capital Improvement, Major Repair, Unscheduled Replacement, or Material Change in accordance with Section 10.5. The policy shall include contingent bodily injury liability, rectification, and punitive damages. The faulty workmanship exclusion should be modified to cover losses arising out of professional services. If Concessionaire self-performs any work of the nature noted in this Section, it shall provide Professional Liability coverage meeting this Section's requirements.

(f) *NETWORK SECURITY AND PRIVACY INSURANCE.* Concessionaire shall provide and maintain Cyber Liability Insurance for network security and privacy with limits of not less than $10,000,000 per claim and in the aggregate, inclusive of event management. When policies are renewed or replaced, the policy retroactive date shall coincide with, or precede, Commencement.

(g) *TRANSIT PROTECTIVE LIABILITY*.

(1) Concessionaire shall provide and maintain, with respect to the work it performs or causes to be performed adjacent to, under, or over the Purple Line right-of-way, railroad/transit protective liability insurance (ISO/RIMA Form CG 00 35 or equivalent) in the name of the Maryland Transit Administration, the Maryland Department of Transportation, and the State. Such insurance shall have limits of not less than $5,000,000 per occurrence, combined single limits, for coverages A and B, for losses arising out of injury to, or death of, any Person, and for physical loss or

damage to, or destruction of, property, including the loss of use thereof and a $10,000,000 annual aggregate.

(2) If work adjacent to, under, or over the Purple Line right-of-way is to be performed by a Key Contractor or a Subcontractor, then in lieu of providing insurance pursuant to this Section, Concessionaire may instead require each Key Contractor or Subcontractor performing the work to carry such insurance.

(h) *ENVIRONMENTAL IMPAIRMENT LIABILITY INSURANCE*.

(1) Concessionaire shall provide and maintain environmental impairment insurance with limits of not less than $10,000,000 combined single limit per occurrence and $15,000,000 as an annual aggregate for environmental and pollution damage liability arising out of Environmental Matters occurring or exacerbated after Commencement.

(2) Concessionaire's environmental impairment insurance shall cover losses arising from bodily injury, property damage, cleanup expenses, and defense costs and shall include:

(i) Coverage for losses caused by, or resulting from, types of pollution and environmental impairments excluded from coverage under Concessionaire's general commercial liability policy or UMD's property insurance coverage; and,

(ii) Coverage for transportation of pollutants as cargo, business interruption, and extra expense.

(3) Each policy of environmental impairment liability insurance shall identify UMD, the State, and the University System (and their respective officials, officers, agents, and employees) as additional insureds.

(i) *BUILDER'S RISK*. When Concessionaire undertakes any Project that includes construction or installation of any Equipment or Energy Systems facilities, (including Projects for Capital Improvements, Major Repairs, Replacements, and Material Changes, and betterments), it shall provide All Builder's Risk Insurance at replacement cost for materials, supplies, equipment, machinery, and fixtures that are or will be part of the Energy Systems. Coverage shall include the right to partial

occupancy, boiler and machinery, business income, valuable papers, and other consequential loss (when applicable), with aggregate sub-limits for catastrophic perils of earthquake, flood and named wind events that are the best available on commercially reasonable terms. Any Lender may be named as additional insured and as loss payees.

(j) *UMBRELLA/EXCESS LIABILITY INSURANCE*.

(1) Concessionaire shall purchase and maintain umbrella/excess liability insurance with limits of not less than $50,000,000 combined single limit per occurrence and $50,000,000 as an annual aggregate. If Concessionaire seeks to meet the coverage requirement set forth in this Section with a corporate policy applicable to activities other than those arising out of Concessionaire's performance of this Agreement, the annual general aggregate limit in such policy shall be written on a "per project" basis.

(2) Each policy of umbrella/excess liability Insurance shall identify UMD, the State, and the University System (and their respective officials, officers, agents, and employees) as additional insureds. Pepco shall be identified as an additional insured under such policy if coverage is required by an Interconnection Agreement.

18.1.3 *DEDUCTIBLE.* Concessionaire shall be responsible for payment of insurance deductibles for any loss or damage to the Energy Systems and may not include the cost therefor in any component of the Energy Service Charge, provided Concessionaire shall not be responsible to pay the deductible for any loss resulting directly and exclusively from a Relief Event caused by UMD or a UMD Party.

18.1.4 *CHANGES IN SCOPE OR LIMITS OF REQUIRED INSURANCE*.

(a) Each policy of Required Insurance shall contain an endorsement prohibiting cancellation or reduction in the scope or limits of coverage thereunder without written notice to UMD at least 60 days before such cancellation or reduction becomes effective. If an insurer seeks to cancel coverage for non-payment of premium, such notice period shall be reduced to 10 days prior to the effective date of the cancellation. Each Required Insurance policy of commercial general liability insurance and umbrella/excess liability insurance shall grant the same notice rights to Pepco.

(b) Upon receipt of a notice pursuant to Section 18.1.4(a), UMD shall have the right, but not the obligation, upon prior notice to Concessionaire and at Concessionaire's sole cost and expense, to pay the premium on the existing coverage or to secure such additional coverage to protect the named insureds' interests. Pepco shall have the same right for Concessionaire's commercial general liability insurance policy and its umbrella/excess liability insurance policy.

18.1.5 *WAIVER OF SUBROGATION*. Each policy of Required Insurance shall contain an endorsement that requires the insurers to waive all rights of recovery by way of subrogation against the State, the University System, UMD, and their respective employees, agents, and representatives.

18.1.6 *SEVERABILITY OF INTEREST*. Except for the coverages required by Sections 18.1.2(b), 18.1.2(e), 18.1.2(f), and 18.1.2(g), each policy of Required Insurance shall contain cross claim and severability of interest endorsements. The coverage required by Section 18.1.2(a) may contain a non-vitiation clause as proof of severability of interest.

18.1.7 *NO STATE INSURANCE CONTRIBUTION*. Concessionaire expressly understands and agrees that any insurance or self-insurance programs maintained by the State, the University System, or UMD will not contribute to Concessionaire's satisfaction of its insurance requirements under this Agreement except as expressly provided herein.

18.1.8 *JOINT VENTURE AND LIMITED LIABILITY COMPANY POLICIES*. If Concessionaire or any Key Contractor that is required to obtain an insurance policy hereunder is a joint venture or a limited liability company, all insurance policies required to be obtained by Concessionaire or such Key Contractor shall specifically name the joint venture or limited liability company as a named insured.

18.1.9 *OTHER INSURANCE OBTAINED BY CONCESSIONAIRE*.

(a) If Concessionaire, a Key Contractor, or a Subcontractor desires coverage in addition to the Required Insurance, it shall be solely responsible for the acquisition and cost of such additional coverage.

(b) If Concessionaire, a Key Contractor, or a Subcontractor seeks to obtain any project-specific property, liability, or other insurance coverages that will relate to the Energy Systems or the Energy Systems management, operations, or maintenance in addition to Required Insurance, then it shall:

(1) Notify UMD as to such additional coverages at least 15 days in advance of purchasing of additional coverage and make such modifications as UMD may reasonably require;

(2) Promptly provide UMD with any documentation relating to the additional coverage, including certificates of insurance, that the UMD reasonably requests; and,

(3) Upon UMD's notice, cause the State, the University System, and UMD (and their respective officials, officers, agents, and employees) and Pepco to be named as additional insureds under the additional coverage as required by Section 18.1.2 for the type of insurance being supplemented.

18.1.10 *DEFENSE OF COVERAGE OUTSIDE LIMITS OF LIABILITY.* Except for the Professional Liability Insurance required by Section 18.1.2(e) and Network Security and Privacy Insurance required by Section 18.1.2(f), all Required Insurance shall include defense coverage outside the limits of liability.

18.1.11 *COMMERCIAL UNAVAILABILITY OF REQUIRED INSURANCE*.

(a) To the extent any of the insurance coverage required under this Agreement (other than the coverage required by Section 18.1.2(a)) is not available or is available only at a commercially unreasonable price or under commercially unreasonable limits or terms, Concessionaire, after providing UMD at least 30 days prior notice, shall obtain insurance that is available on a commercially reasonable basis and best approximates the applicable required coverage, provided that such substitute coverage shall have been reviewed by an independent insurance consultant, and such consultant shall have confirmed to UMD and Concessionaire the unavailability of required coverage and the reasonableness of the substitute coverage. Each Party shall pay one-half of the independent insurance consultant's fees and expenses.

(b) Concessionaire shall notify UMD if the insurance coverage required by Section 18.1.2(a) is not available in whole or in part or is available only at a commercially unreasonable price or under commercially unreasonable limits or terms, and UMD shall attempt to procure such coverage through the State Property Insurance Program or commercial insurance. If UMD cannot secure the required coverage from the State Property Insurance Program or commercial insurance at a commercially reasonable price and under commercially reasonable limits and terms, then UMD, in consultation with Concessionaire, shall obtain insurance

coverage that is available on a commercially reasonable basis and best approximates the applicable required coverage. Any policy procured by UMD under this Section 18.1.11(b) shall name Concessionaire, Lenders, and each Key Contractor as named insureds or grant Concessionaire, Lenders, and each Key Contractor such other capacity as required for them to be loss payees for the insurance coverage identified in Section 18.1.2(a)(1).

(c) UMD shall self-insure all or any part of the Energy Systems excluded from coverage obtained pursuant to Section 18.1.11(b) and shall pay any costs of Restoration exceeding the limits of such coverage in accordance with Section 18.10.3 and Section 21.2.2(a).

18.1.12 *OCCURRENCE-BASED POLICIES.* All Required Insurance liability policies shall be occurrence-based. If occurrence-based coverage is not commercially available, Concessionaire may purchase claims-made policies, provided that such policies shall extend for a period of 10 years after the expiration or earlier termination of this Agreement. Professional liability policies associated with Projects may be claims-made policies, provided that such policies shall extend or be annually renewed for a period of 5 years after the particular Capital Improvement, Major Repair, Replacement, or Material Change is completed, provided that the total policy term does not exceed 10 years.

18.1.13 *UNIVERSITY'S RIGHT TO INSURE*. In addition to its right under Section 18.1.11, UMD may purchase policies of Required Insurance in accordance with this provision:

(a) *Right to Purchase Property Insurance.*

(1) At any time during the Term, UMD may notify Concessionaire that it intends to procure the insurance coverage required by Section 18.1.2(a) through the State Property Insurance Program or commercial insurance. UMD shall notify Concessionaire 180 calendar days (or such other period to which the Parties may agree) before the desired effective date for the Concessionaire-procured coverage.

(2) Upon its receipt of UMD's notice and the expiration of any then-effective coverage it purchased to satisfy its obligations under Section 18.1.2(a), Concessionaire shall be relieved of those obligations until such time as the UMD loses access to the State Insurance Program or determines that Concessionaire's resumption of that obligation best serves the interests of UMD and the State.

(b) *Right to Cure Concessionaire's Failure to Insure.* Except as provided in Section 18.1.11 and subject to Section 25.3, if Concessionaire fails to obtain and maintain the Required Insurance in accordance with this Article 18, UMD, upon two Business Days' notice to Concessionaire in a non-Emergency situation or immediately in an Emergency and without assuming any obligation in connection therewith, may purchase reasonably equivalent coverage. All costs and expenses in connection with such insurance coverage shall be payable by Concessionaire on demand and without prejudice to any other rights and remedies of the UMD hereunder. UMD's exercise of its rights under this Section shall not relieve Concessionaire of its obligation to insure hereunder and UMD shall not be liable for any loss or damage suffered by the Concessionaire in connection therewith.

(c) All policies for the insurance coverage required by Section 18.1.2(a) that are procured by UMD under this Section 18.1.13 shall name Concessionaire, Lenders, and each Key Contractor as named insureds or grant Concessionaire, Lenders, and each Key Contractor such other capacity as required for them to be loss payees for the insurance coverage identified in Section 18.1.2(a)(1). Such policies shall also Include coverage for business interruption to replace any income UMD receives from third parties (such as Self-Support Units) that it would not otherwise recover if an insured loss occurs.

(d) Except for the insurance coverage required by Section 18.1.2(a), all policies for insurance coverage pursuant to Section 18.1.2(i) that are procured by UMD shall name Concessionaire and its Key Contractors, Lenders, the University System, and the State (and their respective officials, officers, agents, employees, and representatives), as loss payees as their interests may appear. All policies for insurance coverage pursuant to Section 18.1.2(b), (c), (d), (f), and (j) that are procured by UMD shall name Concessionaire as a named insured. All policies for insurance coverage pursuant to Section 18.1.2(e) that are procured by UMD shall name Key Construction Contractor as the named insured. All policies for insurance coverage pursuant to Section 18.1.2(g) that are procured by UMD shall name the Maryland Transit Administration, the Maryland Department of Transportation, and the State as the named insureds. All policies for insurance coverage pursuant to Section 18.1.2(h) that are procured by UMD shall name the Concessionaire, its Key Contractors and on-site subcontractors of all tiers as named insureds and shall include the Lenders, the University System, and the State (and their respective officials, officers, agents, employees, and

representatives), as additional insureds. All such policies herein shall also contain an endorsement that requires the insured to waive all rights of recovery by way of subrogation against the Concessionaire, State, the University System, UMD, Lenders, and their respective employees, agents, and representatives.

(e) All policies for insurance coverage pursuant to Sections 18.1.2(c) and (j) that are procured by UMD shall identify Pepco as an additional insured to the extent that such coverage is required by an Interconnection Agreement.

18.2 ADDITIONAL INSURANCE REQUIREMENTS.

18.2.1 *COVERAGE EFFECTIVE DATE*. All insurance coverages required by this Agreement shall be effective at Commencement.

18.2.2 *QUALITY OF INSURER.* All insurance required by this Agreement shall be obtained from responsible and financially sound insurance companies licensed and authorized to do business in the State that have a Best Insurance Reports rating of A- or better and a financial size category of IX or higher, or a Standard & Poor Financial Strength Rating of BBB+ or higher.

18.2.3 *PROOF OF INSURANCE*.

(a) No later than Commencement (and with the exception of Builder's Risk Insurances), Concessionaire shall deliver to UMD certificates of insurance or binders in a form acceptable to UMD as evidence of its compliance with the insurance requirements set forth herein. Thereafter, at least 15 days prior to the expiration of an insurance policy required by this Agreement, the Concessionaire shall deliver to UMD a certificate of insurance or binder in a form acceptable to UMD demonstrating that such policy has been renewed. At any time, upon UMD's reasonable request, Concessionaire shall deliver promptly to such Party a copy of each insurance policy required by this Agreement, as well as the binder, cover notes, and other evidence of insurance.

(b) Concessionaire shall deliver the proof of Builder's Risk Insurance coverage no later than 10 Business Days prior to commencement of the work subject to such coverage.

(c) If UMD elects to procure required coverage pursuant to Section 18.1.11(b) or 18.1.13(a), it shall deliver to Concessionaire, no later than Commencement and thereafter, no later than 15 days prior to the

beginning of a policy's term, certificates of insurance or binders in a form acceptable to Concessionaire as evidence of its compliance with the insurance requirements set forth in Section 18.1.2(a).

(d) A Party's receipt of evidence that Required Insurance is in effect does not constitute agreement by that Party of the other Party's satisfaction of the insurance requirements in this Agreement.

18.3 CONCESSIONAIRE'S COMPLIANCE WITH INSURANCE POLICIES.

18.3.1 *GENERAL OBLIGATION.*

(a) Concessionaire shall perform its obligations under this Agreement in a manner consistent with the requirements of all policies of Required Insurance. Concessionaire shall do nothing to impair, limit, or void the coverages under such policies or increase the hazards insured against therein resulting in an increase in premiums on renewal, non-renewal, or mid-term cancellation.

(b) If Concessionaire impairs, limits, or voids the coverages under policies of Required Insurance or increases the hazards insured against therein and such impairment, limitation, voiding, or increase results in higher premiums on renewal, non-renewal, or mid-term cancellation, UMD shall deduct from the Fixed O&M Charge all Incremental Costs, losses, or damage directly resulting therefrom, including any uninsured losses or damage.

18.3.2 *TESTING.* In addition to other tests of the Energy Systems required to be performed under this Agreement, Concessionaire, at its sole cost and expense, shall perform all reasonable tests, and shall keep Records and other information as may be required from time to time by an insurer pursuant to a policy of Required Insurance. Concessionaire shall also amend and implement changes to the Standard Operating Procedures to reflect the requirements of any such policies, including any reporting requirements necessary to keep the insurance coverage in force.

18.3.3 *INSURANCE COVERAGE FOR KEY CONTRACTORS AND SUBCONTRACTORS*. If Concessionaire does not purchase and manage a Contractor Controlled Insurance Program, then Concessionaire, Key Contractors, and Subcontractors shall comply with the requirements set forth in this Section 18.3.3.

(a) Concessionaire and each Key Contractor and Subcontractor shall be solely responsible for insuring or self-insuring any tools, equipment,

materials, including data processing and computer equipment and software owned or leased by Concessionaire, Key Contractor, or Subcontractor.

(b) Concessionaire shall be responsible for ensuring that all Subcontractors secure and maintain all insurance coverages and other financial assurances and sureties required by Law or their respective Key Contracts or Subcontracts.

(c) All commercial general liability and excess umbrella insurance policies purchased by Key Contractors or Subcontractors shall name UMD, the University System, the State, and Pepco (as contractually required). as additional insureds. Concessionaire shall require all Key Contractors and Subcontractors to demonstrate compliance with the requirements of this Section prior to beginning work on the Energy Systems.

18.4 ADEQUACY OF CONCESSIONAIRE INSURANCE. UMD does not in any way represent that Required Insurance specified in this Agreement, whether in scope, coverage, or limits, is adequate or sufficient to protect Concessionaire's business or interests. Neither the issuance of any policy for Required Insurance nor the minimum limits specified herein shall be deemed to limit or restrict in any way Concessionaire's liability arising under, or out of, this Agreement. Concessionaire is solely responsible for determining its exposure to loss under this Agreement and for obtaining insurance coverage for such exposure.

18.5 NOTIFICATION OF HAZARD. Where a special or unusual hazard peculiar to Energy Systems is foreseeable, the Party learning of such hazard shall notify the other Party of the hazard in writing. With UMD's prior approval, Concessionaire shall obtain insurance coverage necessary to cover the damage that could result from the occurrence of such hazard.

18.6 INSURANCE COVERAGE EVALUATION AND PREMIUM ADJUSTMENT.

18.6.1 *INSURANCE COVERAGE EVALUATION.*

(a) At the end of each five Contract Years throughout the Term, the Required Insurance policies shall be evaluated by an independent insurance consultant as to adequacy of the coverage and policy limits and its affordability. Such insurance consultant shall be selected by UMD. Each Party shall pay one-half of the independent insurance consultant's fees and expenses. Both Parties shall receive the consultant's report and recommendations and shall have the opportunity to discuss such report and recommendations with the consultant.

(b) Each Party shall make available to the independent insurance consultant the policies of Required Insurance or copies thereof or, in lieu thereof, a certificate of insurance together with a policy summary in form and substance acceptable to UMD.

(c) Any adjustment in coverage and policy limits that results in a premium increase for any Required Insurance must be approved by UMD before it can take effect.

18.6.2 *PREMIUM ADJUSTMENT.*

(a) Except as provided in Section 18.3.1(b), UMD shall be responsible for the cost of coverage under Section 18.1.2(a) regardless of which Party purchases such coverage. If Concessionaire procures the required coverage, then it shall recover the premium from UMD through the Reimbursable Costs Charge and if UMD procures the required coverage, it shall pay the insurer directly.

(b) Except for coverage it purchases under Section 18.1.2(a), Concessionaire shall recover the cost of Required Insurance through the Fixed O&M Charge.

(c) If Concessionaire procures the property insurance coverage required by Section 18.1.2(a), Concessionaire's proposed Annual Operating Budget delivered to UMD pursuant to Section 17.4.1 shall include projected Insurance Costs for such coverage to be incurred in the Contract Year for which the budget is being prepared. Thereafter, Concessionaire shall notify the UMD Program Manager promptly if quotations it receives for Required Insurance exceed the budgeted amount. Such notice shall be accompanied by such quotations and other information required to explain the increase. If the amount of the increase is greater than the amount of the CPI Adjustment, then Concessionaire also shall deliver to UMD evidence that it has conducted a commercially reasonable competitive procurement for the required coverage along with all quotations it received.

18.7 ADJUSTMENT AND SETTLEMENT OF CLAIMS.

18.7.1 *COOPERATION*. UMD and Concessionaire shall take all actions as may be reasonably necessary or required to expedite the adjustment of any loss or damage covered by insurance hereunder and the release and dedication of insurance proceeds in the manner and for the purposes herein contemplated.

18.7.2 *CONCESSIONAIRE ADJUSTMENT AND SETTLEMENT RIGHT*. Concessionaire shall have the right to adjust and settle all insurance claims pursuant to any Required Insurance policy except that Concessionaire shall secure UMD's prior approval of any such adjustment or settlement if it:

(a) Requires a finding or admission of any violation of Law or violation of the rights of any Person that is reasonably likely to result in a claim being made against UMD;

(b) Provides for equitable or other relief that cannot be fully satisfied by Concessionaire or a Concessionaire Party;

(c) Relates to a claim involving UMD, any UMD Party, or the Energy Systems, and does not include, as an unconditional term, the release of UMD and the UMD Party by the claimant in form and substance satisfactory to UMD from all liability in respect of such claim; or,

(d) Significantly and adversely impacts the reputation of UMD.

18.8 WAIVER OF CLAIMS.

18.8.1 *MUTUAL WAIVER.* Concessionaire hereby waives all rights against UMD and its employees, agents, and representatives from all liabilities, claims, and losses for which they may otherwise be liable to the extent that Concessionaire is covered by insurance under this Agreement. UMD hereby waives all rights against Concessionaire and its respective employees, agents, and representatives from all liabilities, claims, and losses for which they may otherwise be liable to the extent that UMD is covered by insurance under this Agreement.

18.8.2 *NO WAIVER OF INSURANCE REQUIREMENTS*. A Party's failure to provide insurance as required herein or its failure to require evidence of insurance or to notify the other Party of any breach of any insurance requirements hereunder shall not be deemed to be a waiver by either Party of any of the terms and conditions of this Agreement, or the obligations of Concessionaire to defend, indemnify, and hold harmless UMD in accordance with this Agreement.

18.9 LOSS CONTROL PROCEDURES.

18.9.1 *PROCEDURE DEVELOPMENT.* Concessionaire shall develop and implement loss control procedures for the Energy Systems as a component of the Operations Plan.

18.9.2 *SITE VISITS*. Upon reasonable advance written notice, Concessionaire shall facilitate inspections of the Energy Systems and observation of its performance of this Agreement by the carriers of Required Insurance or their risk management consultants and, in cooperation with UMD, shall respond to their questions and requests for information.

18.9.3 *LOSS CONTROL REQUESTS.* Concessionaire shall comply with all reasonable loss control requests made by any carrier of Required Insurance after written notice thereof. Concessionaire shall cooperate with and assist any such carrier, any insurance consultants, and any risk manager retained by either Party to resolve any finding of noncompliance with any loss control procedure reasonably recommended by such insurance carrier, consultant, or risk manager.

18.10 DAMAGE TO THE ENERGY SYSTEMS.

18.10.1 *NOTIFICATION.* Concessionaire shall immediately notify UMD and any Depositary of damage to the Energy Systems by a casualty of any kind (including one for which insurance was not obtained or obtainable).

18.10.2 *CLAIM SUBMISSION.* Concessionaire shall notify the carrier of Required Insurance of a casualty loss and at the carrier's direction, shall take such action as necessary to prevent further property damage or personal injury. The Parties shall cooperate in preparing claims, estimating the costs of Restoration, and compiling information about the casualty's cause and extent of damage or destruction. Concessionaire shall file claims with the insurance carrier and shall copy UMD on all written communications between Concessionaire and such carrier.

18.10.3 *RESTORATION*. Throughout the Operating Term, as directed by UMD, Concessionaire shall rebuild and restore the damaged or destroyed portions of the Energy Systems to the same condition and in the same location as they were prior the casualty event.

(a) Concessionaire shall rebuild and restore the damaged or destroyed Energy Systems at its sole cost and expense even if insurance proceeds are not available or adequate to pay the full cost of Restoration. Concessionaire shall not include any portion of these costs in any component of the Concessionaire Charge but may seek reimbursement as provided in Section 18.10.3(c).

(b) UMD may order a modification of the Energy Systems at any time during the Restoration by issuing a Directive Letter pursuant to Sections 16.4, provided that any such modification does not materially and adversely

affect Concessionaire's ability to perform the Energy Systems' management, operation, and maintenance activities upon completion in accordance with this Agreement. Alternatively, UMD may issue a Request for Change Proposal for such modification pursuant to Section 16.1.2. In either case, Concessionaire shall be paid in accordance with Section 18.10.3(c)(2)

(c) UMD and Concessionaire shall deposit all insurance proceeds received in connection with a casualty loss pursuant to this Section 18.10.3 with the Depositary. The Depositary shall hold such proceeds in an account insured by the full faith and credit of the United States and all interest earned on the balance of such account shall be retained in the account to pay the costs and expenses of the Restoration. If at any time the cost of Restoration exceeds the net insurance proceeds deposited with the Depositary:

(1) Concessionaire shall deposit with the Depositary funds sufficient to pay the difference between these amounts and seek reimbursement pursuant to Section 21.2.2(a); or,

(2) If the difference between the two amounts is the result of extra costs imposed by UMD's negligence or willful misconduct (or that of Persons for whom UMD is responsible) or necessary to pay the cost of modifications directed by UMD, UMD shall deposit with the Depositary funds sufficient to pay such difference.

(d) Any Restoration undertaken in accordance with this Section shall be undertaken subject to the terms of this Agreement. Prior to beginning work, Concessionaire shall submit the Plans and Specification and detailed Project Schedule for such work to UMD for its approval. Concessionaire shall not begin such work until it receives such approval.

(e) *PAYMENT OF RESTORATION FUNDS TO CONCESSIONAIRE*.

(1) Restoration funds shall be paid to Concessionaire in installments as the Restoration progresses, based upon requisitions submitted by Concessionaire to the Depositary and UMD, showing the cost of labor, equipment, and materials purchased for the Restoration, or incorporated therein since the previous requisition, and the total amount due and payable. If the insurance carrier only releases funds to Concessionaire as such requisitions are submitted or as certain Restoration milestones are reached,

Concessionaire shall submit requisitions and progress reports in the form required by the carrier along with all supporting information.

(2) If any lien (other than a Permitted Concessionaire Encumbrance) is filed against the Energy Systems or any part thereof in connection with the Restoration, Concessionaire shall not be entitled to receive any further installment until such lien is satisfied or discharged (by bonding or otherwise) and UMD and the Depositary have received a release of such lien executed by the lienor in a form recordable in the appropriate public land records.

(3) Concessionaire shall include with each payment requisition a report on the Restoration's status and progress. Such report shall identify the work completed during the period since Concessionaire's last requisition and a statement of the work that Concessionaire expects to occur during the next 90 days.

(f) *CONDITIONS OF PAYMENT*. Concessionaire shall submit a certificate by the Construction Project Manager to UMD and the Depositary with each payment requisition as a condition precedent to its payment. Such certificate shall state:

(1) No Concessionaire Default exists as of the date of the requisition;

(2) The materials, equipment, and supplies that are the subject of the requisition have been delivered to the Restoration work site, free and clear of all Encumbrances, and no unsatisfied or unbonded mechanic's liens or other Encumbrances have been filed;

(3) Each listed Contractor, engineer, architect, or other Person has rendered or furnished the specifically identified services, equipment, or materials for the Restoration in the amounts noted;

(4) Each of the amounts listed pursuant to Section 18.10.3(e)(1) has been paid by Concessionaire or is due and payable to the listed Key Contractors, Subcontractors, suppliers or other Persons;

(5) None of the expenditures listed in the requisition have been submitted for payment under any previous requisition (whether paid or pending);

(6) The amount of the requisition does not exceed the value of the services, equipment, and materials described in the certificate;

(7) The work relating to such requisition has been performed in accordance with this Agreement and the Plans and Specifications;

(8) The funds held by the Depositary will be sufficient to pay Concessionaire's estimated cost (which shall be stated) to complete the Restoration; and,

(9) In the case of the final payment to Concessionaire, the Restoration has been completed in accordance with this Agreement and its Plans and Specifications and all Key Contractors, Subcontractors, suppliers, and other Persons have been paid in full.

(g) *RETAINAGE.* Depositary shall retain as Retainage until the Restoration's completion (including any Punch List work) an amount equal to five percent of the amount of the payment requisition (excluding any unpaid amounts previously requested). Depositary shall release the Retainage upon receipt of UMD's certification that:

(1) Concessionaire has repaired and restored, or has caused a Key Contractor or Subcontractor to repair and restore, any UMD property or landscaping damaged during the Restoration; and,

(2) To the best of its knowledge and belief, Concessionaire has performed the Restoration work in accordance with this Agreement and has otherwise not materially breached this Agreement.

(h) *FINAL RESTORATION PAYMENT*. Subject to the satisfaction by the Parties of all requirements set forth above, Depositary shall pay Concessionaire the remaining balance of the funds being held for the Restoration, together with any interest earned thereon, after reimbursing itself and UMD for the reasonable expenses paid or incurred in collecting, investing, or administering such funds, provided that the Lender has released such funds from lien under the Program Debt.

(i) *RESTORATION DIRECTED BY UMD.*

(1) Subject to Section 25.3, if Concessionaire fails to commence, perform, or complete the Restoration in accordance with this

Agreement, such failure shall constitute a Concessionaire Default and UMD shall give the notices and exercise its rights pursuant to Sections 19.2 and 19.5, including its right under Section 19.5.1 to complete the Restoration, draw upon the account held by Depositary to pay the Restoration's costs and expenses, and require Concessionaire to pay the shortfall if such costs and expenses exceed the remaining balance of the account.

(2) If prior to the Restoration's completion, this Agreement expires or is terminated by UMD, then, no later than the expiration date or the effective date of the Agreement's termination, Concessionaire shall:

(i) Account to UMD for all amounts spent in connection with any Restoration work that it undertook;

(ii) At UMD's election, assign all Key Contracts and Subcontracts to UMD;

(iii) Promptly deliver to UMD all Plans and Specifications and other Project Documents for the Restoration; and,

(Iv) Perform all other duties and obligations required under Section 9.12.4.

18.10.4 *BENEFIT OF UMD*. The requirements of this Section 18.10 are for the benefit only of UMD, and no Key Contractor, Subcontractor, or other Person shall have or acquire any claim against UMD as a result of any failure of UMD to undertake or complete any Restoration as provided in this Section 18.10 or to obtain the evidence, certifications and other documentation provided for herein.

ARTICLE 19: CONCESSIONAIRE DEFAULT

19.1 EVENTS OF CONCESSIONAIRE DEFAULT. Unless excused by a Relief Event or a Force Majeure Event, the occurrence of any of the following performance failures that remains uncured following expiration of the applicable cure period set forth in Section 19.4 shall constitute a Concessionaire Default, provided that performance failures under Section 19.1.1 and 19.1.4 shall not be subject to cure and shall become Concessionaire Defaults immediately upon occurrence:

19.1.1 *ABANDONMENT/REPUDIATION*. Concessionaire abandons all or part of the Energy Systems, which shall be deemed to have occurred if Concessionaire demonstrates through statements, acts, or omissions a refusal to continue to

design, construct, operate, or maintain all or a material part of the Energy Systems (unless otherwise permitted or justified under this Agreement).

19.1.2 *FAILURE TO COMPLY WITH SUSPENSION ORDER.* Concessionaire fails to comply with an order by the UMD Procurement Officer to suspend Project construction under the Construction Requirements.

19.1.3 *UNAUTHORIZED WITHDRAWAL*. Concessionaire draws against the NextGen Reserve or any other custodial account, trust account, allowance, or other account in violation of this Agreement or any Program Debt Agreement.

19.1.4 *REPETITIVE PERFORMANCE FAILURES.* Concessionaire fails to achieve KPIs in any of the following respects, provided UMD has notified Concessionaire of each KPI noncompliance:

(a) 3 monthly failures to achieve the same Availability KPI during any rolling 12-month period;

(b) 5 monthly failures to achieve the same Availability KPI in any rolling 24-month period; and,

(c) 3 monthly failures to achieve the Non-Concessionaire Safety Event KPI during any rolling 12-month period.

19.1.5 *FAILURE TO OBTAIN AND MAINTAIN INSURANCE, PAYMENT BOND, OR PERFORMANCE SECURITY*. Concessionaire fails to perform its obligations in any of the following respects:

(a) Concessionaire fails to obtain, provide, and maintain any insurance, bonds, guarantees, letters of credit, or other payment or Performance Security as required under this Agreement;

(b) Concessionaire fails to comply with any requirements of this Agreement pertaining to the amount, terms, or coverage of the insurance or security or any reasonable loss control requests and such failure results in cancellation of any insurance coverage required by this Agreement; or,

(c) Concessionaire fails to pay the associated premiums, deductibles, self-insurance retentions, co-insurance, or any other such amounts as and when due and such failure results in cancellation of coverage or the procurement of coverage by UMD or a Lender.

19.1.6 *UNAUTHORIZED TRANSFERS*. Concessionaire completes a Change of Ownership or a transfer of its interest in this Agreement without prior approval by the Board of Public Works or UMD (as applicable) in violation of Section 3.6.

19.1.7 *NONCOMPLIANCE WITH DISPUTE RESOLUTION RESULT*. Concessionaire fails to comply with the requirements or directives of a final award in a matter submitted to the Dispute Resolution Process.

19.1.8 *BANKRUPTCY/INSOLVENCY*.

(a) *Voluntary Bankruptcy*. Concessionaire commences a voluntary case:

(1) Seeking liquidation, reorganization, or other relief with respect to Concessionaire or Concessionaire's debts under any U.S. or foreign bankruptcy, insolvency, or other similar Law; or,

(2) Seeking the appointment of a trustee, receiver, liquidator, custodian, or similar official of all, or any substantial part of, its assets;

(b) *Involuntary Bankruptcy*. An involuntary case is commenced against Concessionaire seeking any of the following forms of relief and either Concessionaire does not contest such case in good faith, or the case remains undismissed and unstayed for 60 days.

(1) Liquidation, reorganization, or winding up or a composition or arrangement with creditors, a readjustment of debts or other relief with respect to such Concessionaire or Concessionaire's debts under any U.S. or foreign bankruptcy, insolvency, or other similar Law;

(2) The appointment of a trustee, receiver, liquidator, custodian, or similar official of it or any substantial part of its assets;

(3) The issuance of a writ of attachment, execution, or similar process; or,

(4) Any other similar relief.

(c) *Rejection*. Rejection of this Agreement in any voluntary or involuntary case seeking liquidation, reorganization, or other relief with respect to Concessionaire or its debts under any U.S. or foreign bankruptcy,

insolvency, or other similar Law, including a rejection under 11 U.S.C. Section 365 or any successor statute;

(d) *Insolvency of Concessionaire Parties*. Any of the following Concessionaire Parties files a voluntary case, is named the debtor in an involuntary case, or undertakes any other act or event described in this Section 19.1.8 (and in the event of an involuntary case, is not contested in good faith or remains undismissed or unstayed for 60 days):

(1) Any Equity Participant, partner, or joint venture member of Concessionaire unless:

(i) Said Person has fully met all financial obligations owing to Concessionaire in the form of an Equity Investment; and,

(ii) Payments or transfers of money or property previously made to, or for the benefit of, Concessionaire are not subject under the Bankruptcy Code or any similar applicable state or federal Law respecting the avoidance or recovery of preferences or fraudulent transfers, including the Uniform Fraudulent Conveyance Act.

(2) Any Equity Participant, partner, or joint venture member of Concessionaire for whom transfer of ownership or management authority would constitute a Change of Ownership; or,

(3) Any guarantor of material Concessionaire obligations to UMD under this Agreement, unless another guarantor of the same material Concessionaire obligations then exists, is solvent, is not and has not been the debtor in any such voluntary or involuntary case, has not repudiated its guaranty, and is not in breach of such guaranty.

19.1.9 *DEBARMENT*. Unless continued performance of this Agreement is permitted under the terms of a debarment agreement with the State, and after any rights of appeal have been exhausted, Concessionaire, any Equity Participant, or any Controlling Affiliate of Concessionaire:

(a) Is disqualified, suspended, or debarred, or otherwise excluded from bidding, proposing, or contracting with a federal or State department or agency; or,

(b) Has not dismissed any Key Contractor or any Subcontractor whose work is not substantially complete and who is disqualified, suspended, or debarred, or otherwise excluded from bidding, proposing, or contracting with a federal or State department or agency.

19.1.10 *COMPLIANCE WITH THE LAW*. Concessionaire fails to comply in all material respects with any applicable Law or Governmental Authorization.

19.1.11 *NONPAYMENT*. Concessionaire fails to comply with its payment obligations under this Agreement.

19.1.12 *MATERIAL BREACH.* Concessionaire fails to comply with, perform, or observe any material obligation, covenant, agreement, term, or condition in this Agreement, including:

(a) Concessionaire's failure to pay employees in accordance with the Prevailing Wage Law pursuant to Section 10.6;

(b) Concessionaire's breach of its obligations under the Ground Lease or the Easement Agreement; and,

(c) Concessionaire's failure to perform in a timely manner pursuant to Section 26.4.2.

19.1.13 *FAILURE TO COMPLETE ADDITIONAL CAPITAL IMPROVEMENTS.* An Additional Capital Improvement Project fails to reach its Actual Substantial Completion Date within 12 months following the scheduled Substantial Completion Date approved by UMD when it approved the Project (as adjusted pursuant to Section 21.3 to recognize the adverse effects of any Relief Events or Force Majeure Events).

19.1.14 *FAILURE TO RESTORE.* Concessionaire fails to comply with its obligation to commence, perform, or complete a Restoration as provided in Section 18.10.3(i)(1).

19.2 NOTICE OF POTENTIAL CONCESSIONAIRE DEFAULT.

19.2.1 UMD shall notify Concessionaire promptly upon the occurrence of a failure to perform under Section 19.1. Concurrently, for failures to perform other than Incurable Concessionaire Defaults, UMD shall deliver the Notice to Cure required by Section 19.2 to Concessionaire. For Incurable Concessionaire Defaults, UMD shall notify Concessionaire of the occurrence of the Concessionaire Default and subject to the Direct Agreement, shall advise

Concessionaire of UMD's right to exercise its rights and remedies pursuant to Section 19.5.

19.2.2 If a Concessionaire Default occurs pursuant to Section 19.1.1 and Concessionaire has fulfilled its obligation to manage, operate, and maintain the Energy Systems by entering into a Key Contract with a Key Operating Contractor, UMD may exercise its rights under Section 19.5.1 to replace the Key Operating Contractor on a temporary basis pending Concessionaire's entry into a Key Contract with a replacement Key Operating Contractor that can be approved by UMD pursuant to Section 7.4.3, provided that if Concessionaire does not enter into such contract within 30 days following its receipt of the Notice of Default, then, subject to the exercise of Lenders' rights under the Direct Agreement, UMD may terminate this Agreement pursuant to Section 19.5.6.

19.3 CURE PROCESS.

19.3.1 *NOTICE TO CURE.* Except for Incurable Concessionaire Defaults, UMD shall notify Concessionaire promptly upon its determination of a failure to perform that, if not cured within the times set forth in Section 19.4, will constitute a Concessionaire Default. Each Notice to Cure shall describe with particularity the occurrence, event, or condition upon which the Notice is based.

19.3.2 *CONCESSIONAIRE RESPONSE*. Upon receiving the Notice to Cure, Concessionaire shall proceed promptly and diligently to begin curing the failure identified by UMD within the applicable cure period under Section 19.4. Concessionaire shall report to the UMD Program Manager as to the progress of its cure no later than 72 hours following the date of its receipt of the Notice to Cure and shall keep the UMD Program Manager informed throughout the cure process. UMD shall provide all cooperation and non-monetary support as is reasonably necessary to facilitate such cure.

19.3.3 *COMPLETION OF CURE*. Concessionaire shall work diligently to cure the failure identified in the Notice to Cure. Concessionaire shall take either of the following actions:

(a) Concessionaire shall fully and completely cure the failure within the applicable cure period set forth in Section 19.4; or,

(b) Demonstrate to UMD's reasonable satisfaction no later than the end of the applicable cure period that curing the failure is not physically, technically, or commercially feasible during the applicable cure period, but is curable within a specific reasonable cure period. In such event, the

Parties shall negotiate in good faith the conditions of such cure including the time in which the cure must occur.

19.3.4 *MITIGATION*. At all times after its receipt of the Notice to Cure, Concessionaire shall take all reasonable measures to mitigate any losses to UMD.

19.4 CURE PERIODS. Concessionaire shall cure the performance failure identified in a Notice to Cure within the periods set forth in this Section before UMD exercises any remedies for Concessionaire Default available to it under this Agreement or the Law.

19.4.1 *PERFORMANCE FAILURES SUBJECT TO 10-DAY CURE PERIOD.* Concessionaire shall have a 10-day, non-extendable period following its receipt of a Notice to Cure to cure any of the following performance failures:

(a) Failure to comply with a Suspension Order (Section 19.1.2);

(b) Failure to obtain and maintain insurance and Performance Security (Section 19.1.5); and,

(c) Failure to comply with result of Dispute Resolution Process (Section 19.1.7).

19.4.2 *PERFORMANCE FAILURES SUBJECT TO 30-DAY CURE PERIOD*. Concessionaire shall have a 30-day period following its receipt of a Notice to Cure to cure any of the following performance failures:

(a) Unauthorized withdrawal (Section 19.1.3);

(b) Unauthorized transfer (Section 19.1.6);

(c) Debarment (Section 19.1.9);

(d) Compliance with Law (Section 19.1.10);

(e) Nonpayment (Section 19.11);

(f) Failure to complete Capital Improvements (Section 19.1.13); and,

(g) Failure to comply with its obligation to commence, perform, or complete a Restoration (Sections 18.10.3(i)(1) and 19.1.14).

19.4.3 *PERFORMANCE FAILURE SUBJECT TO 60-DAY CURE PERIOD*. Concessionaire shall have a 60-day period following its receipt of a Notice to Cure to cure a performance

failure pursuant to Section 19.1.8 (Bankruptcy/Insolvency) and Section 19.1.12 (Material Breach).

19.5 UMD'S REMEDIES FOR CONCESSIONAIRE DEFAULT. Subject to the parties' obligations under the Direct Agreement, upon the occurrence of an Incurable Event of Default or Concessionaire's failure to cure within the applicable cure period under Section 19.4, UMD may elect to exercise any one or more rights or remedies provided under this Agreement as well as all other rights or remedies provided by Law or equity for breach or default of Concessionaire's obligations. All such rights or remedies shall be cumulative and may be exercised successively or concurrently. UMD's exercise of any right or remedy shall not waive or preclude UMD's simultaneous or later exercise of any other rights or remedies.

19.5.1 *UMD'S STEP-IN RIGHTS.* If Concessionaire has not fully and completely cured a Concessionaire Default by the expiration of the applicable cure period (if any), then subject to the rights of Lenders under the Direct Agreement, UMD may pay and perform or contract with a third party to perform, all or any portion of Concessionaire's obligations under this Agreement.

(a) UMD may elect to cure the Concessionaire Default but shall not be obligated to do so or, having commenced or attempted to cure the Concessionaire Default, be obligated to continue to do so.

(b) Concessionaire hereby grants UMD and any UMD Party a perpetual, irrevocable right of entry into the Energy Systems and a perpetual, irrevocable right to use the Energy Systems, exercisable at any time or times without notice, for the purpose of carrying out UMD's step-in rights under this Section.

(c) Neither UMD nor any UMD Party have any liability to Concessionaire for the sufficiency, adequacy, or quality of any such payment or performance pursuant to this Section, or for any effect of such payment or performance on the Energy Systems or any Project, unless caused by its gross negligence, recklessness, or willful misconduct.

(d) If UMD exercises its rights under this Section and a final, non-appealable decision determines that UMD lacked the authority or grounds to do so because a Concessionaire Default had not occurred or because Concessionaire had previously fully cured the Concessionaire Default in accordance with this Agreement, then UMD shall return Energy Systems management, operation, and maintenance to Concessionaire.

(e) If UMD exercises its rights under this Section, Concessionaire shall pay UMD upon demand an amount equal to, as applicable, the difference between the following amounts plus all reasonable fees of any attorneys, engineers, or other consultants and professionals incurred by UMD and interest (at the rate set by Law for late payment by State agencies) from the date any such cost is incurred or services rendered through the date of payment in full by Concessionaire:

(1) The reasonable cost of the services performed by UMD and the amount paid to any third party performing such services; and,

(2) The amount that would have other that would have otherwise been paid to Concessionaire absent the Concessionaire Default as compensation for such services.

(f) UMD's cure of any Concessionaire Default under this section shall not affect its rights against Concessionaire by reason of the Concessionaire Default, including its right to seek specific performance, injunction, or other equitable remedies.

19.5.2 *DAMAGES*.

(a) UMD shall be entitled to recover any and all damages available at Law on account of a Concessionaire Default. Concessionaire shall owe any such damages that accrue after the occurrence of the Concessionaire Default regardless of when UMD transmits the Notice of Default or whether the Concessionaire Default is subsequently cured.

(b) Damages owed UMD under this Section shall bear interest at the rate set by Law for late payment by State agencies from the date such amount becomes due to UMD until the date paid.

19.5.3 *SETOFF*. UMD shall be entitled to setoff any undisputed payments owed by Concessionaire to UMD under this Agreement against any undisputed payments that UMD owes Concessionaire.

19.5.4 *PERFORMANCE SECURITY*. Without waiving or releasing Concessionaire from any obligations or limiting its other available remedies and subject to Lender rights under any Direct Agreement, UMD shall be entitled to make demand upon and enforce any Payment Bond, or make demand upon, draw, and enforce any letter of credit or guaranty, posted as Performance Security available to UMD under this Agreement. UMD will apply the proceeds of any such action to the

satisfaction of Concessionaire's obligations under this Agreement, including payment of amounts due to UMD.

19.5.5 *EQUITABLE REMEDIES*. UMD shall be entitled to seek specific performance or other equitable relief to enforce Concessionaire's obligations under this Agreement.

19.5.6 *TERMINATION FOR DEFAULT*. Subject to the rights of the Lenders, UMD may terminate Concessionaire's performance of this Agreement by delivering a Notice of Termination to Concessionaire. Such notice shall specify the Concessionaire Default that entitles UMD to terminate this Agreement and shall set an effective date of termination.

(a) UMD may procure substitute performance upon terms and in whatever manner the UMD Procurement Officer deems to be appropriate, and Concessionaire shall be liable to UMD for the reasonable costs of such substitute performance in excess of what would have been paid Concessionaire for such performance in addition to the reasonable costs of procuring such substitute performance and the professional fees associated therewith, provided that UMD shall utilize commercially reasonable efforts to mitigate such procurement costs and professional fees.

(b) If Concessionaire is terminated pursuant to this Section 19.5.6, UMD shall pay Concessionaire a Termination Payment in an amount determined as provided below within 60 days following the termination's effective date:

(1) Prior to Phase I Substantial Completion, the Termination Payment shall be equal to the lower of:

(i) The Total Phase I Capital Improvements Cost less the costs needed to achieve Phase I Substantial Completion of such Improvements on the termination's effective date; or

(ii) 80% of the sum of the outstanding Program Debt and Lender Breakage Costs on the termination's effective date, less the following amounts:

(A) Cash Account Balances (including the amount held in the NextGen Reserve);

(B) Insurance Proceeds (excluding proceeds of personal injury, property damage or other third-

party liability insurance payable to or for the account of a third party);

(C) Any KPI Deductions or other reductions to the extent not previously deducted from the Energy Services Charge in full; and,

(D) UMD's costs and expenses in procuring and retaining substitute performance in accordance with Sections 19.5.1(e) and 19.5.6(a).

(2) After Phase I Substantial Completion and for the rest of the Term, the Termination Payment shall be equal to 80% of the sum of the outstanding Program Debt and Lender Breakage Costs less the total of the following amounts:

(i) Termination O&M Costs;

(i) Cash Account Balances;

(ii) Deferred Equity Amounts;

(iii) Insurance Proceeds to the extent not used for repairing or replacing the portion of the Energy Systems that experienced the loss for which such proceeds were paid or for satisfying a third-party claim;

(iv) Any KPI Deduction accrued prior to the effective date of the termination that, in each case, has not been deducted from any Energy Services Charge; and,

(v) UMD's costs and expenses in procuring and retaining substitute performance in accordance with Sections 19.5.1(e) and 19.5.6(a).

(c) No later than the effective date of Concessionaire's termination under this Section, Concessionaire shall complete those obligations set forth in Section 9.12 as are listed in the Notification of Termination and shall vacate the Energy Systems.

(d) At no time shall UMD terminate this Agreement under this Section 19.5.6 or seek the equitable remedies of termination or recission under Section 19.5.5 for a Concessionaire Default pursuant to Section 19.1.13 for

Concessionaire's failure to complete an Additional Capital Improvement Project. UMD, however, may exercise any other remedy provided by this Agreement for such Concessionaire Default, including seeking any equitable remedy other than termination or recission of this Agreement.

(e) If UMD exercises its rights under this Section and a final, non-appealable decision determines that UMD lacked the authority to do so because a Concessionaire Default had not occurred or because Concessionaire had previously fully cured the Concessionaire Default in accordance with this Agreement, then the Parties' rights and obligations shall be the same as if UMD had served a Notice of Termination for a Termination for Convenience under Section 22.1 unless UMD, within 30 days following the issuance of the final, non-appealable decision, withdraws the Notice of Termination.

ARTICLE 20: UMD NONCOMPLIANCE

20.1 UMD NONCOMPLIANCE EVENTS. The occurrence of any of the following events shall constitute a UMD Noncompliance Event:

20.1.1 UMD fails to make an undisputed payment due to Concessionaire and the duration of such failure exceeds 30 days from the date on which the payment was due under Section 17.3;

20.1.2 UMD fails to comply with the requirements or directives of a final, non-appealable award in a matter submitted to the Dispute Resolution Process; or,

20.1.3 UMD denies Concessionaire access to the Central Energy Plant, the Mowatt Substation, or any DTP for a continuous period of 10 days, which denial prevents Concessionaire from delivering Full Requirements Energy Services or performing other material obligations under this Agreement.

20.2 CORRECTION PERIOD. Concessionaire shall notify UMD promptly upon its determination that a UMD Noncompliance Event has occurred. Before Concessionaire exercises any remedy available under this Agreement, the Law, or equity, UMD shall have 10 days following its receipt of such notice to comply with its payment obligations under this Agreement; 10 days to comply with the result of the Dispute Resolution Process at issue; and 5 days to provide Concessionaire access to the Energy Systems to which it has been denied access.

20.3 CONCESSIONAIRE'S REMEDIES FOR UMD NONCOMPLIANCE EVENT. Upon UMD's failure to comply with its obligations under this Agreement within the applicable correction period under Section 20.2, Concessionaire may elect to exercise any one or more rights or remedies provided under this Agreement as well as all other rights or remedies provided by Law or

equity. All such rights or remedies shall be cumulative and may be exercised successively or concurrently. Concessionaire's exercise of one right or remedy shall not waive its later exercise of any other rights or remedies.

20.3.1 *SUSPENSION OF WORK*.

(a) If an undisputed amount owed, but not paid by UMD, remains unpaid after expiration of the correction period under Section 20.2, Concessionaire, upon two Business Days prior notice to UMD, may draw upon the NextGen Reserve to pay the outstanding amount plus interest at the rate set forth in Section 17.3.4 beginning on the thirty-first day after UMD's receipt of an accurate and complete invoice and continuing until the date of payment.

(b) If, after Concessionaire receives funds drawn from the NextGen Reserve, UMD owes Concessionaire an undisputed amount greater than $1 million, Concessionaire may suspend all work on any Project then underway and all work that is not essential to the continuation of the delivery of Full Requirements Energy Service to UMD in accordance with this Agreement, provided Concessionaire:

(1) Notifies UMD of its intent to suspend work at least 15 days prior to implementing the suspension;

(2) Continues to respond to Emergencies and Service Calls as required by this Agreement during the suspension period;

(3) Secures all suspended Projects to restrict access to the Project site, assures the safety of the Workforce and UMD faculty, staff, students, and visitors, and prevent deterioration of equipment, materials, and supplies;

(4) Accepts deliveries of all equipment, materials, and supplies during the suspension; and,

(5) Mitigates standby, delay, or other similar costs and expenses arising under any Key Contract or Subcontract.

(c) If, after Concessionaire receives funds drawn from the NextGen Reserve, UMD owes Concessionaire an undisputed amount of $1 million or less and neither UMD nor the State pays that that amount within 60 days following Concessionaire's receipt of funds from the NextGen Reserve, Concessionaire may suspend all work on any Project then underway and

all work that is not essential to the continuation of the delivery of Energy Services to UMD in accordance with this Agreement, provided Concessionaire complies with the requirements of Section 20.3.1(b)(1)-(5).

(d) Concessionaire's suspension of work under this Section 20.3.1 shall end promptly upon its receipt of payment in full of all undisputed amounts owed, but not paid, by UMD, taking into account reasonable remobilization efforts.

(e) No later than 30 days following the end of its suspension of work, Concessionaire may submit a Change Order Request seeking UMD's payment of all reasonable, incurred, and documented Incremental Costs resulting directly from the suspension and extensions of the Project Schedules of any Projects delayed by the suspension.

20.3.2 *EQUITABLE REMEDIES.* Concessionaire shall be entitled to seek specific performance or other equitable relief to compel UMD's compliance with the requirements or directives of a final, non-appealable award in a matter submitted to the Dispute Resolution Process.

20.3.3 *TERMINATION OF PERFORMANCE*. If, after Concessionaire's exercise of its remedies under Section 20.3.1(a) through (c), UMD continues to owe Concessionaire undisputed amounts attributable to past due Availability Payments or Energy Service Charges, and such amounts remain outstanding for 30 days after the date on which Concessionaire began its suspension of work, then UMD shall notify Concessionaire that its performance of this Agreement will terminate on a date no more than 30 days after the date of the notice. If UMD does not deliver such notice to Concessionaire upon the expiration of 30 days after the beginning of Concessionaire's suspension of work, Concessionaire shall be relieved of its responsibility for future performance of this Agreement and promptly shall submit its claim for a Termination Payment to the UMD Procurement Officer. Such Termination Payment shall be determined, evaluated, and paid pursuant to Sections 22.1.2 through 22.1.6.

ARTICLE 21: FORCE MAJEURE AND RELIEF EVENTS

21.1 FORCE MAJEURE EVENTS.

21.1.1 *SCOPE*. A Party claiming that performance of its obligations under this Agreement has been prevented by a Force Majeure Event shall be entitled to request UMD to issue a Change Order to compensate Concessionaire for payment of certain Incremental Costs, approve a Restoration Plan, or grant

Concessionaire additional time and compensation to complete a Project or perform other work for which a deadline has been set.

21.1.2 *OCCURRENCE*.

(a) A Force Majeure Event is an event that cannot be reasonably anticipated and overcome with commercially reasonable contingency planning and directly prevents or materially interrupts, limits, or impedes:

(1) Delivery or receipt of any of the Energy Services in accordance with this Agreement;

(2) Construction of a Project or completion of Major Maintenance or a Major Repair;

(3) The performance of the affected Party's obligations under this Agreement.

(b) Force Majeure Events include:

(1) A sudden and extraordinary geologic, astronomical, or meteorological event of such an extent or intensity that its effects exceed the scope of commercially reasonable contingency planning under Prudent District Energy Practices;

(2) A conventional or biological attack; electronic disruption or cyberattack. sabotage; invasion; act of terror; act of war; public disorder; public emergency; insurrection; revolution; or, interference or intervention by civil or military authorities;

(3) Condemnation or confiscation of property or Equipment by a Governmental Authority;

(4) An explosion, fire, or Environmental Matter that renders the Energy Systems or the Campus inoperable or inaccessible (but only to the extent of such inoperability or inaccessibility) or prevents Concessionaire from constructing any Project;

(5) The unavailability of Workforce or other personnel sufficient to design or construct the Projects, or manage, operate, or maintain the Energy Systems as the result of a work stoppage, strike, boycott, or other disruption that occurs in conjunction with, or as

the result of, a general regional or national labor dispute or work stoppage, strike, or boycott across all or substantially all segments of the economy, unless such unavailability results from Concessionaire's voluntary decision to exclude its personnel from accessing the Energy Systems;

(6) Pandemic, epidemic, or quarantine that disrupts the delivery of Equipment, materials, or supplies for construction, testing, or commissioning a Project or Energy Systems Operation;

(7) The unavailability of a Commodity that prevents the Energy Systems from generating steam, hot water, chilled water, or electricity in sufficient quantities to provide Full Requirements Energy Service; and,

(8) Any act or event, whether foreseen or unforeseen, that meets all three of the following criteria:

(i) The act or event prevents the nonperforming Party, in whole or in part from performing its obligations under this Agreement or satisfying any conditions precedent to the performing Party's obligations under this Agreement.

(ii) The act or event is beyond the reasonable control of, and not the fault of, the nonperforming Party; and,

(iii) The nonperforming Party is unable to avoid or overcome the act or event by the exercise of due diligence.

21.1.3 *EXCLUSION*. A Force Majeure Event does not include:

(a) A lack or insufficiency of funds or failure to make payment of monies or provide required security on the part of a Party, unless such lack or insufficiency of funds or such failure is caused by another relevant Relief Event;

(b) Any event or consequence of an event arising out of any negligence, recklessness, willful misconduct, breach of contract, or violation of applicable Law by Concessionaire or a Concessionaire Party;

(c) Any event of consequence that could reasonably have been avoided by the exercise of caution, due diligence, or reasonable efforts by any Concessionaire Party; and,

(d) Any delay or denial of a Governmental Authorization without which a Phase I Capital Improvement Project cannot be completed according to the Project's Preliminary Plans and Specifications.

21.2 RELIEF EVENTS.

21.2.1 *SCOPE OF RELIEF.* Concessionaire shall be entitled to request the UMD Procurement Officer to issue a Change Order to remedy the adverse time and Incremental Cost effects of the occurrence of a Relief Event, subject to the limitations set forth in this Section.

(a) If a Relief Event delays or disrupts a Project, but does not delay its Critical Path, then the portion of Incremental Costs attributable to delays in the Project's completion will not be recoverable by Concessionaire. Concessionaire may accelerate work for the Project so that its Scheduled Substantial Completion Date is met, provided Concessionaire does not seek to recover the Incremental Cost of such acceleration from UMD. Nothing herein shall preclude UMD from directing the Project's acceleration through issuance of a Change Order or Directive Order that compensates Concessionaire for the Incremental Costs of acceleration; and,

(b) If a Relief Event (other than a Relief Event under Sections 21.2.2(d), (e), (f), (g), and (l)) delays a Project's Critical Path when the Project is also experiencing an unrelated concurrent delay resulting from a Force Majeure Event, then Concessionaire may request a Change Order to recover the Incremental Costs related to the period outside the period of concurrent delay in addition to the relief authorized pursuant to Section 21.1.1.

21.2.2 *OCCURRENCE.* A Relief Event occurs when:

(a) A Force Majeure Event damages or destroys all or part of the Energy Systems or a Project, but only to the extent that:

(1) Such damage is due to an event that is not of a type covered by a policy of Required Insurance unless Concessionaire is responsible for such lack of coverage pursuant to Section 18.3.1; or,

(2) The costs of repair or replacement exceed the limits of the applicable policy of Required Insurance (excluding Concessionaire's payment of the deductible thereunder or if the limits were set under a policy procured following Concessionaire's impairment, limitation, voidance of applicable coverage, failure to obtain Required Insurance, or increase of hazards insured against under Section 18.3.1);

(b) A Party fails to obtain, or experiences a delay in obtaining, any Governmental Authorization, provided that such failure or delay could not have been reasonably prevented or mitigated by Concessionaire with commercially reasonable contingency planning or the adoption of technically and financially reasonable limitations, design modifications, or other measures;

(c) Work being performed by UMD or at its direction or by any other Person not acting under the authority or direction of Concessionaire or a Concessionaire Party:

(1) Materially damages a Project or any portion of the Energy Systems;

(2) Results in an Unplanned Service Outage;

(3) Requires the rescheduling of Major Maintenance or a Planned Outage in a manner that causes Concessionaire to incur rescheduling or other costs; or,

(4) Prevents Concessionaire's timely completion of a Project in a manner that cannot be mitigated without extending the applicable Project Schedule or incurring Incremental Costs to accelerate or reschedule the work;

(d) A delay in a Project's timely completion or an interruption of the delivery of Full Requirements Energy Services is caused directly and exclusively by a failure of UMD to perform or observe any of its material covenants or obligations under this Agreement related to such timely completion or interruption.

(e) A delay is caused by the discovery of a Pre-Existing Environmental Matter or the presence in, on, under, over, or around the Leased Property of Hazardous Substances or other Environmental Matter,

which results in, or would result in, a delay, interruption in, or increase of cost for, the performance by Concessionaire of any obligation under this Agreement and for which Concessionaire is not responsible pursuant to Section 11.3;

(f) A delay is caused by an inaccuracy of UMD's representations set forth herein that materially and adversely delays or prevents Concessionaire's performance of any obligation under this Agreement within a specified time or to achieve Phase I Substantial Completion or reach the Actual Substantial Completion Date of any Additional Capital Improvement Project within 12 months following the Scheduled Substantial Completion Date set in the Project Schedules for such Projects;

(g) The discovery at or about a Project's construction site of a legally protected plant or animal species or archaeological, paleontological, or cultural resources that, collectively with all other similar discoveries, require a Critical Path delay of more than 10 days in the aggregate;

(h) Concessionaire encounters a Differing Site Condition on the Leased Property during construction of a Capital Improvement Project and the Incremental Costs resulting from such Differing Site Condition exceed the funds available in the Differing Site Conditions Allowance.

(i) A material change in the Design Criteria or the Design Criteria for the Phase I Capital Improvements occurs on or after July 1, 2023;

(j) Any material delay or materially adverse impact on a Project's construction or on the operation of the Energy Systems caused by a Legacy Component or caused by a Major Repair or an Unscheduled Replacement for which UMD has cost responsibility under Section 10.5.6;

(k) UMD's failure under Section 10.1.10(b) to accept the obligation to pay the cost of upgrades to Pepco's distribution system associated with the installation of any Electric Production Unit; and,

(l) A UMD Change.

21.2.3 *EXCLUSIONS.* A Relief Event shall not include:

(a) Any occurrence for which the risk and consequence are specifically addressed and allocated in this Agreement; or,

(b) Any occurrence that arises by reason of:

(1) The negligence or intentional misconduct of Concessionaire or any Concessionaire Party;

(2) Any act or omission by Concessionaire or a Concessionaire Party in breach of the provisions of this Agreement;

(3) Any strike, labor dispute, or other labor protest involving any Person retained, employed, or hired by Concessionaire or a Concessionaire Party to supply materials or services for, or in connection with, the Energy Systems operations or any strike, labor dispute, or labor protest pertaining to, or against, Concessionaire, in all cases to the extent that such strike, dispute, or protest is:

(i) Not a general regional or national labor dispute or work stoppage, strike, or boycott across all or substantially all segments of the economy; and,

(ii) Caused by, or attributable to, any act or omission of Concessionaire or any Concessionaire Party (including any compensation level or other practice or method of operation); or

(4) Lack or insufficiency of funds or failure to make payment of monies or provide required security on the part of Concessionaire, unless such lack or insufficiency of funds or such failure is caused by another relevant Relief Event or UMD's nonpayment of undisputed amounts due to Concessionaire.

21.3 APPLICABLE PROCEDURES.

21.3.1 *SCOPE.* Subject to Section 18.10, this Section sets forth procedures for responding to, and remedying, Force Majeure Events and Relief Events. Strict compliance with the notice procedures and recordkeeping requirements of this Section is an essential condition precedent to any Concessionaire's recovery of Incremental Costs resulting from a Force Majeure Event or a Relief Event.

21.3.2 *NOTICE.*

(a) Concessionaire shall notify UMD as soon as possible after becoming aware of the occurrence of a Force Majeure Event and no later than 7

Business Days after becoming aware of the occurrence of a Relief Event. Such initial notice shall include:

(1) A statement identifying the Relief Event or Force Majeure Event;

(2) A brief description of the circumstances from which the Relief Event or Force Majeure Event arises;

(3) A preliminary estimate of the duration of the Relief Event or Force Majeure Event, if known;

(4) A preliminary assessment of the adverse effect of the Relief Event or Force Majeure Event on the delivery of Full Requirements Energy Services to UMD and Concessionaire's performance of its other obligations under this Agreement.

(b) Concessionaire shall update UMD regularly on the status of the Relief Event or the Force Majeure Event at intervals established by UMD and shall supplement its initial notice with details as they become known.

(c) Concessionaire shall notify UMD immediately upon becoming aware of the cessation of the Relief Event or the Force Majeure Event.

21.3.3 *EXCUSED PERFORMANCE*.

(a) The performance of Concessionaire's obligations under this Agreement shall be excused only to the extent, and only for such time, that such performance is affected by a Relief Event or Force Majeure Event.

(b) Nothing in this Section 21.3 shall excuse Concessionaire's performance of its obligations to restore service in accordance with Part 6 of the Operating Requirements except to the extent the Relief Event or Force Majeure Event prevents Concessionaire from responding within the applicable response time.

21.3.4 *RECORDKEEPING.*

(a) Following delivery of the notice required by Section 21.3.2, Concessionaire shall keep daily records, certified by the Construction Project Manager, of all Incremental Costs for which Concessionaire seeks reimbursement. These daily records must identify each operation affected and the specific location of the work affected. Costs that are incurred on a monthly or similar basis, such as field office expenses, shall

be submitted within one week following the week of receipt of invoices pertaining thereto.

(b) Beginning the week following the date of Concessionaire's delivery of the notice required by Section 21.3.2, Concessionaire shall meet with the UMD Program Manager to review the daily records for the preceding week. If the UMD Program Manager disagrees with the accuracy, applicability, or reasonableness of any portion of Concessionaire's submission, she or he shall promptly notify Concessionaire for correction of its records. If Concessionaire disagrees with such correction, it may initiate the Dispute Resolution Process.

21.3.5 *MITIGATION*.

(a) Concessionaire shall take all steps reasonably necessary to prevent, mitigate, or workaround the adverse effects of any Relief Event or Force Majeure Event, including all steps that would generally be taken in accordance with Prudent District Energy Practice, and shall maintain to the greatest extent possible, the delivery of Full Requirements Energy Services to UMD.

(b) Concessionaire shall not be entitled to make any request for payment of Incremental Costs or extension of time that could have been reasonably avoided through resequencing and rescheduling of work and other workaround measures, provided that the costs of such resequencing, rescheduling, and workaround measures are justified by equal or greater savings in Incremental Costs or prevention of significant adverse effects on the cost or timing of work on other Projects.

(c) Concessionaire and UMD shall cooperate to identify the resequencing, rescheduling, and workaround measures that will maximize the mitigation of costs to UMD.

21.3.6 *ACCELERATION COSTS*. Costs associated with acceleration of work shall be compensable only to the extent Concessionaire establishes that:

(a) The acceleration is required to avoid a Critical Path delay caused by a Force Majeure Event or a Relief Event; and,

(b) The costs of workaround or other acceleration measures are justified by equal or greater savings of the amounts otherwise payable as Incremental Costs.

21.3.7 *CHANGE ORDER REQUEST*. As soon as is reasonably possible after the beginning of the Relief Event or the Force Majeure Event, but not later than 90 days after the date of its initial notice, Concessionaire shall submit a Change Order Request that sets forth Concessionaire's rationale and supporting evidence for any Incremental Costs, any extension of time, its proposed Restoration Plan, or other requested relief related to the Relief Event or Force Majeure Event identified in such notice. The Change Order Request shall contain the following information, as applicable and to the maximum extent information is commercially and practically available:

(a) Full details of the Relief Event or Force Majeure Event, including its nature, cause, the date of its occurrence, its duration or estimated duration, and adversely affected Energy Services and Projects;

(b) All pertinent documents and Records and the substance of relevant oral communications, if any, related to the Relief Event or Force Majeure Event and the names of the Persons making and receiving such communications;

(c) Identification of the specific provisions of this Agreement upon which Concessionaire's requested remedy is based and the reasons why those provisions justify such remedy for the Relief Event or Force Majeure Event;

(d) Detailed narrative explaining its proposed Restoration Plan, including a critical path schedule for the Restoration work, a list of required Governmental Authorizations, and drawings showing the proposed work;

(e) Where Concessionaire requests an adjustment of a Project's Project Schedule:

(1) An assessment of the feasibility of accelerating the work to meet the original deadline or reducing the total delay period and, if acceleration is feasible, an estimate of the cost to accelerate; and,

(2) A time impact analysis that shall:

(i) Be based on the proposed date on which implementation of the requested Change Order is to commence;

(ii) Identify and describe impacts on the critical path schedule for the Project's completion and, if applicable, the schedules of other Projects being designed and constructed concurrently;

(iii) Include a Fragnet demonstrating how Concessionaire proposes to incorporate the impact of the Relief Event or the Force Majeure Event into the most recent Project Schedule;

(iv) Demonstrate the calculations of the duration of the Relief Event or Force Majeure Event based on the quantities, resource loading, and productivities for Fragnet activities and the affected and impacted activities;

(v) Include a Fragnet identifying the predecessors to new activities and demonstrate the impacts to successor activities;

(vi) Insert the Fragnet into the most recent Project Schedule prior to the initiation of the Relief Event or Force Majeure Event, run the schedule calculations, and submit the impacted schedule; And,

(viii) Include a narrative report describing the effects of new activities, resources, and relationships overall milestones under this Agreement.

(f) Detailed, itemized Records supporting the amount of the Incremental Costs, if any, for which Concessionaire seeks payment.

(1) If such Incremental Costs do not relate to a specific Project or group of Projects (such as requests to recover additional costs related to the Energy Systems' management, operations, and maintenance), Concessionaire shall provide separate estimates for operations and maintenance costs and other allowable costs.

(i) The operating and maintenance cost estimates shall assume that the work will be paid through an adjustment in the Fixed O&M Charge; and,

(ii) The estimate of other allowable costs shall assume that payments will be made as costs are incurred.

(2) Where Concessionaire seeks the payment of Incremental Costs in connection with a Project or group of Projects:

(i) The capital cost estimate shall assume that the work will be paid for through an adjustment to the Availability Payment, provided that unless the Parties otherwise agree, the adjustment shall be allocated among each of the Contract Years remaining in the Operating Term (supported by schedules demonstrating its impact on the Availability Payment in each of those years) and shall be explained with a narrative of the allocation's underlying rationale;

(ii) If, after all funds in the Differing Site Conditions Allowance have been expended, Concessionaire seeks to increase a Project Price to recover Incremental Costs pursuant to Section 21.2.2(h), it shall calculate the amount of such costs in accordance with Section 16.5.

(iii) If Concessionaire proposes that Incremental Costs be drawn from the NextGen Reserve, it shall include a narrative stating the total amount of the anticipated draw, the anticipated schedule for draws, the anticipated replenishment period, and the projected monthly increase in the NextGen Reserve Charge.

(g) Written consents by the Lender, insurer, and any other entity whose consent must be obtained prior to issuance of the proposed Change Order or Restoration Plan or Concessionaire's certification that such consent is not required;

(h) An explanation of the measures Concessionaire has taken and proposes to undertake to prevent or mitigate the consequences of the Relief Event pursuant to Section 21.3.5 and a comparison of the costs of such measures to the Incremental Costs that Concessionaire would incur if UMD does not approve the proposed Change Order;

(i) The applicable policy of Required Insurance and the amounts that have been and are anticipated to be collected under such coverage;

(j) In addition to the information required by Section 21.3.7(f)(2)(ii), if Concessionaire seeks payment of Incremental Costs pursuant to Section 21.2.2(h), Records demonstrating:

(1) Concessionaire's compliance with Section 5.3 of the Construction Requirements, including notifying all adjacent utilities and permitting such utilities to mark their facilities, lines, and equipment; and,

(2) Actions taken by Concessionaire prior to excavation, including underground scans, to confirm any system maps or other information on underground structures.

21.3.8 *SUPPLEMENTAL INFORMATION*.

(a) If, following its submission of a Request for Change Order, Concessionaire receives or becomes aware of any additional information relevant to the Request for Change Order, Concessionaire shall promptly supplement or amend the Request for Change Order and its supporting documentation.

(b) Following Concessionaire's submission of a Request for Change Order, UMD may request additional relevant information as it may reasonably require, and Concessionaire shall deliver such information to the UMD Program Manager within 10 days (or such other time agreed by the Parties) following its receipt of UMD's request.

21.3.9 *UMD RESPONSE.*

(a) UMD shall evaluate the information presented in Concessionaire's Change Order Request and respond to Concessionaire as soon as reasonably practicable under the circumstances, but in no event later than 30 days (or such other reasonable time agreed by the Parties) following its receipt of the Request.

(b) UMD may issue the Change Order as requested or notify Concessionaire regarding the specific issues that remain to be resolved before the Change Order's issuance. The Parties shall negotiate to resolve these issues.

(c) If such negotiations do not resolve the issues within 30 days after UMD's response to Concessionaire's Request for Change Order, Concessionaire may assert a Claim against UMD and have its rights with respect to the

relief sought in the Request for Change Order determined according to the Dispute Resolution Process.

21.3.10 *DIFFERING SITE CONDITIONS ALLOWANCE.*

(a) UMD acknowledges that Concessionaire has created the Differing Site Conditions Allowance to provide an initial source of funds for paying Incremental Costs resulting from any Differing Site Conditions it encounters during construction of the Phase I Capital Improvements.

(b) Concessionaire shall notify UMD no less than 10 Business Days prior to drawing upon the Differing Site Conditions Allowance. Each notice shall be accompanied by the information required under Section 21.3.7(j), an itemization of the Incremental Costs to be recovered, and Concessionaire's calculation of the proposed draw. If UMD does not object to the proposed draw prior to expiration of such 10 Business Day period, Concessionaire shall complete the proposed draw and shall notify UMD of the Allowance's remaining balance.

(c) If, at Phase I Substantial Completion, the funds remaining in the Differing Site Conditions Allowance exceed the total amount of Incremental Costs Concessionaire incurred for Differing Site Conditions, Concessionaire, upon UMD's direction, shall retain such funds to:

(1) Create a Differing Site Conditions Allowance for any Additional Capital Improvements;

(2) Reduce the Project Price for any Additional Capital Improvement; or,

(3) Transfer the funds to the NextGen Reserve.

ARTICLE 22: TERMINATION WITHOUT FAULT

22.1 TERMINATION FOR CONVENIENCE. Subject to the prior approval of the University System's Board of Regents, UMD may terminate Concessionaire's performance of this Agreement whenever the Board of Regents, upon recommendation of the Program Implementation Council, determines that termination is in the best interests of UMD. Any such termination shall be effected by delivering to Concessionaire a Notice of Termination specifying the date upon which such termination becomes effective.

22.1.1 *CONCESSIONAIRE ACTIONS AFTER RECEIPT OF NOTICE*.

(a) After receipt of a Notice of Termination and except as otherwise directed by the UMD Procurement Officer, Concessionaire shall:

(1) Prepare for the transfer of the responsibility for managing, operating, and maintaining the Energy Systems as set forth in the Notice of Termination;

(2) Place no further orders or enter into any Subcontracts for materials, services, or facilities, except as may be necessary for completion of its performance of this Agreement up to the termination's effective date;

(3) Subject to UMD's prior direction and approval, terminate or, to the extent assignable, assign all orders, Key Contracts, and Subcontracts to the extent that they relate to Concessionaire's performance of this Agreement after the effective date of termination;

(4) Assign to a Person or entity designated by UMD, to the extent assignable, in the manner, at the times, and to the extent directed by the UMD Procurement Officer, all right, title, and interest of Concessionaire under the orders, Key Contracts, and Subcontracts so terminated, in which case UMD shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders, Key Contracts, and Subcontracts;

(5) Settle all outstanding liabilities and all claims arising out of such termination of orders, Key Contracts, and Subcontracts with the approval or ratification of the UMD Procurement Officer to the extent she or he may require, which approval or ratification shall be final for all the purposes of this provision;

(6) Update the Base Case Financial Model in accordance with Section 4.1.3 and the Financial Model Procedures; and,

(7) Perform all duties and obligations set forth in Section 9.12.4 hereof.

(b) No later than 10 days prior to the effective date of termination stated in the Notice of Termination and except as otherwise directed by the UMD Procurement Officer, Concessionaire shall:

(1) Submit to the UMD Program Manager evidence demonstrating completion of all tasks set forth in Section 22.1.1(a); and,

(2) Post the Letter of Credit or fund the account required by Section 9.12.4(c).

22.1.2 *TERMINATION INVOICE SUBMISSION*.

(a) Concessionaire shall submit to the UMD Procurement Officer its invoice for the Termination Payment in the form and with the certification prescribed by the UMD Procurement Officer. Such invoice shall contain detailed information and work papers to support Concessionaire's calculation of each of the Termination Payment's components.

(b) Concessionaire shall submit its Termination Payment invoice promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the UMD Procurement Officer upon request of Concessionaire made in writing within such one-year period or authorized extension thereof.

(1) If the UMD Procurement Officer determines that the facts justify such action, the Officer may receive and act upon any Termination Payment invoice at any time after such one-year period or any extension thereof.

(2) Upon failure of Concessionaire to submit its Termination Payment invoice within the time allowed, the UMD Procurement Officer may determine, based on the available information, the amount, if any, due to Concessionaire by reason of the termination.

(c) The UMD Procurement Officer may request additional information from Concessionaire to support its Termination Payment invoice.

(d) The UMD Procurement Officer shall authorize payment of the Termination Payment within 60 days following Concessionaire's submission of a proper Termination Payment invoice. Any disputes between the Parties as to the amount of the Termination Payment shall be resolved through the Dispute Resolution Process.

22.1.3 *TERMINATION PAYMENT CALCULATION*.

(a) The Termination Payment shall be equal to the total sum of the Program Debt outstanding on the effective date identified in the Notice of Termination, Lender Breakage Costs, the net present value on the effective date identified in the Notice of Termination of anticipated future nominal Distributions on a post-Tax basis on the part of the Concessionaire but on a pre-Tax basis on the part of the Equity Participants (less uncontributed Equity Investment), Cash Account Balances (less the balance of the NextGen Reserve), reasonable demobilization costs, and Key Contractor and Subcontractor Breakage Costs, less the total of the following:

(1) Insurance Proceeds to the extent not used for repairing or replacing the portion of the Energy Systems that experienced the loss for which such proceeds were paid or for satisfying a third-party claim; and,

(2) Any KPI Deductions accrued prior to the effective date of the termination that, in each case, has not been deducted from any Energy Services Charge.

(b) For the purpose of calculating the Termination Payment under this Section:

(1) The result of subtracting the Distributions from the Equity Investment shall never be less than zero;

(2) The net present value calculation shall utilize a discount rate that is equivalent to the Initial Base Case Equity IRR; and,

(3) The net present value calculation shall assume anticipated future nominal Distributions based on the most recent update of the Base Case Financial Model as adjusted for KPI Deductions prior to the effective date of termination listed in the Notice of Termination.

22.1.4 *TERMINATION PAYMENT DATE*. UMD shall pay the Termination Payment to Concessionaire no later than 60 days following the UMD Procurement Officer's authorization thereof.

22.1.5 *UMD CLAIMS PENDING AT TERMINATION*.

(a) If, on the effective date of the termination for convenience, a properly documented and noticed Claim brought by UMD against Concessionaire under Section 24.2 of this Agreement remains outstanding, UMD shall deduct from the Termination Payment an amount equal to the disputed

amount (plus interest thereon to date) and deposit such amount into a separate interest-bearing, federally insured account.

(b) If, after adjudication and the issuance of a final, non-appealable order, UMD prevails and is awarded the full amount of its Claim, it shall be entitled to withdraw and retain the entire balance being held in the account. If such order does not award UMD the full amount of its Claim, UMD shall pay Concessionaire the balance being held in the account less the amount of UMD's recovery. UMD shall make such payment within ten (10) days following its receipt of a final, non-appealable order adjudicating the Claim or upon the closing of any settlement agreement.

22.1.6 *APPEAL.* Concessionaire shall have the right to appeal as provided by Law from any determination made by the UMD Procurement Officer under this Section. In any case where the UMD Procurement Officer has determined the amount of the Termination Payment, UMD shall pay Concessionaire the following:

(a) The amount so determined by the UMD Procurement Officer; or,

(b) If an appeal has been taken, the amount finally determined on such appeal.

22.2 TERMINATION FOR NON-APPROPRIATION.

22.2.1 *AUTOMATIC TERMINATION.* If the State fails to appropriate funds to UMD sufficient to meet all, or substantially all, of UMD's obligations under this Agreement during the next Contract Year and the conditions giving rise to the insufficiency of funds are not likely to change in the Contract Year following that Contract Year and if funds are not otherwise made available for continued performance of this Agreement or any contingency plan developed pursuant to Section 17.5.3, UMD shall terminate Concessionaire's performance of this Agreement, effective July 1 of the Contract Year for which funds were not appropriated or otherwise made available. UMD shall notify Concessionaire as soon as it has knowledge that funds will not be available for the continuation of this Agreement.

22.2.2 Upon receipt of UMD's notice of non-appropriation, Concessionaire shall file a Claim for payment of an amount equal to the Termination Payment calculated under Section 22.1.3, which Claim shall be resolved pursuant to the Dispute Resolution Process and paid pursuant to Sections 22.1.4, 22.1.5 and 22.1.6.

22.3 TERMINATION BASED FOR FRUSTRATION OF PURPOSE.

22.3.1 The Parties agree that Concessionaire's reliable delivery of Full Requirements Energy Services to UMD and Concessionaire's ability to repay the Program Debt and Equity Investment with revenues paid by UMD for such service are basic assumptions without which neither Party would have entered into this Agreement and which, if either or both occurred, would substantially frustrate the purpose for the Transaction. Consequently, upon the occurrence of either of the following events, UMD shall terminate Concessionaire's performance of this Agreement and make the applicable payment provided in Section 22.3.3:

(a) A Relief Event or a Force Majeure Event that:

(1) Prevents or substantially impairs the delivery of Full Requirements Energy Services from one or more Energy Systems to all or substantially all of the UMD Buildings;

(2) Cannot be remedied with proceeds from Required Insurance, State appropriations, or other sources;

(3) Renders Concessionaire unable, despite its commercially reasonable efforts pursuant to Section 21.3.5, to supply Full Requirements Energy Services through an alternate means of performance such as the installation of temporary equipment or facilities; and,

(4) Continues for 6 continuous months following the date on which the prevention or substantial impairment of Full Requirements Energy Services first occurred.

(b) A final, non-appealable Change in Law by UMD or a State Governmental Authority that is reasonably expected to be principally borne by the Concessionaire or all private sector utility concessionaires at institutions of higher education within the State and not by others, substantially increases Concessionaire's costs and expenses under this Agreement without appropriating funding sufficient to pay them, and:

(1) UMD or the appropriate State Governmental Authority fails to approve a Change Order to increase the Concessionaire Charge to pay such costs and expenses;

(2) No Concessionaire Party or Lender agrees to provide additional funding, even on a temporary basis;

(3) No alternative funding is available for paying such costs and expenses, despite the Parties' best efforts to locate such funding; and,

(4) Concessionaire cannot meet its obligations to its Lenders.

22.3.2 *NOTICE*.

(a) UMD shall notify Concessionaire at least 30 days prior to the effective date of the termination under this Section 22.3. UMD may give such notice at any time after the end of the 5th month from the time the Relief Event first occurs.

(b) Upon its receipt of the notice of termination, Concessionaire shall perform its obligations under Section 9.12 to the extent practicable and on the termination's effective date, shall transfer responsibility for managing, operating, and maintaining the Energy Systems to UMD or UMD's designee and shall vacate the Energy Systems and the Campus.

22.3.3 *TERMINATION PAYMENT*.

(a) Within 60 days following the effective date of UMD's termination under Section 22.3.1(a) and a its receipt of Concessionaire's detailed invoice therefor, UMD shall pay Concessionaire the Termination Payment, which shall be equal to the total sum of the Program Debt outstanding on the effective date identified in the Notice of Termination, Lender Breakage Costs, the total amount of invested funds contributed by the Equity Participants in respect of the Concessionaire prior to the date of termination (less previous Equity Participant distributions), Cash Account Balances (less the balance of the NextGen Reserve), reasonable demobilization costs, and Key Contractor and Subcontractor Breakage Costs, less the total of the following:

(1) Insurance Proceeds to the extent not used for repairing or replacing the portion of the Energy Systems that experienced the loss for which such proceeds were paid or for satisfying a third-party claim; and,

(2) Any KPI Deductions accrued prior to the effective date of the termination that, in each case, have not been deducted from any Energy Services Charge.

(b) Within 60 days following the effective date of UMD's termination under Section 22.3.1(b), UMD shall pay Concessionaire an amount equal to the Termination Payment determined pursuant to, and according to the procedures set forth in, Section 22.1.3.

ARTICLE 23: INDEMNIFICATION

23.1 INDEMNIFICATION REQUIREMENT. Notwithstanding any other provision of this Agreement and to the fullest extent permitted by Law, Concessionaire releases and agrees to protect, indemnify, defend, and hold harmless the State, UMD, the University System, and their employees, agents, contractors, officers, directors, attorneys, successors, assigns, and Persons under their control from and against any and all liabilities, injuries, damages (excluding consequential damages), claims, Environmental Claims, demands, judgements, suits, actions, losses, harm, obligations, penalties, fines, costs of enforcement, and other costs and expenses (including, but not limited to, the costs and expenses of appeals and reasonable attorney's fees and expert and technical costs) claimed or asserted by a third party arising out of, in connection with, or as the result of:

23.1.1 Any negligent act or omission, neglect, or misconduct by Concessionaire or any Concessionaire Party in the manner or method of executing the work under this Agreement satisfactorily;

23.1.2 Violation of any Law by Concessionaire or any Concessionaire Party, including any violation of Environmental Law and all liabilities associated therewith;

23.1.3 Any release by Concessionaire or any Concessionaire Party of Hazardous Substances; any failure to dispose of Hazardous Substance in compliance with the Law; and, any negligent act or omission, neglect, or misconduct by Concessionaire or any Concessionaire Party that causes an Environmental Matter and all liabilities associated therewith to the extent of such causation;

23.1.4 Bodily injury to, or death of, any Person or Persons arising from, or related to, Concessionaire's performance of this Agreement;

23.1.5 The alleged infringement or other allegedly improper appropriation or use of Intellectual Property by Concessionaire or a Concessionaire Party arising out of, relating to, or resulting from any use in connection with this Agreement of methods, processes, designs, information, or other items furnished or communicated to UMD or another indemnified Party under this Agreement;

23.1.6 Loss or damage by Concessionaire or any Concessionaire Party to real or personal property of a third party in connection with the subject matter of this Agreement; and,

23.1.7 Any and all claims by any Governmental Authority claiming Taxes based on gross receipts, purchases, sales, property, or income of Concessionaire or Concessionaire Party with respect to the performance of work to fulfill Concessionaire's obligations under this Agreement.

23.2 SCOPE. Concessionaire shall indemnify every Indemnified Party regardless of whether liability is imposed upon the Indemnified Party by Law or in equity. This indemnification includes all costs and expenses of establishing the right to indemnification hereunder in favor of any Indemnified Party.

23.3 DEFENSE AND INDEMNIFICATION PROCEDURES.

23.3.1 *ASSUMPTION OF DEFENSE*. Concessionaire acknowledges that:

(a) The State's Office of the Attorney General is required by applicable Law to represent and defend UMD and/or may appoint counsel it approves to act in its stead;

(b) UMD, the University System, and other Indemnified Parties have similar statutory representation obligations and rights; and,

(c) UMD, the University System, and other Indemnified Parties have the right to elect to conduct their own defense at any time but, with the prior consent of the Office of the State Attorney General, may also agree to allow their defense to be conducted in whole, in part, or in conjunction with, or from time to time by, counsel appointed by Concessionaire or its insurer.

23.3.2 *TENDER OF DEFENSE BY CONCESSIONAIRE OR INSURER.*

(a) An Indemnified Party shall notify Concessionaire, the State's Office of the Attorney General, and the UMD General Counsel promptly upon receiving notice of a claim or lawsuit subject to defense and indemnification under Section 23.3.1.

(b) Subject to Section 23.3.1, within 30 days after its receipt of the Indemnified Party's notice, Concessionaire shall notify the Indemnified Party whether Concessionaire:

(1) Accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any

"reservation of rights" to deny or disclaim full indemnification thereafter;

(2) Accepts the tender of defense but with a "reservation of rights" in whole or in part; or,

(3) Rejects the tender of defense based on a determination that it is not required to indemnify against the claim under the terms of this Agreement.

(c) If Concessionaire has tendered the matter to an insurer, and the insurer has not rejected the tender, then for purposes of this Agreement and proceedings related to such matter, the Indemnified Party shall be considered to be an insured party for the purposes of such matter and shall cooperate with the insurer in good faith in its defense of the matter.

(d) If the Concessionaire has tendered the matter to an insurer and the insurer has rejected the tender, or if Concessionaire accepts the tender of defense, then subject to Section 23.3.1, Concessionaire may select Indemnified Party's legal counsel (subject to the prior approval of the State's Office of the Attorney General and the Indemnified Party), shall otherwise direct the defense of such claim, and shall bear the fees and costs of defending and settling the claim.

(1) UMD shall retain all rights with regard to the settlement and must approve all settlement terms and conditions.

(2) Concessionaire shall fully and regularly inform the Indemnified Party and the State's Office of the Attorney General of the progress of the defense and of any settlement discussions.

(3) The Indemnified Party shall reasonably cooperate in defending the claim and provide to Concessionaire all reasonably required materials, information, and access to personnel it requests as necessary for defense, preparation, and trial, to the extent that:

(i) Such materials, information, and personnel are under the control of, or are reasonably available to, the Indemnified Party; and,

(ii) Providing such materials, information, and personnel is permitted by applicable Law to maintain the

confidentiality of all communications between it and Concessionaire concerning such defense.

23.3.3 *DEFENSE BY INDEMNIFIED PARTY.* Except in circumstances subject to Section 23.3.4(a), if an Indemnified Party elects to conduct its own defense of a claim for which it is entitled to indemnification, Concessionaire shall reimburse the Indemnified Party on a current basis all reasonable costs and expenses of the Indemnified Party in investigating and defending such claim.

23.3.4 *CLAIM SETTLEMENT OR COMPROMISE.*

(a) If Concessionaire conducts the defense in whole and notifies the Indemnified Party that the claim is subject to full indemnification without any reservation of rights to deny or disclaim full indemnification, then Concessionaire may settle such claim without the consent of the Indemnified Party, provided it secures the complete release of the Indemnified Party by the claimant or plaintiff from all liabilities with respect to the demand or claim and does not obligate any Indemnified Party to take any action, admit to any violation of Law, or the rights of any Person.

(b) If Concessionaire conducts the defense subject to a "reservation of rights" in whole or in part in conjunction with counsel for one or more Indemnified Parties, such counsel and Concessionaire shall consult with each other on a regular basis to determine whether settlement is appropriate and, subject to the rights of any insurer providing coverage for the claim under a policy of Required Insurance, counsel for the Indemnified Party or Parties may settle or compromise the claim with Concessionaire's prior consent without prejudice to Indemnified Party's rights to be indemnified by Concessionaire; and,

(c) If Concessionaire rejects the tender of defense based on a determination that it is not required to indemnify against the claim under this Agreement, then, subject to the rights of any insurer providing coverages for the claim under a policy of Required Insurance, the Indemnified Party may settle or compromise the claim without Concessionaire's prior consent and without prejudice to its rights to be indemnified by Concessionaire.

(d) A refusal of, or failure to accept, a tender of defense, as well as any dispute relating to the assumption of defense by an Indemnified Party shall be resolved according to the Dispute Resolution Process. Concessionaire shall be entitled to contest an indemnification claim and

pursue, through the Dispute Resolution Process, recovery of defense and indemnity payments it has made to, or on behalf of, the Indemnified Party.

23.4 CUMULATIVE NATURE OF INDEMNITIES. The rights of indemnity established under this Agreement are cumulative and are not in limitation of other rights of indemnity or contribution granted by the Law.

23.5 LIMITATION ON CONSEQUENTIAL DAMAGES.

23.5.1 Subject to Section 23.5.2, to the maximum extent allowed by Law, neither Party shall be liable to the other for Consequential Damages relating to this Agreement. This limitation shall apply to actions or claims brought under any theory of Law, including actions or claims in tort (including negligence) as well as in contract.

23.5.2 The limitation on Consequential Damages under Section 23.5.1 shall not limit a Party's obligation to make payments as expressly stated in this Agreement, including payments of liquidated damages and interest on late payments; UMD's right to assess KPI Deductions; payments under Required Insurance; payments pursuant to Concessionaire's indemnification obligation under Section 23.1; and Concessionaire's responsibility for fines, fees, and penalties assessed against any Concessionaire Party by any Governmental Authority pursuant to its regulatory or police powers.

ARTICLE 24: DISPUTE RESOLUTION

24.1 APPLICABLE LAW. If not otherwise settled, all claims or disputes arising under this Agreement shall be resolved in accordance with Title 15, Subtitle 2 of the State Finance and Procurement Article, Annotated Code of Maryland and the Code of Maryland Regulations, Title 21, Subtitle 10 – Administrative and Civil Remedies, Chapters 04, 05, and 06, as amended from time to time.

24.2 DISPUTE RESOLUTION PROCEDURE. Except as may otherwise be provided by applicable Law, all disputes and claims arising under, or resulting from, this Agreement shall be resolved in accordance with this provision.

24.2.1 *INFORMAL DISPUTE RESOLUTION*.

(a) For all disputes except KPI Disputes, a Party shall notify the other Party in writing of the dispute. Within 10 days following the other Party's receipt of such notice (or such other time as the Parties may agree), the Parties shall attempt to resolve the dispute by negotiation through the Program Implementation Council.

(b) *KPI Disputes*. If Concessionaire disputes UMD's determination of Concessionaire's failure to manage, operate, and maintain the Energy Systems in accordance with a KPI or if Concessionaire disputes UMD's calculation of a KPI Deduction to reduce an Energy Services Charge, the Parties shall attempt to settle the dispute in accordance with the process set forth in Appendix O-5, Section 9.4.

24.2.2 *MEDIATION*. Contingent upon the prior approval of the State's Office of the Attorney General, if the dispute is not resolved by negotiation within 30 days following the receipt of the dispute notice under Section 24.2.1 (or such other time as the Parties may agree), the Parties may resolve the dispute through mediation under terms and conditions mutually agreed by the Parties and the State's Office of the Attorney General. Each Party shall pay one-half of the mediator's fees and expenses. If the dispute is not resolved within 90 days following the State's Office of the Attorney General's mediation approval, then the aggrieved Party shall follow the process set forth in Section 24.2.3.

24.2.3 *FORMAL DISPUTE RESOLUTION*.

(a) *Claim Submittal.* A Claim shall be made in writing and submitted to the UMD Procurement Officer for decision in consultation with the State's Office of the Attorney General.

(b) *Timing of Claim.* Unless a lesser period is provided by applicable statute, regulation, or this Agreement, a Party with a Claim must file a written notice of that Claim with the UMD Procurement Officer within 30 days following the Parties' inability to settle the Claim through negotiation or mediation, as applicable. Contemporaneously with or within thirty (30) days of the filing of a notice of Claim, but no later than the date of final payment under this Agreement, the Party must submit to the UMD Procurement Officer its written Claim containing the information specified in Code of Maryland Regulations 21.10.04.02.

(c) *Contents of Claim.* When a Claim cannot be resolved through negotiation or mediation, the Party asserting the Claim shall submit a written request for final decision to the UMD Procurement Officer. The written request shall set forth all relevant facts surrounding the dispute then known to the Party sponsoring the Claim, which shall be supported by Records and affidavits.

(d) *Hearing.* At the discretion of the UMD Procurement Officer, the Parties may be afforded an opportunity to be heard and to offer evidence regarding the Claim.

(e) *Decision on Claim.* The UMD Procurement Officer shall render a written decision on all Claims within 180 days of receipt of a Party's written Claim, unless he or she determines that a longer period is necessary to resolve the Claim. If a decision is not issued within 180 days, the UMD Procurement Officer shall notify the Parties of the time within which such a decision shall be rendered and the reasons for such time extension. This decision shall be furnished to the Parties, by certified mail, return receipt requested, or by any other method that provides evidence of receipt. The UMD Procurement Officer's decision shall be deemed the final action of the State, subject to the right of appeal pursuant to Section 24.2.3(f).

(f) *Appeal.* The UMD Procurement Officer's decision shall be final and conclusive unless a Party files a written appeal with the State Board of Contract Appeals within 30 days of receipt of said decision or, if such appeal is not available under the Law, a Party files an action in State Circuit Court for Prince Georges County, Maryland.

24.3 PERFORMANCE DURING PENDENCY OF CLAIM. Pending resolution of a Claim or dispute, Concessionaire shall proceed diligently with the performance of this Agreement and thereafter in accordance with the UMD Procurement Officer's determination or decision.

ARTICLE 25: LENDER RIGHTS

25.1 PROGRAM DEBT. Concessionaire, at its sole cost and expense, may incur Program Debt secured by its interest in the Energy Systems, the Availability Payment revenue, or any other interest of Concessionaire created by this Agreement, the Ground Lease, or the Easement Agreement, provided that no Concessionaire Default exists when any Program Debt Agreement is executed and delivered to the Lender.

25.1.1 *TERMS AND CONDITIONS.* Each Program Debt Agreement shall be subject to the following terms and conditions:

(a) Program Debt may not be secured by any property of, or secure any debt issued or guaranteed by, any Person other than Concessionaire or the Concessionaire's Controlling Affiliate but may cover shares or equity interests in the capital of the Concessionaire and any cash reserves or deposits held in Concessionaire's name.

(b) No Person other than an Institutional Lender shall be entitled to the benefits and protections accorded to a Lender in this Agreement,

provided, however, that lessors and lenders to Concessionaire (and lenders to a Lender that is a lessor) may be Persons other than Institutional Lenders so long as any Program Debt Agreement securing the loans made by such Persons is held by an Institutional Lender acting as Collateral Agent or Bond Trustee.

(c) No Program Debt Agreement or other instrument purporting to mortgage, pledge, encumber, or create a lien, charge, or security interest on or against any or all of the Concessionaire's interest in the Energy Systems shall extend to, or affect the fee simple interest in, the Energy Systems, UMD's interest hereunder, or UMD's reversionary interests and estates in and to the Energy Systems or any part thereof.

(d) UMD shall have no liability whatsoever for payment of the principal sum on Program Debt, or any interest accrued thereon or any other sum secured thereby or accruing thereunder, and, except for violation by the UMD of express obligations set forth herein or in any agreement with the Lender, the Lender shall not be entitled to seek any damages or other amounts against the UMD for any reason.

(e) UMD shall have no obligation to any Lender in its exercise of the rights and remedies available to it under this Agreement or the Law, except as expressly set forth in this Agreement or in any agreement with the Lender and unless such Lender has provided UMD with notice of its Program Debt Agreement in accordance with the Lender notice requirements.

(f) Each Program Debt Agreement shall provide that:

(1) If Concessionaire is in default under the Program Debt Agreement and the Lender gives notice of such default to the Concessionaire, then the Lender shall give written notice of such default to UMD;

(2) UMD has an option to purchase the Program Debt Agreement pursuant to Section 25.7 hereof.

(g) Subject to the terms of this Agreement and the terms of any direct consent agreement executed by and between UMD and a Lender, all rights acquired by a Lender under any Program Debt Agreement shall be subject and subordinate to all provisions of this Agreement and UMD's rights hereunder. The Lender shall agree to be bound by the terms of this Agreement that are applicable to it.

(h) Notwithstanding any enforcement of the security of any Program Debt, Concessionaire shall remain liable to UMD for payment of all sums owed UMD under this Agreement and the performance and observance of all of Concessionaire's covenants and obligations thereunder.

(i) Except for rights or interests granted expressly under this Section 25.1, a Lender shall not, by virtue of its Program Debt Agreement, acquire any greater rights or interest in the Energy Systems than Concessionaire has at any applicable time under this Agreement. Each Lender, UMD, and Concessionaire shall enter into a direct consent agreement in a customary form acceptable to all parties. Such agreement shall include the rights and protections provided to Lenders in this Agreement.

(j) A Lender shall, within 10 days after receipt of written request from UMD or the University System, execute an amendment to any recorded Leasehold Mortgage to conform the legal description of the real property encumbered by such Leasehold Mortgage to the legal description in the Ground Lease; and

(k) A Lender shall, within 10 days after receipt of written request from UMD or the University System, execute documentation reasonably acceptable to UMD or the University System releasing any land or other real property they own from the lien of any Leasehold Mortgage so that such land or real property may be conveyed or leased to a third party without being subject to this Agreement or the Leasehold Mortgage. Such request shall be accompanied by an affidavit from a duly authorized officer of the State, UMD, or the University System that such land or other real property does not contain any portion of the Energy Systems used and useful in rendering the Energy Services and that such conveyance or lease has been approved by the State.

25.1.2 While any Program Debt is outstanding, UMD shall not, without first obtaining the written consent of the Lender:

(a) Execute any amendment of this Agreement that could reasonably be expected to have a Material Adverse Effect on the rights or interests of the Lender provided that:

(1) Any amendment arising from, or related to an Additional Capital Improvement (including any new UMD Building connection) with a total construction cost of less than $10,000,000 shall not require any Lender's prior consent; and,

(2) Change Orders or modifications that arise out of a Project prior to Acceptance, and Change Orders or modifications that arise out of management, operation, or maintenance practices or procedures with a cost of less than $25,000, shall not be deemed amendments under this Section 25.1.2.

(b) Agree to any voluntary surrender or termination of this Agreement by the Concessionaire.

25.1.3 *NOTICE OF PROGRAM DEBT ISSUANCE.* No later than 10 days after Concessionaire's execution and delivery of a Program Debt Agreement, the Lender shall deliver to UMD a true and complete copy of such agreement as executed, together with the contact information for its Primary Point of Contact. Lender shall update such information from time to time, as necessary.

25.2 NOTICES AND PAYMENTS TO LENDERS.

25.2.1 *NOTICES.* Simultaneously with delivering any required notice under this Agreement to Concessionaire, UMD shall deliver a copy of such notice to each Lender's Primary Point of Contact. No such notice shall be effective against the Lender until a copy thereof is duly provided to its Primary Point of Contact.

25.2.2 *PAYMENTS.* Unless the Lender has otherwise advised UMD in writing, UMD shall submit all payments due to Concessionaire under this Agreement to the Collateral Agent or Depositary identified by the Concessionaire.

25.3 LENDER'S RIGHT TO CURE. The Lender may cure a Concessionaire Default that has not been cured by Concessionaire during any applicable cure period. The Lender shall notify Concessionaire and UMD of its intent to exercise this right no later than 5 days following the applicable cure period's expiration or, if the Concessionaire Default is not subject to cure, no later than 5 days following the date of UMD's delivery of a Notice of Termination to Concessionaire under Section 19.5.6.

25.3.1 *EXTENDED CURE PERIOD*. If a Lender has notified UMD of its intent to cure a Concessionaire Default, such Lender shall have 150 days beyond the date of such notice of intent to cure, or cause to be cured, any such Concessionaire Default, provided that the Lender immediately takes, or authorizes UMD to take pursuant to Section 19.5.1, such actions as necessary to restore any interrupted Energy Services on a permanent or temporary basis.

(a) The Lender's cure period under Section 25.3.1 shall be extended by 30 days or such other time as the Lender and UMD may agree if:

(1) The Lender demonstrates to UMD's reasonable satisfaction no later than the end of the initial 30-day cure period that the cure of the Concessionaire Default is not physically, technically, or commercially feasible during the applicable cure period, but is curable within a specific reasonable cure period;

(2) UMD is receiving Full Requirements Energy Services to all UMD Buildings on a temporary or permanent basis; and,

(3) Lender delivers a workplan for completely curing the Concessionaire Default to the UMD Program Manager and commits to provide the UMD Program Manager with progress reports at least weekly during the extended cure period.

(b) UMD shall not exercise its right to terminate this Agreement under Section 19.5.6, provided Lender and its agents and representatives fully and diligently implement Lender's workplan and completely cure the Concessionaire Default in accordance therewith.

25.3.2 *ACCESS*. UMD shall provide a Lender and its agents and representatives acting pursuant to this Article 25 the same access to the Energy Systems and the Campus as that granted to Concessionaire under the Ground Lease and the Easement Agreement.

25.3.3 *LENDER'S PERFORMANCE.*

(a) UMD shall recognize performance by a Lender pursuant to this section as though the same performance had been rendered by the Concessionaire.

(b) Any payment made, or action taken by, a Lender shall be deemed properly to have been made or taken by the Lender if such payment is made or action is taken by a nominee, agent, representative, or assignee of the Lender's rights under this Agreement;

(c) Any exercise of the Lender's rights to cure under this Section shall not result in the assumption by such Leasehold Mortgagee of Concessionaire's rights hereunder.

25.4 ADDITIONAL LENDER RIGHTS.

25.4.1 *RIGHT TO PERFORM AGREEMENT*. A Lender may take any of the following actions:

(a) Enforce its security interest in accordance with its terms and the Law;

(b) Acquire the Concessionaire's interest in the Energy Systems; or,

(c) Take lawful possession of the Energy Systems and manage, operate, and maintain them in accordance with the terms of this Agreement.

25.4.2 *RIGHT TO TRANSFER.* A Lender may transfer the Concessionaire's interest in the Energy Systems. No such transfer shall be effective unless UMD has made the Responsibility Determination required by Section 3.6.2(b) after receiving from Lender such information relevant to approval of the Change of Ownership as UMD reasonably requires pursuant to Section 3.6.2(b). Any Person to whom the Lender transfers the Concessionaire's interest (including a transfer to itself) shall take such interest subject to Concessionaire's obligations under this Agreement.

25.5 LENDER'S ASSUMPTION OF CONCESSIONAIRE RIGHTS AND LIABILITIES.

25.5.1 A Lender shall not be liable for any of Concessionaire's obligations, or entitled to any of its rights and benefits, under this Agreement except by way of security until such Lender has taken ownership, possession, or control of the Concessionaire's interest in the Energy Systems whether directly or by an agent as a mortgagee in possession or a receiver or receiver and manager, provided that such Lender may cure a Concessionaire Default that requires payment of money by paying such money on Concessionaire's behalf, prior to taking ownership, possession, or control of the Concessionaire's interest in the Energy Systems.

25.5.2 If the Lender owns, controls, or possesses the Concessionaire interest in the Energy Systems (either directly or through an agent, receiver, or a receiver and manager, it shall be bound by all liabilities and obligations of the Concessionaire under this Agreement (including the obligation to engage an operator). When the Lender goes out of possession or control of the Concessionaire's interest or transfers the Concessionaire's interest to another Person in accordance with this Agreement, it shall cease to be liable for any of the Concessionaire's obligations under this Agreement accruing thereafter and entitled to any of the Concessionaire's rights and benefits hereunder, except, if the Program Debt remains outstanding, by way of security.

25.6 RECOGNITION OF LENDER. If more than one Lender is a Lender of funds for Concessionaire's performance of this Agreement, only the first priority Lender may exercise the rights granted to the Lender under this Article 25 to the exclusion of all other Lenders, unless the first priority Lender has designated in writing another Lender to exercise such rights, provided such designation shall not limit such additional Lenders' rights hereunder. A Lender may act as agent for a group of Lenders or a group or syndicate of one or more

Institutional Lenders and such Lender may freely assign or sell interests and/or participations in the Financing to any Institutional Lender.

25.7 UMD'S RIGHT TO PURCHASE PROGRAM DEBT.

25.7.1 *RIGHT TO PURCHASE*. If Concessionaire has defaulted on its obligations under a Program Debt Agreement and has not cured such default within the applicable cure period, or if any act, condition, or event has occurred that would permit a Lender to declare all or any part of the indebtedness secured by its Program Debt Agreement to be immediately due and payable or to terminate the Ground Lease, UMD may purchase all outstanding Program Debt at a price determined under Section 25.7.4.

25.7.2 *NOTICE OF CONCESSIONAIRE DEFAULT.* Promptly after the conditions precedent identified in Section 25.7.1 give rise to UMD's right to purchase thereunder, the affected Lender shall notify UMD of its intent to commence foreclosure proceedings or terminate the Ground Lease. Such notice shall state a purchase price determined under Section 25.7.4 and shall specify the date by which UMD must exercise this option, which date shall be no earlier than 60 days following the date of the notice.

25.7.3 *EXERCISE OF PURCHASE OPTION.* UMD shall notify Concessionaire and all Lenders of its intent to exercise its option under this Section 25.7 within the 60-Day period identified in Section 25.7.2. UMD's notice shall state the approvals required to complete its purchase, a list of supporting documents it requires from each Lender, and a proposed schedule of approvals for, and closing of, the transaction. All parties shall cooperate to facilitate closing UMD's purchase at the earliest reasonable date. Closing shall take place at a mutually convenient time and place.

25.7.4 *DETERMINATION OF PURCHASE PRICE.* The purchase price payable by UMD under this Section 25.7 shall be equal to the aggregate amounts secured under all Program Debt Agreements as of the closing date of the purchase (including principal, interest, fees, premiums, breakage costs, and other transaction costs and expenses (including attorneys' fees)).

25.7.5 *CLOSING.*

(a) UMD shall pay the full purchase price to each Lender in cash at closing by wire transfer or other immediately available funds. Each Lender shall apply the amount it receives from UMD to the amounts owed such Lender under its Program Debt Agreement, subject to the lien priorities under such Agreement.

(b) Immediately upon confirmation at closing of each Lender's receipt of UMD's payment, each Lender shall assign its Program Debt Agreement to UMD, together with any security interest held by it in the Concessionaire's interest in the Energy Systems, without recourse, representations, covenants, or warranties of any kind. Each such Program Debt Agreements and security interests shall be deemed modified to secure the amount of the aggregate purchase price paid by UMD to the Lenders (rather than the indebtedness theretofore secured thereby) payable on demand, with interest. Each such assignment shall be in a form for recordation or filing. UMD shall be responsible for paying any Taxes payable to any Governmental Authority upon such assignment. Such assignment shall be made subject to such state of title of the Energy Systems as of the date of UMD's exercise of its right to purchase under Section 25.7.3.

25.8 ASSIGNMENT AND ASSUMPTION AGREEMENT.

25.8.1 *UMD COOPERATION*. Without prejudice to a Lender's right to cure under Section 25.3, UMD shall cooperate with a Lender under either of the following circumstances as it exercises its rights under a Program Debt Agreement to step-in, assume, or assign this Agreement:

(a) UMD has delivered a Notice of Termination to Concessionaire under Section 19.5.6 for the occurrence of a Concessionaire Default; or,

(b) This Agreement is rejected or disaffirmed in any bankruptcy, insolvency, or other proceeding affecting creditors' rights generally.

25.8.2 Subject to approval by the State as a Change of Ownership and satisfaction of the conditions precedent in Section 3.6, this Agreement may be assumed for the remainder of the Term by any of the following Persons, each of whom, for the purposes of this Section 25.8 only, shall be referred to as a "New Party":

(a) The Lender;

(b) A designee or nominee of such Lender that is either controlled by the Lender or by the holders of the Program Debt; or,

(c) A Person approved by UMD as a transferee.

25.8.3 *NOTICE.*

(a) Upon the occurrence of one of the following events, the Lender shall notify UMD that a New Party will assume this Agreement:

(1) The expiration of the 30-day period immediately after UMD's delivery of a Notice of Termination to the Concessionaire and the Lender pursuant to Section 19.5.6;

(2) The expiration of the Lender's cure period granted pursuant to Section 25.3; or,

(3) The effective date of any rejection or disaffirmance of this Agreement in a bankruptcy proceeding.

(b) The Lender's notice shall be accompanied by a restated Agreement duly executed and acknowledged by the New Party. The restated Agreement shall be identical to this Agreement in all respects except that it shall name the New Party as the Concessionaire and incorporate all amendments agreed upon by Concessionaire and UMD prior to the date of Lender's notice.

(c) The Lender's notice shall include all information required to secure UMD's approval of a Change in Ownership

25.8.4 *CONDITIONS PRECEDENT.* UMD shall not execute the restated Agreement until the following conditions are satisfied:

(a) The State has approved the Change of Ownership to the New Party;

(b) The New Party has paid, or caused to be paid, to UMD all amounts then due and payable to UMD under this Agreement, including any amounts not paid by Concessionaire prior to the termination of its performance;

(c) The New Party has paid, or cause to be paid, to UMD all reasonable costs and expenses (including legal fees), Taxes, fees, charges, and disbursements paid or incurred by UMD in connection with the Concessionaire Default, the recovery of possession of the Energy Systems from Concessionaire, the provision of temporary or alternate Energy Services, and the preparation, execution and delivery of the Restated Agreement and any related agreements and documents. UMD shall deliver an invoice of such costs and expenses to the New Party, and the New Party shall pay such costs within 5 Days of its receipt of the invoice.

(d) The New Party shall have cured all Concessionaire Defaults that are curable by the payment of money, or, if such Concessionaire Defaults cannot be cured by the payment of money, the New Party shall commit to UMD in writing to work promptly and diligently to cure all other Concessionaire Defaults to the full extent such defaults are capable of cure by a Person other than the original Concessionaire. If possession of the Energy Systems is necessary to cure all Concessionaire Defaults, the new party and UMD shall work diligently to secure such possession at the earliest commercially reasonable date pursuant to Section 25.8.5.

25.8.5 UMD and the Lender shall work together to take all actions required to regain and transfer possession of the Energy Systems, including taking the following actions, provided that any costs incurred by UMD under this provision shall be reimbursed by the Successor Operator.

(a) Seeking surrender of possession in any bankruptcy proceedings;

(b) Seeking relief from any automatic stay in bankruptcy; and,

(c) Pursuing State Law remedies to obtain possession of the Concessionaire interest in the Energy Systems and assuming the Concessionaire's position as provided in Section 25.8.

25.9 DISPUTE RESOLUTION PARTICIPATION. A Lender may participate in any Dispute Resolution Process in place of the Concessionaire, provided that Concessionaire has defaulted under its Program Debt Agreement, the Lender has notified UMD of its intent to participate, and the Lender has agreed to be bound by the Dispute Resolution Process's outcome.

ARTICLE 26: MISCELLANEOUS PROVISIONS

26.1 PRIMARY POINTS OF CONTACT.

26.1.1 *IN GENERAL*. All written communications other than Notices from one Party to the other that are required or permitted by this Agreement shall state specifically in their caption that they are being sent pursuant to this Agreement and shall be delivered by electronic mail to a Party's Primary Point of Contact or other Person designated by such Primary Point of Contact.

26.1.2 *CONCESSIONAIRE'S PRIMARY POINTS OF CONTACT.*

(a) On the Effective Date, Concessionaire shall notify UMD of the identity of, and the contact information for, its Primary Point of Contact, who shall

receive all communications from UMD between the Effective Date and Commencement.

(b) No later than 60 days prior to Commencement, Concessionaire shall notify UMD as to the identities of, and the contact information for, the Program Executive, who shall serve as UMD's Primary Point of Contact with Concessionaire, and the Plant Manager, who shall serve as UMD's Primary Point of Contact with Concessionaire when the Program Executive is unavailable. Concessionaire's Primary Point of Contact shall have full authority to bind Concessionaire on matters related to the Energy Systems' day-to-day operation.

26.1.3 *UMD'S PRIMARY POINT OF CONTACT.*

(a) On the Effective Date, UMD shall notify Concessionaire of the identity of, and the contact information for, its Primary Point of Contact, who shall receive all communications from Concessionaire between the Effective Date and Commencement.

(b) No later than 60 days prior to Commencement, UMD shall notify Concessionaire as to the identities of, and contact information for, the UMD Program Manager, who shall serve as Concessionaire's Primary Point of Contact with Concessionaire, and the UMD Program Engineer, who shall serve as Concessionaire's Primary Point of Contact with UMD when the UMD Program Manager is unavailable. UMD's Primary Point of Contact shall have full authority to bind UMD on matters related to the Energy Systems' day-to-day operation.

26.1.4 *UPDATES.* Either Party may change the identity of its Primary Point of Contact at any time pursuant to Section 26.2.

26.2 NOTICES.

26.2.1 *RECIPIENTS.*

(a) All notices by UMD to Concessionaire shall be given to the Program Executive, the Plant Manager, and other Persons identified in Appendix D.

(b) All notices by Concessionaire to UMD shall be given to the UMD Program Manager, the UMD Program Engineer, and other Persons identified in Appendix D.

(c) At any time, either Party may change the identity of the Persons to whom notice must be sent by delivering written notice of such change to the other Party. The UMD Program Manager shall update Appendix D as necessary and distribute the revised appendix to the Program Executive for distribution to other Concessionaire personnel.

26.2.2 *METHOD OF NOTICE*. Any notice required to be given pursuant to this Agreement shall be in writing and personally delivered or sent by United States Postal Service, Next Business Day delivery postage pre-paid, or other overnight delivery service with Next Business Day delivery fees and charges pre-paid.

26.2.3 *DATE OF NOTICE RECEIPT*. Notice shall be deemed received as follows:

(a) On the next Business Day after the date of mailing if the notice is deposited with the United States Postal Service or another carrier for next Business Day delivery;

(b) On the date of delivery if the notice is personally delivered; or,

(c) If notice is given during a UMD Break, notice to UMD shall be deemed received on the first Business Day following such UMD Break, except when related to an Emergency.

26.2.4 *NOTICE BY ELECTRONIC MAIL*. A Party may give notice by electronic mail, provided that such Party retains proof of transmission and transmits a paper original of the notice to the other Party for delivery on the next Business Day. The date of the electronic mail shall be deemed to be the date of the notice's delivery, unless such electronic mail is sent to UMD during a UMD Break, in which case the notice is effective on the first Business Day following such UMD Break.

26.3 EMERGENCY CONTACT INFORMATION. Throughout the Operating Term, a Person authorized to act for each Party shall be available to be contacted on a 24-hour per day, 7-days per week basis. No later than 10 days prior to Commencement, UMD and Concessionaire shall deliver to each other the names and contact information (including mobile telephone numbers) for no fewer than three (3) Persons to be contacted in an Emergency. Each Party shall be responsible for specifying the order in which contacts should be made and for updating its own contact information regularly.

26.4 TIME.

26.4.1 *COMPUTATION OF TIME*. When any period is referred to in this Agreement by days, it shall be computed by excluding the first (1st) day of the period and including

the last day. If the last day of such period falls on a Saturday or Sunday, or during a UMD Break, such day shall be omitted from the computation.

26.4.2 *TIME OF THE ESSENCE*. Time is of the essence in the Parties' performance of their obligations under the following provisions: Sections 3.6 (Concessionaire Changes of Ownership and Transfers), 4.3 (Initial Financial Closing), 7.2 (Key Contract Approvals), 8.4 (UMD Review Of Subcontracts Prior To Execution), 9.6 (Performance Security for Management, Operation, and Maintenance), 10.1.8 (Performance Security), 17.3 (Payment), 19.3 (Cure Process), and, Appendix O-5, Sections 5.0 and 6.0 (Key Performance Indicators).

26.5 INTEGRATION. This Agreement constitutes the final agreement between the Parties and is the complete and exclusive expression of the Parties' agreement on the matters contained herein. All prior negotiations and drafts of this Agreement are expressly merged into and superseded by this Agreement. There are no representations, warranties, conditions, or other agreements, whether direct or collateral, express or implied, that form part of, or affect, this Agreement or that induced either Party to enter into this Agreement.

26.6 AMENDMENT. The Base Concession Agreement may be amended only by a written agreement signed by a duly authorized representative of each Party. Amendments to this Agreement's Appendices may be accomplished by Change Order or Directive Letter issued by the UMD Procurement Officer, subject to prior approvals as required by the Law and this Agreement.

26.7 SEVERABILITY.

26.7.1 Each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by applicable Law. The invalidity of any one or more phrases, sentences clauses, or sections, contained in this Agreement shall not affect the remaining portions of this Agreement or any part thereof and shall not affect the validity or enforceability of the balance of this Agreement, which shall be construed and enforced as if the Agreement did not contain such invalid or unenforceable provision or part.

26.7.2 If any paragraph, section, subdivision, sentence, clause, or phrase of this Agreement is for any reason held to be invalid, illegal, or unenforceable in any respect by a Governmental Authority having proper jurisdiction in a final, non-appealable decision, such decision shall not affect, or render void, the remaining portions of this Agreement. In such event, the Parties shall negotiate in good faith and agree to such amendments, modifications, or supplements as shall be necessary to give maximum effect under the circumstances to the Parties' intention in this Agreement.

26.7.3 If the Parties cannot agree on an appropriate amendment, modification, or supplement, either Party may refer the matter for determination pursuant to the Dispute Resolution Procedure.

26.8 WAIVER.

26.8.1 No course of dealing between the Concessionaire and UMD or failure or delay on the part of either Party in exercising any right, privilege, remedy, or option hereunder shall operate as a waiver of such, or of any other right, privilege, remedy, or option or relieve a Party from performance of its obligations under this Agreement except as otherwise provided herein.

26.8.2 No waiver whatsoever shall be effective unless made in a writing duly executed by and signed by duly authorized representative of the Party charged with granting the waiver. Any such waiver shall be limited to the specific instance and shall not constitute a waiver of any right, privilege, remedy, or option in the future or of any other right under this Agreement.

26.8.3 If the Parties make and implement any interpretation of this Agreement without documenting it in a written instrument signed by both Parties, such interpretation and the implementation thereof shall not be binding in the event of any future dispute.

26.8.4 No waiver of any right, privilege, remedy, or option under this Agreement shall be deemed to have occurred as the result of any payment or acceptance of all or any part of the work, any extension of time, or any possession taken by UMD.

26.9 SURVIVAL. The representations of UMD and Concessionaire, the Dispute Resolution Procedure, the indemnifications, limitations, and releases contained in Sections 23.1 and all provisions that by their inherent character should survive expiration or earlier termination of this Agreement and/or completion of the work shall survive such expiration, termination, or completion. The Dispute Resolution Process shall continue to apply after such expiration, termination, or completion of all Claims and Disputes between the Parties arising out of, relating to, or resulting from, this Agreement.

26.10 GOVERNING LAW; VENUE.

26.10.1 *GOVERNING LAW*. This Agreement shall be governed by, and construed in accordance with, the Law of the State (excluding any conflict of laws rule or principle that might refer such construction or interpretation to the Laws of another jurisdiction).

26.10.2 *VENUE.* Other than disputes subject to the Dispute Resolution Process, any action or proceeding arising out of, relating to, or resulting from this Agreement shall be filed in the Circuit Court in and for Prince Georges County, Maryland, which court, and the courts with the jurisdiction to review the decisions of that court, shall be the only court with any authority to decide any such cause of action. Concessionaire and UMD hereby irrevocably submit to the jurisdiction of such courts with regard to such action or proceeding and irrevocably waive, to the fullest extent permitted by applicable Law, any objection it may have now or hereafter to the laying of venue in such courts and any claim that an action or proceeding has been brought in an inconvenient forum.

26.11 INDEPENDENT CONTRACTOR; NO JOINT VENTURE OR PARTNERSHIP.

26.11.1 Concessionaire is an independent contractor. In no event shall the relationship between UMD and Concessionaire be construed as creating any relationship whatsoever between UMD and Concessionaire's employees or agents. Except as otherwise provided in this Agreement, Concessionaire has sole authority and responsibility to employ, discharge, and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Key Contractors, Subcontractors, and other Persons that Concessionaire or any contractor hires to perform or assist in performing work under this Agreement.

26.11.2 Nothing in this Agreement is intended or shall be construed to create a partnership, joint venture, or similar relationship between UMD and Concessionaire and in no event shall either Party take a position in any Tax return or other writing of any kind that a partnership, joint venture, or similar relationship exists. While the term "public-private partnership" may be used on occasion to refer to contractual relationships of the type created by this Agreement, use of this term does not indicate any intention by the Parties to form or hold themselves out as a *de jure* or *de facto* partnership, joint venture, or similar relationship to share net profits or net losses, or give UMD control or joint control over Concessionaire's financial decisions or discretionary actions concerning the work or Concessionaire's performance of this Agreement.

26.11.3 Neither Concessionaire nor any of its employees or agents is, or shall be, deemed to be an employee or agent of UMD. Concessionaire shall not have, or be deemed to have, power or authority to make any commitments on UMD's behalf or to execute agreements in the name of, or on behalf of, UMD. Concessionaire shall not enter into any agreement with any Governmental Authority, utility, property owner, or other third party having regulatory jurisdiction over any aspect of the work or any Project undertaken pursuant to this Agreement or having any property interest affected by a Project or work that in any way purports to obligate UMD, or states or implies that UMD has an

obligation to such third party to undertake any activity, unless UMD otherwise approves.

26.12 NO THIRD-PARTY BENEFICIARIES. Nothing contained in this Agreement shall be construed in any way to grant, convey, or create any rights or interests to any Person not a party to this Agreement except for any Lender, Depositary, Indemnitee, or Collateral Agent under the specific provisions of this Agreement that grant them such rights or interests.

26.13 SUCCESSORS AND ASSIGNS. This Agreement shall be binding upon, and inure to the benefit of, UMD and Concessionaire and each of their permitted successors, assigns, and legal representatives.

26.14 FURTHER ACTS.

26.14.1 Each Party shall promptly execute and deliver to the other Party all such instruments and other documents and assurances as such other Party reasonably requests to further evidence its obligations under this Agreement.

26.14.2 The Parties shall do or cause to be done all such further acts and things as may be reasonably necessary or desirable to give full effect to this Agreement. Without limiting the foregoing, each Party will, at any time and from time to time, execute and deliver or cause to be executed and delivered such further instruments and documents and take such further actions as may be reasonably requested by the other Party to cure any defect in the execution or delivery of this Agreement.

26.15 NO WAIVER OF SOVEREIGN IMMUNITY. Nothing contained in this Lease shall be deemed to constitute a waiver of any immunity which the State, the University System, or UMD may be entitled to under State Law, as the same may be amended from time to time. Sovereign immunity is waived only by virtue of, and to the extent set forth in, Title 12 of the State Government Article of the Annotated Code of Maryland.

26.16 EXECUTION OF DOCUMENTS. This Agreement may be executed in any number of duplicate originals, any of which shall be regarded for all purposes as an original and all of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the Parties have executed this Agreement as of the date and year first above written.

UNIVERSITY OF MARYLAND, COLLEGE PARK

/s/ _____ By: _____
Witness Kimberly Watson Date
Assistant Vice President of Procurement and Strategic Sourcing

MARYLAND ENERGY IMPACT PARTNERS LLC

/s/ _____ By: _____
Witness Name Date
Executive Director

Approved as to form and legal sufficiency this ____ day of _____, 2024.

By: /s/ _____
Daniel Leland Kaiser
Associate General Counsel

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX A
DEFINITIONS

This Appendix A defines acronyms, abbreviations, and certain capitalized terms used in the Base Concession Agreement and its Appendices.

1999 Ground Lease	The Ground and Equipment Lease dated August 31, 1999, by which the State (for the use of the University System), as landlord, leased to MEDCO, as tenant, certain premises and Equipment and granted MEDCO rights of access to, and use of, the Energy Systems.
Academic Collaboration	Concessionaire's program of collaborating with UMD and supporting its mission of education, research, and community service.
Acceptance	UMD's agreement that Concessionaire has completed a Project, as evidenced by a Final Completion Certificate.
Acceptance Test or **Acceptance Testing**	The testing of a Capital Improvement to determine whether a Project or a portion thereof qualifies for Acceptance. Acceptance Tests include all tests as may be reasonably necessary to demonstrate that a Project meets the requirements of all applicable Government Authorizations and KPIs. For the Phase I Capital Improvements, the Acceptance Tests and their protocols are set forth in Appendix P-9.
Accident Prevention Plan	The plan prepared and updated by Concessionaire and described in Section 4.2.2 of the Operating Requirements.
Actual Knowledge	The actual, current knowledge of a Party's official on any date that a relevant representation or warranty is made, with the duty to inquire of his, her, or their direct reports within 5 Business Days prior to the date of such representation or warranty regarding the relevant matter, but without any other duty of inquiry or investigation.

Actual Substantial Completion Date	The date upon which a Project attains Substantial Completion as determined by UMD pursuant to the Construction Requirements.
Additional Capital Improvement	A cost-effective Capital Improvement to the Energy Systems, the UMD Buildings, or other UMD facilities or systems other than a Phase I Capital Improvement. Additional Capital Improvements include: (a) Phase II Capital Improvements; (b) Phase III Capital Improvements; (c) Additions of generating or distribution capacity; (d) Interconnections between the Energy Systems and the UMD Building Systems to serve Future UMD Buildings; (e) Capital Improvements intended to achieve the delivery of the Energy Services at levels of reliability, resiliency, efficiency, or sustainability greater than that achieved by the Phase I Capital Improvements; and, (f) Any other Capital Improvements approved and funded as provided in the Base Concession Agreement, and designed, engineered, constructed, installed, and commissioned in accordance with the Base Concession Agreement, the Construction Requirements, and Appendix J.
Additional Financial Closing	The financial closing on the funding of any Additional Capital Improvement, Major Repair, Replacement, or Material Change.
Affiliate	When used to indicate a relationship with a specified Person, an Affiliate is a Person that, directly or indirectly, through one or more intermediaries: (a) Has a 10% or more voting or economic interest in such specified Person; (b) Controls, is controlled by, or is under common control with, such specified Person; or,

	(c) Has assets that are managed, supervised, sponsored, or advised by a Person referred to in (b) immediately above. For a managed fund, account, or other entity, control includes the right to direct, or cause the direction of, the management and policies of such managed fund, account, or other entity as manager, advisor, supervisor, sponsor, or trustee pursuant to relevant contractual arrangements. A Person shall be deemed to be controlled by another Person if it is controlled in any manner whatsoever that results in control in fact by that other Person alone or jointly with another Person, whether directly or indirectly, and whether through equity ownership, a trust, a contract or otherwise. For purposes of this definition, a managed fund, account, or other entity shall be deemed to be an Affiliate of the Person managing, supervising, sponsoring, or advising such fund, account, or other entity. A limited partner in a managed fund, account, or other entity shall be deemed to be an Affiliate of such fund, account, or other entity and of the Person managing, supervising, sponsoring, or advising such fund, account, or other entity.
African American-Owned Business	A Minority Business Enterprise certified by the State Office of Minority Business Enterprise within the State Department of Transportation that is at least 51% owned by one or more African American Persons.
Annual Meeting	The annual meeting held by the Program Implementation Council to review the Energy Systems' performance in the prior Contract Year and the Five-Year Plan
Annual Customer Meeting	The meeting conducted by Concessionaire for the UMD community and the general public for the purpose set forth in Section 9.11 of the Base Concession Agreement.
Annual Maximum Concessionaire Charge	The maximum Concessionaire Charge in any given Contract Year, as determined pursuant to Appendix O-4, Section 1.1.1.
Annual Maximum Fixed O&M Charge	The maximum Fixed O&M Charge in any given Contract Year, as determined pursuant to Appendix O-4, Section 1.3.
Annual Operating Budget	The budget prepared annually by Concessionaire pursuant to Section 17.4 of the Base Concession Agreement to support UMD's annual budget request for funds to support its

	operations. The Annual Operating Budget shall include the month-by-month projections for, and annual totals of, the Availability Payment, the Fixed O&M Charge, the Reimbursable Costs Charge, and the NextGen Reserve Charge.
Annual PM Schedule	This term is defined in Section 3.3.4 of the Operating Requirements.
Annual Reimbursable Cost Adjustment	An adjustment in the Reimbursable Costs Charge pursuant to Appendix O-4, Section 1.5.
Annual Report	The report submitted annually by Concessionaire to the Program Implementation Council that, at a minimum, contains the information required by Appendix O-7, Section 2.0.
Applicable Industry Standards	Either of the following: (a) Standards, requirements, rules, or codes issued by the Institute of Electrical and Electronics Engineers, the American Society of Heating, Refrigerating, and Air Conditioning, or similar organization recognized by the Parties as an authoritative body governing the design, engineering, construction, testing, and operation of the Energy Systems by specific reference in the Concession Agreement; or, (b) Standards, requirements, rules, or codes issued by any such organization, compliance with which is considered a Prudent District Energy Practice.
As-Built Documents	The detailed architectural and engineering drawings prepared by Concessionaire, which accurately identify the design, form, location, physical relationship, and dimensions of completed Capital Improvements. With regard to underground steam, chilled water, electric, and other pipelines or ductbanks that are part of the Energy Systems, As-Built Documents include such diagrams, photographs, electronic images, or video recordings as are necessary to indicate the location of such lines in relation to each other and to other underground facilities.
Assessment Phase	The first step in restoring an Energy Service following an Unplanned Service Outage, as described in Section 6.5.1(a) of the Operating Requirements.

Auxiliary Chiller	An electric-driven chiller installed in a UMD Building that receives chilled water service from DTP-4 and is used to precool the water being returned to DTP-4 or provide additional capacity to serve DTP-4's connected loads.
Availability KPIs	Any or all of the following KPIs, as set forth in Section 5 of Appendix O-5: the Combustion Turbine/HRSG Availability KPI, the Steam Service Availability KPI, the Heating Hot Water Service Availability KPI, the Electric Service Availability KPI, and the Chilled Water Availability KPI.
Availability Payment	The component of the Concessionaire Charge that is comprised of debt service or Program Debt and the return of, and on, Concessionaire's Equity investment.
BAFO Date	April 17, 2023.
BAFO Proposal	Concessionaire's Best and Final Proposal.
BAFO Proposal Security	An unconditional promise to pay the amount specified in RFP Section 15.4 submitted by Concessionaire to secure its participation in the Best and Final Offer stage of the NextGen procurement.
Bank Debt	Any debt financing, other than Bond Financing, provided by a bank or similar financial institution.
Base Concession Agreement	The Preamble and Articles 1 through 26 of the Concession Agreement.
Base Fixed O&M Charge	The Fixed O&M Charge in effect from Commencement through the month in which Phase I Substantial Completion occurs as identified in Appendix P-5.1, Form L-7.2.
Baseline CPI	302.930, which is the CPI value for March 2023.
Baseline Credit Spread	The set of credit spreads associated with the coupons for the range of maturities, ratings, and types of Project Debt, as submitted by a Finalist and reviewed by UMD.
Baseline Interest Rate	The publicly documented interest rates of each maturity included in the following indices:

	(a) the London Interbank Offered Rate (LIBOR) swap spot curve as provided by Bloomberg; (b) the Secured Overnight Financing Rate (SOFR) swap spot curve as provided by Bloomberg; (c) the U.S. Spot Treasury Yield Curve; (d) the Municipal Market Data (MMD) Benchmark, supplied by Thomson Reuters; and, (e) the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index (formerly known as the Bond Market Association (BMA) Municipal Swap Index). The Baseline Interest Rates do not include any additional credit spread, margin, or fee components.
Best Insurance Reports	Evaluations of an insurance company's creditworthiness issued by A.M. Best Insurance Reports or if it is no longer published, an insurance company credit rating publication by a source generally relied upon by commercial institutions.
Board of Public Works or **BPW**	The State administrative body responsible for the expenditure of all capital appropriations and the superintendence of all State public works projects.
Bond Financing	Any debt financing comprised of bonds, including tax-exempt or taxable bonds or other taxable capital market instruments.
Bond Pricing Date	The date on which the pricing is finalized for the Concessionaire's Program Debt for the Phase I Capital Improvements.
Bond Trustee	A bank or other financial institution having corporate trust powers that is responsible for the transfer, registration, or payment of bonds issued by a Conduit Issuer pursuant to a Bond Financing, and a party to an indenture between the Conduit Issuer and the Bond Trustee.

Business Day	Any day that is not: (a) A Saturday, Sunday, or part of a UMD Break for the Department of Facilities Management's administrative staff; or, (b) A day upon which UMD is closed due to severe weather or the occurrence of an event of Force Majeure. For the purposes of payment obligations, any day designated as a holiday for banks that are members of the U.S. Federal Reserve Banking System is not a Business Day.
Campus	The Leased Property and all UMD Buildings, grounds, public by-ways, and all other real property owned by the State in fee simple on UMD's College Park Campus.
Capital Improvement	Any improvement to, or replacement or expansion of, the Energy Systems or any portion thereof that is capital in nature, as determined in accordance with GAAP or GASB.
Capital Recovery Period	The period over which the capital investment necessary to fund an Additional Capital Improvement is amortized.
Carbon Emission	The release into the atmosphere of carbon dioxide or other greenhouse gases identified in the Kyoto Protocol.
Carbon Offset	A transferable instrument certified by a governmental entity or other certifying body to represent an emission reduction of one metric ton of carbon dioxide or the equivalent amount of other greenhouse gases.
Cash Account Balances	All amounts standing to the credit of any bank account held by or on behalf of Concessionaire, or the value of any letter of credit issued in lieu of any bank account held or required to be held by or on behalf of Concessionaire, on the effective date identified in a Notice of Termination.
Central Energy Plant or **CEP**	The combined heat and power plant located on the Campus (UMD Building 001) and all Steam Production Units, all Electric Power Production Units, related Easements, and all pipes, structures, the Fuel Storage Facility, machinery, Equipment, systems, accessories, and Capital Improvements located therein.

Change in Law	Either of the following events or conditions which have, or which may reasonably be expected to have, an effect on the performance by either Party of its obligations under this Agreement: (a) The adoption of a new Law, or change in any Law (or the interpretation thereof) from its status on July 1, 2023, which adoption or change occurs after July 1, 2023; or, (b) A suspension, termination, interruption, denial, failure to renew, or imposition of a new condition in, any Governmental Authorization necessary for the design, construction, or operation of the Energy Systems. The following events shall not constitute a Change in Law: (i) An event or condition that would otherwise be a Change in Law except that it is the result of a wrongful or negligent act or omission of, or lack of reasonable diligence by, a Party. The contesting in good faith by a Party of any such event or condition does not, in and of itself, constitute, or should not be deemed to constitute, a wrongful or negligent action or omission or lack of reasonable diligence; (ii) Any enactment of a new Law, or a change in a Law before July 1, 2023, which enactment or change was complete before July 1, 2023, but which was not effective until after July 1, 2023. For the purposes of this definition, an enactment or change is complete when it can become effective without any further action by any Governmental Authority; or, (iii) A change in income Tax Law or any interpretation thereof.
Change of Ownership	Either of the following actions: (a) The transfer of an interest, direct or indirect, in an Equity Participant or Concessionaire; or, (b) Any other assignment, sale, financing, grant of security interest, hypothecation, conveyance, transfer of interest or transaction of any type or description in an Equity Participant or Concessionaire, including by or through voting securities, asset transfer, contract, merger,

	acquisition, succession, dissolution, liquidation, bankruptcy, or otherwise.
Change Order	A written order issued by the UMD Procurement Officer directing Concessionaire to make changes in the Program Agreements or Project Documents pursuant to the Base Concession Agreement.
Change Order Request	Concessionaire's request to UMD to issue a Change Order to make a change within the scope of the Agreement (excluding proposals for Additional Capital Improvements, Material Changes, and Project Proposals) submitted pursuant to Section 16.2 of the Base Concession Agreement.
Chilled Water Demarcation Point	The point or points of interconnection between a Chilled Water System and the chilled water system in each UMD Building, as identified in Section 19.3.1 of the Operating Requirements.
Chilled Water Distribution System	A component of a Chilled Water System defined in Section 19.1.2 of the Operating Requirements. Each Chilled Water Distribution System existing at Commencement is shown on a drawing contained in Appendix H-5.
Chilled Water Production Unit	The Equipment defined in Section 19.1.2 of the Operating Requirements.
Chilled Water Service	An Energy Service delivered by a Chilled Water Distribution System to a UMD Building for space cooling.
Chilled Water Systems	The DTP-based Energy Systems providing Chilled Water Service to UMD, as defined in Section 19.1 of the Operating Requirements.
Claim	The document submitted to the UMD Procurement Officer to initiate the formal Dispute Resolution Process pursuant to Section 24.2.3 of the Base Concession Agreement.
Collateral Agent	The Institutional Lender listed or otherwise designated to act as trustee or agent on behalf or at the direction of the other Lenders (if any) in the Security Documents, or the Institutional Lender designated to act as trustee or agent on behalf of, or at the direction of, the other Lenders in an intercreditor agreement or other document executed by all Lenders to whom Security Documents are outstanding at the time of execution of

	such document, a copy of which shall be delivered by Concessionaire to UMD. In the event of any Program Debt issues held by a single Lender, Collateral Agent means such Lender. A Bond Trustee, if an Institutional Lender, may also be the Collateral Agent.
CMMS	Computerized Maintenance Management System, which is the software system utilized by Concessionaire to track and document all operation and management services provided pursuant to the Concession Agreement.
COMAR	The Code of Maryland Regulations and any successor compilation of regulations issued by the State.
Commencement	January 1, 2025.
Committed Investment	Equity Investments and Deferred Equity Amounts.
Commodity	Fuel, water, electricity, or any other raw material required to generate electricity, steam, hot water, or chilled water, excluding water treatment chemicals or other substances.
Comparable Energy System	A system producing and/or delivering steam, hot water, chilled water, or electricity (whether privately or publicly owned) that is (i) located at a large educational or research institution; (ii) reasonably comparable to the relevant Energy System in terms of physical structure, capacity, utilization, and nature of the services provided. UMD and Concessionaire may agree in writing to designate one or more energy systems as "Comparable Energy Systems."
Concession Agreement or **Agreement**	The Energy Services Concession Agreement between UMD and Concessionaire (as amended or restated from time to time throughout the Term), which consists of the Base Concession Agreement and its appendices and schedules.
Concessionaire	Maryland Energy Impact Partners LLC and its successors or assigns.
Concessionaire Charge	The Availability Payment and the Energy Services Charge.

Concessionaire Default	An event identified in Section 19.1 of the Base Concession Agreement that is not cured by Concessionaire within the applicable cure period (if any).
Concessionaire Intellectual Property	Intellectual Property that is the property of the Concessionaire or its Affiliates, Key Contractors, or Subcontractors.
Concessionaire Party	Any Concessionaire-affiliated Person, including any director, officer, employee, official, partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, Key Contractor, Subcontractor, any other Person for whom Concessionaire is responsible under the Law, or other representative of Concessionaire.
Condensate Demarcation Point	The point of interconnection between the condensate collection system in a UMD Building or DTP and the Condensate Return System, as described in the Operating Requirements, Section 17.3.1 and shown on the drawing in Appendix I-2.
Condensate Input Point	Each point at which UMD delivers condensate into the Condensate Return System.
Condensate Return System	The Energy System defined in the Operating Requirements, Section 17.1.3 and shown on the drawing in Appendix H-2.
Conduit Issuer	An existing agency issuing tax exempt or taxable bonds in connection with the Phase I Capital Improvements or any Additional Capital Improvements or other Projects.
Consequential Damages	Punitive damages (excluding criminal penalties), special damages, consequential or indirect damages, loss of profits or revenues, loss of opportunity, loss of goodwill, or loss of use, arising out of breach of the Concession Agreement or in tort (including damages due to negligence), subject to the exclusions listed in Section 23.5.2 of the Base Concession Agreement.
Consolidated Construction Schedule	The timeline that consolidates the Project Schedules for all Projects being designed and constructed during a specified period. The Consolidated Construction Schedule for the Phase I Capital Improvements is contained in Appendix P-7.

Construction Management Fee	Concessionaire's fee for providing Construction Management Services for the Capital Improvements .
Construction Management Services	All administrative, management, and related services provided by Concessionaire or a Key Contractor to support the design, engineering, construction, installation, testing, and commissioning of Capital Improvements, including retaining, coordinating, monitoring, and paying Subcontractors; training workers and implementing and assuring workforce compliance with jobsite safety Laws, regulations, and applicable UMD policies; preparing, updating, distributing, and enforcing Project Construction Schedules; coordinating and supervising Project work; reviewing Shop Drawings, product data, samples, and other submittals; procuring Equipment, materials, and supplies; maintaining accurate and complete accounting records for all work; monitoring each Project's committed Project Price versus actual costs for work in progress and estimated costs for the work remaining to complete; preparing progress reports describing work completed, the percentage of work completed to date, Change Orders requested and approved, and variances from the applicable Construction Schedule, cost projections, or noteworthy situations; reviewing and evaluating each application for payment; regularly inspecting the work in progress to identify Defective work or other deficiencies and taking appropriate action to cause such work or deficiency to be corrected; preparing, submitting, and negotiating Change Orders; coordinating testing, commissioning, correction, and completion of each Project; issuing notices, responding to requests for information, conducting site tours for UMD-authorized Persons; and, performing such other oversight and coordination services as required to facilitate the satisfactory completion of each Project within the applicable committed Project Price, and in accordance with the Concession Agreement, and the Project's Plans and Specifications.
Construction Requirements	The Project Design and Construction Requirements contained in Appendix P-11.
Construction Project Manager	The member of the Workforce who serves as Concessionaire's primary supervisor for all aspects of Capital Improvement construction, including overall Project planning, timetable management, benchmark setting, construction budget development and management, construction crew and Subcontractor management, and, in cooperation with the Program Executive, coordination of construction activities with the Key Construction Contractor, and UMD stakeholders.

Consumer Price Index or CPI	The United States Consumer Price Index for All Urban Consumers (CPI-U), All Items, for the Washington-Arlington-Alexandria, DC-VA-MD-WV metropolitan statistical area, as published on a bimonthly basis by the United States Department of Labor, Bureau of Labor Statistics, for which the base year is 1982-84=100. If such publication is discontinued, "CPI" shall refer to comparable statistics on changes in the cost of living for urban consumers as the same may be computed and published (on the most frequent basis available) by an agency of the United States or by a responsible financial periodical of recognized authority, which agency or periodical shall be selected jointly by UMD and the Concessionaire.
Contract Affidavit	The Concessionaire's affidavit contained in Appendix E.
Contract Thermal Capacity Requirement	The total capacity of the Thermal Energy Production Units and the Thermal Distribution System necessary to produce and deliver quantities of thermal energy to all Thermal Delivery Points sufficient to meet UMD's Heating Service requirements, as measured on a one-hour coincident demand basis at the Thermal Delivery Points at 90 psig (or such other pressure on which the Concessionaire and UMD may agree). The Contract Thermal Capacity Requirement is equal to the Firm Thermal Production Capacity, as reduced by the Heating Service consumption and losses occurring within the CEP and the losses occurring in the Thermal Distribution System.
Contract Year	The 12-month period that begins on July 1 of each calendar year during the Operating Term and continues through June 30 of the immediately following calendar year. The first Contract Year shall begin at Commencement and continue through the next June 30 unless the Parties otherwise agree.
Contractor Controlled Insurance Program	An approach to obtaining Required Insurance that is implemented by Concessionaire to protect UMD, Key Contractors, and Subcontractors in one omnibus insurance program.
Controlling Affiliate	Any Person that directly, or indirectly through one or more intermediaries, controls a majority of the voting shares of Concessionaire, or controls the election of a majority of the

	board of directors, trustees, or other persons exercising similar functions for Concessionaire. For the purposes of this definition, "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting rights or securities, by contract, family relationship, or otherwise.
Corrective Maintenance	This term has the meaning set forth in Section 3.2.3 of the Operating Requirements.
Cost and Pricing Data	The data set forth in Appendix O-3A of the Concession Agreement (including calculations, formulas, unit and material prices, and other cost and fee information), which supports and explains the cost assumptions upon which the Financial Model is based.
CPI Adjustment	The annual adjustment to the Fixed O&M Charge and the KPI Deduction calculated in accordance with Appendix O-4, Section 1.1.3.
Credit Rating Agencies or **Rating Agency**	Any credit rating agency registered with the United States Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organizations.
Critical Path	Each path on a Project Schedule for which there is zero Float.
Critical Path Method	A step-by-step Project management technique for process planning that defines critical and non-critical tasks with the goal of preventing Project Schedule problems and process bottlenecks.
Customer Response Center	The UMD office that receives Service Call Requests from members of the UMD community and transmits such requests to Concessionaire.
Decarbonization	Decreasing, to the greatest degree possible within available financial resources, the Energy Systems' emissions of carbon dioxide and other greenhouse gases, as defined by the Kyoto Protocol, so that: (a) The Energy Systems generate thermal energy, electricity, and chilled water, efficiently through Concessionaire's selection, operation, and maintenance of Equipment that

	maximizes the useful energy output from each unit of natural resource input; (b) The Energy Systems distribute thermal, chilled water, and electric energy efficiently so that losses are minimized; (c) The Energy Systems are cost-efficient, allowing for the adoption or integration of increasing levels of renewable technology throughout the Operating Term; and, (d) UMD has transitioned away from purchasing Carbon Offsets for the Energy Systems' Carbon Emissions.
Defect or **Defective**	The condition of being in nonconformance with applicable Law, Industry Standards, Plans and Specifications, or other Project Documents, guarantees, or warranties or not being completed in a professional, skilled, and efficient manner in accordance with the Concession Agreement and Prudent District Energy Practices.
Deferred Equity Amounts	On any date, any amount of unfunded cash equity that has been committed to Concessionaire (including commitments to provide an Equity Investment or Equity Participant Debt) and is shown to be available for use in the Financial Model prior to the Actual Substantial Completion Date, but only to the extent that the commitment to provide such amount is supported by an irrevocable on-demand letter of credit issued by an Eligible Issuer naming Concessionaire and/or the Collateral Agent as beneficiary and guaranteeing the provision of the committed amount by a date which is not later than the Actual Substantial Completion Date.
Demarcation Point	The physical point at which an Energy System ends and a UMD Building System begins, as shown on drawings contained in Appendices I-1 through I-5.
Department Representative	The UMD employee of a Self-Support Unit who is charged with the responsibility for planning maintenance projects for one or more UMD Buildings and for scheduling outages of UMD Building Systems.
Depositary	A savings bank, a savings and loan association or a commercial bank or trust company that would qualify as an Institutional

	Lender, designated by the Concessionaire, that enters into an agreement with the Concessionaire to serve as depositary pursuant to this Agreement, provided that such Depositary shall have an office, branch, agency or representative located in Baltimore, Maryland or Washington, D.C., provided that so long as a Leasehold Mortgage is in effect, the Depositary under Section 18.11 of this Agreement shall be the institution acting as the collateral agent or depositary under the financing secured by such Leasehold Mortgage, whether or not it has an office, branch, agency or representative located in those cities.
Design Criteria or **DC/FS**	The Energy Systems Design Criteria and Facility Standards and the Phase I Capital Improvements Design Standards.
Design Fee	Concessionaire's fee to provide Design Services for Capital Improvements.
Design Services	All professional services required to prepare the design of the Phase I Capital Improvements Projects and other Projects, including the preparation of all architectural and engineering plans and all drawings, specifications, reviews, submissions for UMD's comments, comment discussion, modeling, all design deliverables, clarifications, amendments, design support for applications for Governmental Authorizations (including Environmental Governmental Authorizations, and all other Project design and engineering work.
Differing Site Condition	Subsurface or latent physical conditions that Concessionaire encounters at a Project Site or adjacent to the underground portions of the Energy Systems that are: (a) Materially different from conditions ordinarily encountered on, and generally recognized as inherent in, work of the character Concessionaire is obligated to perform under the Concession Agreement; or, (b) Conditions that were not discovered by Concessionaire in its performance of the due diligence investigation described in Appendix P-8. "Differing Site Condition" does not include paleontological, biological, and cultural (including archaeological and historical) resources; and,

Differing Site Conditions Allowance	The amount of $250,000 utilized by the Parties as described in Section 21.3.10.
Direct Agreement	An agreement entered into between UMD and the Lender or its agent(s) regarding Lender's rights and obligations under Article 25 of the Agreement. The form of the Direct Agreement for the financing of the Phase I Capital Improvements is contained in Appendix G-1.
Directive Letter	A document issued by the UMD Procurement Officer to direct Concessionaire to perform any work for which a Change Order could be issued or to direct the performance of certain work during a Dispute about the scope of, or Concessionaire's performance of, that work.
Dispute Resolution Process	The process established by Article 24 of the Base Concession Agreement for the resolution of disputes between the Parties.
District Thermal Plant or DTP	One of 13 standalone buildings or spaces within UMD Buildings identified in Appendix H-5, all Equipment installed therein, and all systems connecting such Equipment to other UMD Buildings for the purpose of: (a) Converting steam or electricity into chilled water for Cooling Service; (b) Converting steam into hot water for Heating Service; (c) Heating potable water for Domestic Hot Water Service; and, (d) Delivering chilled water, heating hot water, and domestic hot water to the UMD Buildings connected to the DTP.
Distribution	Any of the following payments: (a) Any distribution, dividend, repayment of shareholder loan (whether of principal, interest, breakage costs, or otherwise), reduction of capital, redemption, or purchase of shares or any other reorganization or variation to share capital, or other payment, monetary or in-kind, made by Concessionaire to any Equity Participant, including payment of the proceeds of any Refinancing, on account of such Equity Participant's investment in Concessionaire;

	(b) Any payment by Concessionaire to an Affiliate other than as compensation or reimbursement under a Key Contract or a Subcontract; or, (c) The early release of any contingent funding liability to any Equity Participant.
Domestic Hot Water Demarcation Point	The point at which a Domestic Hot Water System interconnects with a UMD Building's domestic hot water system.
Domestic Hot Water Distribution System	The Energy System defined in Section 20.1.2 of the Operating Requirements.
Domestic Hot Water Production Unit	The Equipment defined in Section 20.1.1 of the Operating Requirements.
Domestic Hot Water Service	An Energy Service that produces and delivers potable hot water to certain UMD Buildings that receive Heating Service from a DTP.
Easement	A right to use Campus areas adjacent to the Energy Systems, as granted Concessionaire by the Easement Agreement.
Easement Agreement	The agreement between the State (for the use of the University System) as Grantor and Concessionaire as Grantee, dated July 1, 2023, that provides Concessionaire certain Easements through the Campus and access to the UMD Buildings for operating, maintaining, repairing, replacing, and using the Energy Systems. The form of the Easement Agreement is contained in Appendix C.
Eastern Prevailing Time	Whichever Eastern Standard Time or Eastern Daylight Time is in effect at the time being referenced.
Effective Date	The date on which the Concession Agreement is executed by both Parties.
Electric Demarcation Point	The point located on the low voltage side of the main disconnect panel within each UMD Building at which the Electric Distribution System interconnects with the UMD Building's electric system.

Electric Distribution System	The Energy System defined in Section 18.1.2 of the Operating Requirements. A drawing showing the routing of the Electric Distribution System's feeders is contained in Appendix H-4.
Electric Input Point	One of the points at which electricity enters the Electric Distribution System, as identified in Section 18.1.2 of the Operating Requirements. (a) The point or points of interconnection between the Mowatt Substation and the Pepco local distribution system; (b) The point or points of interconnection between the CEP and the Electric Distribution System; and, (c) The point or points of interconnection between any UMD Renewable Resource and the Electric Distribution System.
Electric Power Production Unit	Any of the electric power generation units, temporary power generation units (if any), and the Equipment associated therewith (but not heat recovery steam generators) installed in the Central Energy Plant.
Electric Service	An Energy Service delivered by the Electric Distribution System to a UMD Building for lighting and other uses.
Electric Service Quality Standards	The minimum quality standards for electricity delivered to each Electric Demarcation Point, as set forth in the Operating Requirements.
Electric System	The Mowatt Substation and the Electric Distribution System.
Eligible Issuer	A financial institution with long term unsecured debt ratings of at least the following, from at least two of the listed major rating agencies: (a) A- by Standard & Poor's Ratings Services; (b) A3 by Moody's Investor Service, Inc.; or (c) A- by Fitch Ratings.
Eligible Surety	A surety or insurance company, as applicable, meeting the requirements of applicable Law, licensed or authorized to do business in the State, and rated at least "A" (excellent or above) according to A.M. Best's Financial Strength Rating and "VIII" or better according to A.M. Best's Financial Size Rating.

Emergency	The occurrence of an event or the imminent threat of an event that, unless immediately addressed and successfully mitigated, has resulted, or may result, in: (a) An Unplanned Service Outage that disrupts or damages UMD's operations, student life, teaching, research, or other activities or Concessionaire's operation of the Energy Systems; or, (b) Harm to Persons and/or damage, destruction, interruption, or loss of all or any portion of the Energy Systems, any UMD Building, any UMD Building System, any ongoing research project, any proprietary research project, or any other property.
Emergency Repairs	A Repair that must be made to restore the safe operation of an Energy System following an Emergency.
Emergency Response KPI	The KPI described in, and calculated in accordance with, Section 7.2 of Appendix O-5.
Encumbrance	Any claim, lien, pledge, option, charge, easement, security interest, deed of trust, mortgage, right-of-way, encroachment, building or use restriction, conditional sales agreement, encumbrance, or other right of third parties, whether voluntarily incurred or arising by operation of law, and includes, without limitation, any agreement to give any of the foregoing in the future, and any contingent sale or other title retention agreement or lease in the nature thereof.
Energy Service	One of the Energy Services.
Energy Services	The energy services Concessionaire is obligated to supply to UMD under the Concession Agreement: Heating Service, Electric Service, Chilled Water Service, and Domestic Hot Water Service.
Energy Services Charge	Concessionaire's charge for managing, operating, and maintaining the Energy Systems that is equal to the Fixed O&M Charge and the Reimbursable Costs Charge.
Energy System	One of the following systems providing Energy Services to the UMD Buildings: the Thermal System, the Electric System, the Chilled Water Systems, the Domestic Hot Water System and all

	Improvements, Repairs, Replacements, and additions thereto throughout the Operating Term.
Energy Systems Design Criteria and Facilities Standards	The document contained in Appendix J.
Energy Systems Electrical Engineer	Concessionaire's subject matter expert for all electrical, instrumentation and control facets of its performance of the Concession Agreement as they relate to electrical, instrumentation, and control components, Equipment and systems associated with the Energy Systems.
Energy Systems Mechanical Engineer	Concessionaire's subject matter expert for all mechanical facets of its performance of the Concession Agreement as they relate to mechanical components, Equipment and systems associated with the Energy Systems.
Energy Systems Operation	All Management Services, Operating Services, and Maintenance Services that Concessionaire is required to perform under the Concession Agreement to provide Energy Services in accordance with the Operating Requirements, the KPIs, and Prudent District Energy Practices.
Environmental Authorization	A Governmental Authorization issued pursuant to an Environmental Law.
Environmental Claim	Any claim, investigation, notice, demand, liability, obligation, cause of action, accusation, allegation, order, violation, damage (foreseeable or unforeseeable, including, without limitation, consequential and punitive damages), injury, judgment, lien imposition, penalty or fine, cost of enforcement, cost of remedial action or any other cost or expense, including, without limitation, reasonable attorney's fees and disbursements and expert and technical costs, arising under any Environmental Law or relating to any Environmental Matter or any Governmental Authorization, including, but not limited to either of the following claims: (a) Claims by Government Authorities for enforcement, cleanup, removal, response, remedial or other actions, or damages pursuant to any Environmental Law or relating to any Environmental Matter; or,

	(b) Claims by third parties seeking damages, contribution, indemnification, cost recovery, compensation, or injunctive relief relating to, or resulting from, Hazardous Substances or arising from alleged injury or threat of injury to health, property, safety, the environment, or natural resources.
Environmental Law	Any federal, state, or local Law, now or hereinafter in effect, relating to, or imposing liability or standards of conduct concerning, air pollution, water pollution, protection of wildlife or the environment, noise or odor control, or the generation, use, handling, transportation, discharge, disposal, storage, release, or recovery of on-site or off-site Hazardous Substances or Hazardous Waste or any other material that is subject to regulation as to the generation, use, handling, transportation, discharge, recovery, disposal, storage, or recovery thereof, including without limitation any interpretation of any of the foregoing by any court, regulatory body or other governmental authority, as well as any amendment, modification or replacement of any of the foregoing. Environmental Law includes, but is not limited to, the following Laws, as they are amended and interpreted from time to time throughout the Term by any court, regulatory body or other governmental authority, and any common law relating to any Environmental Matter: (a) the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601 et seq.; (b) the Resource Conservation and Recovery Act, 42 U.S.C. §6901 et seq.; (c) the Clean Air Act, 42 U.S.C. §7401 et seq.; (d) the Clean Water Act of 1977, 33 U.S.C. §1251 et seq.; (e) the Toxic Substances Control Act, 15 U.S.C. §2601 et seq., (f) the Hazardous Materials Transportation Act, 49 U.S.C. §1801 et seq.; (g) the Oil Pollution Act, 33 U.S.C. §701 et seq.; (h) the Endangered Species Act, 16 U.S.C. §1531 et seq.; (i) the National Environmental Policy Act, 42 U.S.C. §4321 et seq.; (j) the Maryland Environmental Policy Act, Md. Nat. Res. Code Ann. §1-301 et seq. and the Natural Resources Article of the Annotated Code of Maryland; (k) the National Pollutant Discharge Elimination System; and, (l) all environmental protection Laws and regulations enacted or adopted pursuant to the foregoing or by or under the authority of the State.
Environmental Legal Costs	Reasonable attorney fees and expenses incurred by Concessionaire related to Environmental Matters or Environmental Claims that UMD reimburses pursuant to Section 11.3.3.

Environmental Matter	Any condition, event, or state of facts relating to any air contaminant, water contaminant, noise, odor, Hazardous Substance, or other material (the generation, transportation, release whether actual or threatened, storage, or disposition of which is, or may become, subject to regulation by a Governmental Authority) that could give rise to any Environmental Claim against UMD or Concessionaire under any one or more Environmental Laws.
Environmental Matter/Environmental Claim KPI	The KPI described in, and calculated pursuant to, Section 6.1 of Appendix O-5.
Equipment	All apparatus, machinery, devices, fixtures, and other appurtenant equipment and personal property (other than any Records or personal property of Concessionaire or its employees) that is located on or within any portion of the Energy Systems at or after Commencement and necessary for the proper operation and maintenance of the Energy Systems. Equipment shall include any and all engines, turbines, pumps, dynamos, motors, electrical wiring and equipment, switchgears, pipes, wires, flow and other meters, instrumentation, controls and similar items; all boilers; heating, plumbing, and ventilating apparatus; gas, electric and steam fixtures; chutes, ducts, and tanks; air cooling and air conditioning equipment; tools and building supplies and non-system equipment such as desks, chairs, backhoe equipment, trucks and spare parts, and all additions and replacements thereto.
Equity Investment	The following types of investment: (a) Any form of direct cash investment by an Equity Participant, including the purchase of newly issued equity shares in Concessionaire and/or subordinated loans to Concessionaire; and, (b) Any cash draws by or on behalf of Concessionaire under the letter(s) of credit described in the definition of Deferred Equity Amount.

Equity IRR	The nominal post-tax internal rate of return to the Committed Investment over the full Term calculated, using the Financial Model, at the discount rate that, when applied to Committed Investment cash flows, gives a zero net present value. Equity IRR is initially equal to the Initial Base Case Equity IRR and can change when and if the Financial Model is updated pursuant to the Agreement. For purposes of this definition: (a) The phrase "post-tax" refers to a single level of U.S. federal, state and local corporate income tax for regularly taxed U.S. organized, domestic "C" corporations only, and excludes any foreign income tax and other tax of any kind; and, (b) The phrase "cash flows" refers to Distributions minus Equity Investments.
Equity Participant	(a) Any Person who directly holds any shares of capital stock, units, partnership or membership interests, other equity interests, or equity securities of the Concessionaire; or, (b) Any Person who holds an indirect controlling interest in a direct Equity Participant in Concessionaire.
Equity Participant Debt	Bona fide indebtedness for funds borrowed that: (a) is held by any Equity Participant and (b) is subordinated in priority of payment and security to all Program Debt held by Persons who are not Equity Participants.
Equity Participant Funding Agreement	Any loan agreement, credit agreement or other similar financing agreement or subordination agreement providing for or evidencing Equity Participant Debt.
Equity Transfer	Transfers of equity of the Concessionaire or of the direct or indirect owners of the Concessionaire, provided that no Person (that is not an Equity Participant or its beneficial owner having ownership interests in Concessionaire as of the date hereof) or group of Persons acting in concert (that is not an Equity Participant or its beneficial owner having ownership interests in Concessionaire as of the date hereof) acquires securities such that such Person or group of Persons beneficially owns more than 50% of Concessionaire's publicly traded securities.

Exempt Refinancing	A refinancing where the Concessionaire demonstrates to UMD one of the following: (a) That: (1) The proposed Refinancing refinances existing Program Debt and does not increase the Program Debt then outstanding other than by an amount equal to reasonable costs of closing the Refinancing, including lender fees, arranger fees and advisor fees, and the amount of any required reserves; and (2) No portion of the proceeds of the Refinancing will be used to make distributions or to pay non-capital costs and expenses (other than related to costs of issuance and any required reserves); or, (b) The proposed Refinancing is a Planned Refinancing that is on terms materially consistent with the terms contemplated in the Financial Model; or, (c) The redemption of the bonds defeased pursuant to Section 4.10 of the Base Concession Agreement.
Facilities Management or **FM**	UMD's Department of Facilities Management, which is responsible for administering the NextGen Program and managing, operating, and maintaining the UMD Buildings and the UMD Building Systems.
Final Completion Certificate	The certificate delivered by Concessionaire to UMD pursuant to Section 7.9 of the Construction Requirements to certify Concessionaire's completion of its Punch List work.
Finalist	One of two shortlisted Proposers designated by the NextGen Procurement Officer to participate in the development and submission of BAFO Proposals.
Financial Closing	The date on which the funding for a Capital Improvement is finalized and funds transferred.
Financial Model	The agreed-upon and independently audited analytical tool for determining the effect of changes in NextGen's financing, the optimal financing for Additional Capital Improvements, and other cost changes during the Term.

Financial Model Update	A change to the Financial Model to take account of a Model Variation Event.
Financial Modeling Data	All books, documents and back-up information setting forth all assumptions, calculations and methodologies used in the preparation of the Financial Model and any other documentation necessary or reasonably requested by UMD to operate the Financial Model, including: (a) the logical layout and structure of the Financial Model, including the names of all worksheets and a description of the color coding and/or labeling scheme(s); (b) an assumptions book, fully describing all assumptions and their sources underlying the estimates, projections and calculations in the Financial Model, revisions to the Financial Model in accordance with the Agreement, and updates to such assumptions book related to Financial Model Updates; (c) a detailed description of the function and intended use of all macros (each of which must be logically structured and well documented with comments included within the programming code); (d) the step-by-step instructions on the procedure to run and to optimize the Financial Model submitted with the BAFO Financial Submittal and each Financial Model Update, such that UMD will be able to read, use and modify the data contained therein, operate the Financial Model, and conduct detailed sensitivity analyses; and, (e) all other supporting data, technical memoranda, calculations, formulas, unit, and materials prices (if applicable) and such other cost, charge, and fee.
Financially Responsible Party	One of the following entities: (a) A parent or affiliate of Proposer or a member of Proposer's team that is financially responsible, in whole or in part, for the Proposer or Proposer's team's participation in this NextGen Program's procurement; or,

	(b) An entity that is financially responsible for Concessionaire's performance of the Concession Agreement.
Financing Agreement	Any of the following documents: (a) Any loan agreement, Funding Agreement, account maintenance or control agreement, insurance or reimbursement agreement, intercreditor agreement, subordination agreement, trust indenture, agreement from any Equity Participant in favor of any Lender, hedging agreement, interest rate swap agreement, guaranty, indemnity agreement, agreement between any Key Contractor and any Lender or Conduit Issuer, or other agreement by, with, or in favor of, any Lender pertaining to Program Debt (including any Refinancing), other than Security Documents; (b) Any note, bond or other negotiable or non-negotiable instrument evidencing the indebtedness of Concessionaire for Program Debt (including any Refinancing); and, (c) Any amendment, supplement, variation, or waiver of any of the foregoing agreements or instruments.
Financing Documents	Financing Agreements and Security Documents.
Firm Thermal Production Capacity	The Thermal System's Total Thermal Production Capacity, less the capacity of the largest Thermal Energy Production Unit located in the CEP, as determined pursuant to a Performance Test.
Fiscal Year or FY	UMD's fiscal year, which runs from July 1 of one year to June 30 of the next year.
Five-Year Performance Improvement Plan or **Five-Year Plan**	The plan prepared and updated annually by Concessionaire and reviewed annually by the Program Implementation Council that anticipates and plans for Additional Capital Improvements and other measures to enhance the Energy Systems' performance.
Fixed O&M Charge	The fixed-price component of the Energy Services Charge that recovers Concessionaire's cost of managing, operating, and maintaining the Energy Systems (subject to adjustments for inflation), which includes, but is not limited to:

	(a) The professional expenses, salaries, employee benefits, and bonuses paid or granted to the Workforce and Subcontractors to manage, operate, and maintain the Energy Systems; (b) The Concessionaire's allocated cost of corporate parent or Affiliate general and administrative support and other expenses; (c) All reasonable and necessary management costs such as rent under the Ground Lease, rent of office and storage facilities outside of the CEP and the Energy Systems, insurance charges, and business licenses; (d) The costs of issuing and administering requests for proposals in connection with the procurement of Subcontractors; (e) The cost of the supplies reasonably necessary to operate and manage the Utility System and used exclusively in connection therewith including: (1) Office supplies; (2) Motor vehicle supplies; (3) Safety, cleaning, and sanitation supplies; (4) Uniforms; (5) Computer equipment, supplies, programs, and licenses; (6) Telecommunication equipment; (7) Measuring and testing equipment and instruments; (8) Radios, pagers, cell phones, and similar audio/video communication equipment; (9) Water treatment chemicals; (10) Gas containers; and, (11) Hand tools; (f) Postage and delivery charges; (g) All telecommunication charges;

	(h) Internet access charges; (i) Repair and maintenance costs to the extent incurred in accordance with Prudent District Industry Practices, including Replacements for which Concessionaire bears responsibility under the Concession Agreement, Repairs that do not constitute Relief Events, and the cost to dispose of Waste; (j) Legal fees directly related to the operation of the Energy Systems and specifically excluding legal fees associated with participation in the NextGen procurement and the negotiation of the Concession Agreement and any amendment or modification thereto, any Change Order, any dispute with UMD or any Key Contractor or Subcontractor in connection with this Agreement, and participation in any dispute resolution process; (k) The cost of design, energy, auditing, and engineering services (other than in connection with a Directive Letter); (l) The cost of janitorial services for the Energy Systems; (m) Workforce seminar, training, and social event costs; (n) The cost of vehicles utilized in Concessionaire's performance of its obligations under the Concession Agreement and all mileage and travel costs associated with such performance; (o) Taxes for which Concessionaire is obligated under the Concession Agreement; (p) The costs of Quality Control and other inspections, audits, data analysis, and record-keeping required by the Concession Agreement or Prudent District Energy Practices;

	(q) The costs incurred for performance of the Interconnection Agreement and other coordination with utilities and Governmental Authorities; (r) The costs of compliance with the Law and Governmental Authorizations; (s) All other general and administrative expenses but only to the extent that such expenses would be properly included in a cost-of-service rate regulated by the Maryland Public Service Commission and are not Reimbursable Costs; (t) Signage, marketing/educational materials, and communications and other outreach to the UMD community; (u) The professional fees and expenses relating to the preparation of Annual Reports, monthly reports, and other audited financial statements of the Concessionaire; and, (t) The cost incurred by the Concessionaire after the Initial Financial Closing associated with Program Debt including rating monitoring, administrative agent, collateral agent, and account bank fees.
Float	The amount of time that any given activity or logically connected sequence of activities shown on the Project Schedule may be delayed before it will affect Concessionaire's ability to achieve a Project's Substantial Completion. Float is generally identified on the Project Schedule as the difference between the early completion times and the late completion times for activities.
FM Construction Coordinator	A Facilities Management employee or contractor who, in whole or in part, performs UMD's responsibilities under the Concession Agreement associated with the design and construction of Capital Improvements.
FM DTP	One of the District Thermal Plants managed, operated, and maintained exclusively by Facilities Management prior to Commencement. The FM DTPs are identified in Appendix C-4.

FM Incident Response Unit	The Persons within FM who serve as first responders in Emergency and other exigent situations.
Force Majeure Event	An event defined in Section 21.1 of the Base Concession Agreement.
Fragnet	A contemporaneous, fragmentary scheduling network, which graphically identifies the sequencing of all critical and non-critical new activities and/or activity revisions affected by a Relief Event or a Force Majeure Event with logic ties to all affected existing activities noted on a Project Schedule.
Fuel	Natural or renewable natural gas, No. 2 (low sulfur) fuel oil, and any other substance or material that can be made to react with other substances or materials so that it releases energy and thermal energy to perform work.
Fuel Storage Facility	The tanks and associated Equipment located on the site described in the Ground Lease that are used for bulk storage of fuel oil.
Full Requirements Energy Service	Energy Services that meet all requirements by UMD Buildings for steam, heating and domestic hot water, electricity, and chilled water (as applicable). Such Full Requirements Energy Service shall include changes in customer demand for any reason, including, but not limited to, seasonal factors, daily load fluctuations, increased or decreased usage, demand side management activities, and UMD's exercise of its rights under Section 3.1.4 of the Base Concession Agreement.
Fully Funded Reserve Target	The amount at which the balance in the NextGen Reserve reaches $6 million (as adjusted for inflation by the same factor as the Fixed O&M Charge).
Funding Agreement	Any of the following agreements or instruments: (a) Any loan agreement, funding agreement, account maintenance or control agreement, insurance or reimbursement agreement, intercreditor agreement, subordination agreement, trust indenture, agreement

	from any Equity Participant in favor of any Lender, hedging agreement, interest rate swap agreement, guaranty, indemnity agreement, agreement between any Key Contractor and any Lender, or other agreement by, with, or in favor of any Lender pertaining to Capital Improvements debt, other than Security Documents; (b) Any note, bond, or other negotiable or non-negotiable instrument evidencing the indebtedness of Concessionaire for Capital Improvements debt (including any Refinancing); and, (c) Any amendment, supplement, variation, or waiver of any of the foregoing agreements or instruments.
Future UMD Building	Any new UMD building or facility that is constructed on the Campus during the Term and connected to one or more Energy Systems.
GAAP	Generally Accepted Accounting Principles (U.S. version), consistently applied.
GASB	The Government Accounting Standards Board's accounting reporting standards (U.S. version), consistently applied.
Good Working Order	The condition in which: (a) All Equipment and associated Energy Systems components are operable and able to perform their intended function fully in accordance with the Law and the applicable KPIs; (b) Each Energy System has demonstrated its capability of achieving the applicable KPIs and Performance Guarantees within 45 days prior to the date of reference; (c) All required Preventive Maintenance, Scheduled Maintenance, and Repairs have been completed up to the date of reference; and, (d) With regard to software, all updates have been downloaded and installed and demonstrated to be working without error.

Governmental Authority	Any federal, State, county, municipal, or other governmental unit, agency, regulatory authority, instrumentality, or court with jurisdiction over all or any portion of the Energy Systems, the Energy Services, or the Agreement. For the purposes of the Agreement, "Governmental Authority" shall not include UMD, but shall include the University System.
Governmental Authorization	Any license, permit, consent, approval, or authorization of any type or nature issued by any Governmental Authority that is necessary to manage, operate, and maintain any of the Energy Systems or to construct any Capital Improvement.
Ground Lease	The Ground and Equipment Lease by which the State (for the use of the University System), as landlord, leases to Concessionaire, as tenant, certain premises and granted Concessionaire rights of access and use of the Energy Systems.
Hazardous Substance	Any solid, liquid, gas, odor, heat, sound, vibration, radiation or other substance or emission which is a contaminant, pollutant, dangerous substance, toxic substance, Hazardous Waste, subject waste, hazardous material or hazardous substance that is or becomes regulated by applicable Environmental Laws or which is classified as hazardous or toxic under applicable Environmental Laws (including gasoline, diesel fuel or other petroleum hydrocarbons, polychlorinated biphenyls, asbestos, lead-based paint and urea formaldehyde foam insulation).
Hazardous Waste	Waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment.
Heating Hot Water System	A portion of the Energy Systems that provides Heating Service to UMD Buildings through the circulation of hot water through pipes and heat exchanges.
Heating Quality Standards	Either of the following as applicable: (a) The standards for chemical composition and degree of saturation for steam delivered to each Steam Demarcation Point, as set forth in the Operating Requirements. (b) The standards for chemical composition of hot water for heating, as set forth in the Operating Requirements

Heating Service	An Energy Service delivered by the Thermal System to UMD Buildings for space heating and process use.
Hot/Cold Service Call	This term is defined in Section 7.4.1 of the Operating Requirements.
Hot Water Thermal Distribution System	The loop system of pipes and heat exchangers that delivers heating hot water from a Hot Water Production Unit to UMD Buildings and returns water from UMD Buildings to a Hot Water Distribution Unit.
Hot Water Production Unit	A boiler that heats water for distribution through a Hot Water Thermal Distribution System.
Improvement	Any betterment of the Energy Systems undertaken by Concessionaire under the Concession Agreement.
Incremental Cost	The additional cost Concessionaire incurs above the Energy Service Charge or the Availability Payment for compliance with a Change Order or a Directive Letter or incurs as the result of a Force Majeure Event or a Relief Event.
Incurable Concessionaire Default	An Event of Concessionaire Default under Sections 19.1.1 or 19.1.4 of the Base Concession Agreement
Indemnified Party	An entity or Person indemnified by Concessionaire pursuant to the Base Concession Agreement, including Sections 8.5.1 and 23.1.
Independent Engineer	A Person who is selected by the Parties pursuant to Section 9.12.3(e) of the Base Concession Agreement to provide a professional engineering opinion to resolve a dispute.
Industry Standards	Generally recognized standards and codes applicable to the Energy Systems and listed in the Design Criteria that establish the minimum quantity or quality levels for design and construction.
Initial Base Case Equity IRR	The nominal post-tax internal rate of return on Equity over the full Term projected in the Initial Base Case Financial Model.

Initial Base Case Financial Model	The Financial Model, adjusted at the Initial Financial Closing as provided in Section 4.3.6 of the Base Concession Agreement.
Initial Financial Closing	The financial closing on the funding for the Phase I Capital Improvements.
Initial Financial Closing Period	The period that begins on the Effective Date and ends at the Initial Financial Closing.
Initial Financial Closing Security	The Letter of Credit substantially in the form set forth in Appendix F-1 that is delivered by Concessionaire to UMD on the Effective Date pursuant to Section 4.3.2 of the Base Concession Agreement.
Initial Financial Closing Time	The date and time for occurrence of the Initial Financial Closing, which will be 10:00 a.m. Eastern prevailing time on the date that is no later than 60 days following the Effective Date (or the first Business Day thereafter, if the sixtieth day falls upon a weekend or holiday), or on a date set by the Parties in writing pursuant to Section 4.3.1 of the Base Concession Agreement.
Initial Program Debt	The taxable bonds issued by MEDCO to finance the Phase I Capital Improvements.
Innovation Zone	The UMD Building or UMD Buildings in the Designated Hot Water District selected by Concessionaire for the construction or installation of Capital Improvements and the implementation of programs in which Concessionaire supports and advances UMD's mission of education, research, and service.
Innovation Zone Hot Water District	The group of UMD Buildings that receive Heating Service from Hot Water Production Units and a Hot Water Thermal Distribution System that are designed and constructed as part of Phase I Capital Improvement Project 3.0.
Input Point	A point at which a Commodity enters the CEP or the Mowatt Substation.
Institutional Lender	Any of the following: (a) The United States of America, any state thereof or any agency or instrumentality of either of them, any municipal

	agency, public benefit corporation or public authority, advancing or insuring mortgage loans or making payments which, in any manner, assist in the financing, development, operation and maintenance of projects; (b) Any savings bank, savings and loan association, commercial bank, trust company (whether acting individually or in a fiduciary capacity) or insurance company organized and existing under the laws of the United States of America or any state thereof; (c) Any foreign insurance company or commercial bank qualified to do business as an insurer or commercial bank as applicable under the laws of the United States of America; (d) Any pension fund, foundation or university or college or other endowment fund; (e) Any investment bank, pension advisory firm, mutual fund, investment company or money management firm; (f) Any "qualified institutional buyer" under Rule 144(A) under the Securities Act of 1933 or any other similar Law hereinafter enacted that defines a similar category of investors by substantially similar terms; or, (g) Any other financial institution or entity designated by the Concessionaire and approved by UMD (provided that such institution or entity, in its activity under this Agreement, shall be acceptable under then current UMD guidelines and practices); provided that each such entity (other than entities described in clause (f) of this definition) or combination of such entities (if the Institutional Lender shall be a combination of such entities) shall have individual or combined assets, as the case may be, of not less than $500,000,000, which shall include, in the case of an investment or advisory firm, assets controlled by it or under management.
Insurance Costs	The annual premium for the insurance coverage required by Section 18.1.2(a) paid by Concessionaire and recovered as a Reimbursable Cost pursuant to Section 18.6.2(a).

Insurance Proceeds	Funds paid by a carrier of Required Insurance on a claim filed by UMD or Concessionaire.
Intellectual Property	Any and all (a) patents, trademarks, service marks, copyrights, or trade secrets; (b) devices, drawings, designs, inventions, methods, specifications, calculations, data, studies, analyses, or written works; (c) software programs, and applications, (d) instructions and operating and maintenance manuals, and (e) any other item entitled to protection under applicable Law.
Intellectual Property Escrow	Proprietary Intellectual Property held by a neutral custodian pursuant to Section 13.6.4(b) of the Base Concession Agreement.
Interconnection Agreement	The Standard Agreement for Interconnection and Parallel Operation of Generation Facilities by and between MEDCO and Pepco dated July 30, 2003, and the First Amendment thereto dated May 19, 2009. "Interconnection Agreement" also includes all future amendments or successor interconnection agreements with Pepco Electric Power Company or its successors and assigns.
Interest Rate Protection Period	The period beginning at the close of U.S. financial markets on July 1, 2023, and ending on the Bond Pricing Date.
Interim Operating Agreement	The Interim Management, Operation, and Maintenance Agreement between MEDCO and the Interim Operator dated May 3, 2019, under which Energy Services are provided to UMD until Commencement.
Interim Operator	College Park Energy, LLC.
Interim Workforce	Those individuals who perform management, operation, and maintenance services under the Interim Operating Agreement as employees or contract workers of the Interim Operator.
Key Construction Contractor	The Key Contractor that contracts to provide Concessionaire's design, engineering, construction, testing, and commissioning obligations under the Concession Agreement.
Key Contract	A contract or series of contracts directly between Concessionaire and a contractor for Project design, Project construction, Energy Systems management, operation, and

	maintenance, or for Concessionaire's NextGen Program management.
Key Contractor	Concessionaire's counterparty under any Key Contract.
Key Contractor and Subcontractor Breakage Costs	The amount reasonably and properly payable by Concessionaire to Key Contractor or Subcontractor (including, any amounts payable by any Key Contractor or Subcontractor to any Subcontractor thereof at any level), as a direct result of the termination of the Concession Agreement (including any commercially reasonable breakage fee).
Key Manager	The Program Executive, the Plant Manager, the Construction Project Manager, or any other Person performing the supervisory responsibilities of any of those positions.
Key Operating Contractor	The Key Contractor that contracts to perform Concessionaire's management, operation, and maintenance obligations under the Concession Agreement.
Key Ratios	The ratios contained in the Financing Documents with financial covenants attached to them.
Key Performance Indicator or **KPI**	One of several quantifiable values identified in Appendix O-5 used to measure the effectiveness of Concessionaire's performance of the Concession Agreements and the quality, and sufficiency of the Energy Services.
KPI Deduction	The reduction of the Fixed O&M Charge as liquidated damages for Concessionaire's failure to achieve KPIs, as determined in accordance with Section 8.0 of Appendix O-5.
KPI Dispute	A dispute under Section 9.4 of Appendix O-5.
KPI Event	An event defined in Appendix O-5, Section 3.2.
KPI Target	The amount or percentage set by a KPI as set forth in Appendix O-5, Section 3.2.
Labor Peace Agreement	An agreement between Concessionaire or Key Contractor and a labor organization representing some or all of the Workforce's members that, at a minimum, prohibits Concessionaire from disrupting the organization's recruitment and representation of

	members in exchange for the labor organization's agreement to refrain from engaging in picketing, work stoppages, boycotts, and any other economic interference with performance of the Concession Agreement by the Concessionaire or a Key Contractor.
Law	Any law, common law, statute, code, building code, ordinance, rule, regulation, order, judgment, decree, injunction, direction, and requirement of any Governmental Authority and any University Policy, as well as any amendment, modification, or replacement thereof. Law shall include any Environmental Law or Governmental Authorization that is in effect on the Effective Date or that becomes effective during the Term and must be complied with in performing the Agreement.
Laydown Area	The area of the Campus designated by UMD from time to time for Concessionaire's storage of machinery, Equipment, and materials for use in performance of the Concession Agreement.
Lead Contractor	The prime contractor/member of Proposer's team that will be responsible for making Capital Improvements to the Energy Systems if Proposer's team is awarded the NextGen Program.
Lead Member	The member of Proposer's team that is responsible for overall supervision and coordination of the Team's participation in the NextGen procurement.
Lead Operator	The member of Proposer's team that will be responsible for managing, operating, and maintaining the Energy Systems if Proposer's team is awarded the NextGen Program.
Leased Property	The property leased to Concessionaire by the State to the Use of the University System of Maryland for the benefit of UMD consisting of the Land, the Appurtenances, and the Energy Systems pursuant to the Ground Lease, provided that if at any time during the Term any portion of the Leased Property becomes no long subject to this Lease, the "Leased Property" shall thereafter mean so much thereof as remains subject to this Lease.
Leasehold Mortgage	A mortgage of Concessionaire's leasehold estate in the Leased Property securing repayment of the funds borrowed by Concessionaire to fund Capital Improvements.

Leasehold Mortgagee	Concessionaire as Tenant under the Ground Lease.
Legacy Component	Equipment and other portions of the Energy Systems at Commencement.
Legislative Auditor	The director of the Office of State Audits in the State General Assembly who conducts independent audits and evaluations of State government agencies.
Lender	Each of the holders and beneficiaries of the Funding Agreements or the Security Documents and their respective successors, assigns, participating parties, trustees, and agents, including the Collateral Agent; provided, however, that with regard to any Program Debt that is a Bond Financing, the Lender shall be deemed to be the Bond Trustee or Collateral Agent, as opposed to individual holders and beneficial owners of bonds or any Conduit Issuer of bonds loaning proceeds to Concessionaire.
Lender Breakage Costs	Any commercially reasonable prepayment premiums or penalties (including documented LIBOR or SOFR breakage fees, customary and reasonable trustee, Collateral Agent, and Lender fees but excluding any fees related to legal or other consulting costs), or make-whole payments or other prepayment amounts (including costs of early termination of interest rate and inflation rate hedging, swap, collar or cap arrangements), payable by or on behalf of, or credited against payments owing to, Concessionaire, under any Financing Agreement or Security Document or otherwise as a result of the payment, including prepayment or redemption. The term "Lender Breakage Costs" excludes any such premiums, penalties, payments, or other amounts relating to Equity Participant Debt.
Letter of Credit	A committed, irrevocable, unconditional, commercial letter of credit, in favor of the UMD, in form and content reasonably acceptable to UMD, that meets the requirements of Base Concession Agreement Section 9.6.2. A Letter of Credit form appears in Appendix F-4.
Living Wage Statute	Md. Code Ann., State Fin. & Proc., State Fin. and Proc. §18-101 *et seq.*
Maintenance Services	Preventive Maintenance, Predictive Maintenance, Corrective Maintenance, and all engineering, professional expertise, labor, materials, supplies, Equipment, utilities, day-to-day

	replacement parts and inventory, and other goods and services associated therewith to maintain the Energy Systems in Good Working Order and in compliance with the KPIs in accordance with the Concession Agreement and Prudent District Energy Practices.
Maintenance Workflow	The process described in Section 3.6 of the Operating Requirements.
Major Equipment	Thermal Production Units, Electric Production Units, Chilled Water Production Units, and other Equipment with a replacement cost greater than $100,000.
Major Event	Any of the following Campus events: (a) A visit by a head of state or other political dignitary; (b) Any significant political or academic event; (c) Any home football game or other sports event likely to draw substantial number of visitors to the Campus; (d) Move-in week for fall semester; (e) Finals week for the fall and spring semesters; (f) Graduation ceremonies; or, (g) Any other event that UMD determines may have an impact on, or require special measures regarding, the Energy Systems or the Energy Services or requiring temporary Energy Services.
Major Maintenance	The overhaul of, or major maintenance procedure for, Equipment or any other component of an Energy System that requires significant disassembly or shutdown of such Equipment or component and is undertaken in accordance with Prudent District Energy Practice, the Operations Plan, any manufacturer requirements to avoid voiding its warranty, or pursuant to any applicable Law.
Major Repair	A Project that is: (a) Undertaken to return any portion of the Energy Systems to Good Working Order; and,

	(b) Has a total "all-in" cost equal to or greater than $10,000.
Management Services	All services required to manage the Energy Systems, including all administration, engineering, professional expertise, labor, materials, Equipment, inventory, personnel, training, supervision, and other goods and services associated therewith under the Concession Agreement.
Maryland Transit Administration or **MTA**	The division of the Maryland Department of Transportation responsible for constructing and operating the State's transit system, including the Purple Line.
Material Adverse Effect	A significant detrimental impact (after taking into account contemporaneous material positive impacts) on the business, operations, financial condition, or results of operations of the Energy Systems taken as a whole or on the ability of UMD or the Concessionaire to consummate the Transaction or perform any material obligation hereunder; provided, however, that no effect arising out of, or in connection with, or resulting from, any of the following shall be deemed, either alone or in combination, to constitute or contribute to a Material Adverse Effect: (a) General economic conditions or changes therein; (b) Financial, banking, currency or capital markets fluctuations or conditions (either in the U.S. or any international market and including changes in interest rates); (c) Conditions affecting the financial services or utility industries generally; (d) Any existing event or occurrence of which Concessionaire has actual knowledge as of the BAFO Date; (e) Any action, omission, change, effect, circumstance, or condition contemplated by this Agreement or attributable to the execution, performance, or announcement of this Agreement or the Transaction (except for any litigation relating thereto or to this Agreement (or the matters contemplated herein)); and,

	(f) Negligence, intentional misconduct, or bad faith of the Concessionaire or a Concessionaire Party.
Material Change	Any material change in the dimensions, character, quality, or location of any part of the Energy Systems that would not be considered a Capital Improvement.
Max AP	Maximum Availability Payment as reflected in the Financial Model.
Max FOMC	Maximum Fixed O&M Charge as reflected in the Financial Model.
MEDCO	The Maryland Economic Development Corporation.
MH	The acronym for Utility Access Point.
Midterm Review	A comprehensive evaluation performed by, or at the direction of, the Program Implementation Council at the end of the tenth, twentieth, and thirtieth Contract Years to assess the status of the Parties' achievement of the NextGen Objectives and the alignment of the Parties' expectations of the NextGen Program with their actual experience in the Program's implementation and to identify areas of performance improvement and cooperation and new ways in which NextGen can create value for both UMD and Concessionaire.
Minority Business Enterprise or **MBE**	Any legal entity certified by the State as an MBE (other than a joint venture) that is: (a) Organized to engage in commercial transactions; (b) At least 51% owned and controlled by one or more socially and economically disadvantaged individuals; and, (c) Is managed by, and the daily business operations of which are contributed by, one or more of the socially and economically disadvantaged individuals who own and control it.
Model Variation Event	Any of the events or changed conditions identified in Section 3.1 of Appendix G-9.

Monthly Maximum Concessionaire Charge	An amount calculated pursuant to Appendix O-4, Section 1.1.2.
Mowatt Substation	The electric switching station that is located on Campus at 1 Mowatt Lane directly across the street from the Pepco local distribution system substation, as shown on the map in Appendix H-3.
New Component	Equipment and portions of the Energy Systems designed, engineered, constructed, installed, tested, and commissioned by Concessionaire pursuant to the Concession Agreement.
NextGen or **NextGen Program**	The NextGen Energy Program.
NextGen Objectives	UMD's objectives for the NextGen Program, which are: (a) Meeting UMD's long-term Energy Requirements holistically and in a manner that advances UMD's strategic and operational goals; (b) Improving long-term resiliency of Energy Services and seeking opportunities to implement innovative Energy Systems that can Advance UMD's carbon reduction goals; and, (c) Responsibly stewarding UMD's financial resources and maximizing the value of UMD's available funds for Energy Services by pursuing commercial structures that will incentivize performance and take advantage of time-limited tax incentives.
NextGen Reserve	The reserve owned by UMD and held in an escrow account to pay the costs and expenses of unplanned repairs, replacements, and certain other work for which UMD has cost responsibility under the Concession Agreement.
NextGen Reserve Charge	The component of Concessionaire's monthly charge by which UMD funds the Reserve.
NextGen Safety Manager	The member of the Workforce who serves as Concessionaire's primary supervisor for compliance with all Laws and other requirements related to the Energy Systems' safety.

Non-Concessionaire Safety Event KPI	The KPI described in, and calculated pursuant to, Section 7.2 of Appendix O-5.
Normal Work Hours	8:00 a.m. to 5:00 p.m. (or such other times designated by the Operations Management Team on Mondays through Fridays, excepting holidays observed by the State.
Notice of Termination	The notice given by UMD to Concessionaire pursuant to Section 19.5.6 or 22.1 of the Base Concession Agreement to terminate the Concession Agreement .
Notice to Cure	The notice given by UMD to Concessionaire pursuant to Section 19.3.1 of the Base Concession Agreement.
Notice to Proceed	The notice given by UMD to Concessionaire and Concessionaire to the Key Construction Contractor pursuant to Section 10.2 of the Base Concession Agreement to proceed to design, engineer, obtain necessary Governmental Authorizations for, construct, install, and commission each Phase I Capital Improvement Project in accordance with the Concession Agreement and the applicable Project Documents.
O&M Work	Concessionaire responsibilities in accordance with the Agreement during the O&M Period.
OEM	Original Equipment Manufacturer.
Open Book	Concessionaire's disclosure to UMD all price components including profit margins, central office overheads, site overheads, preliminaries, contingencies, and the cost of all materials, goods, Equipment, work, and services.
Operating Requirements	The Management, Operation, and Maintenance Requirements set forth in Appendix O-2.
Operating Services	All services required to operate the Energy Systems including all engineering, professional expertise, labor, materials, supplies, Equipment, utilities, day-to-day replacement parts, inventory, personnel, training, supervision, and other goods and services associated therewith required to be provided by Concessionaire in accordance with the Concession Agreement.

Operating Term	The portion of the Term that begins at Commencement and ends at 11:59:59 p.m. on the Reversion Date.
Operations Management Team	The group comprised of equal numbers of UMD representatives and Concessionaire Representatives that coordinates the day-to-day operation and maintenance of the Energy Systems and the UMD Building Systems and performs other coordination responsibilities under the Concession Agreement.
Operations Plan	The plan for the management, operation, and maintenance of the Energy Systems prepared and updated annually by Concessionaire to meet the requirements of Part 2 of the Operating Requirements.
P3	Public Private Partnership
P3 Statute	Annotated Code of Maryland, Finance and Procurement Code §§10A-101 – 10A-403.
Parties	UMD and Concessionaire.
Party	UMD or Concessionaire.
Payment Bond	A bond issued by a surety to guarantee Concessionaire's payment of Key Contractors and Subcontractors.
Pepco	The Potomac Electric Power Company and its successors and assigns.
Performance Bond	A bond issued by a surety to Concessionaire, the Key Construction Contractor, or the Key Operating Contractor to guarantee successful completion of a Project or performance of the management, operation, and maintenance of the Energy Systems. An acceptable form of a Performance Bond is set forth in Appendix F-3.
Performance Letter of Credit	A Letter of Credit posted by Concessionaire, the Key Construction Contractor, or the Key Operating Contractor to guarantee successful completion of a Project or performance of the management, operation, and maintenance of the Energy Systems.

Performance Security	A Performance Bond or a Performance Letter of Credit
Performance Test	A test of to determine the capacity or performance of Equipment or an Energy System.
Permitted Concessionaire Encumbrance	Any Encumbrance arising pursuant to a Security Document for the Program Debt that has been approved by UMD, provided that at no time shall Concessionaire encumber, or permit the encumbrance, of any State property or interest other than the Leased Property.
Permitted UMD Encumbrance	Any of the following Encumbrances: (a) Any easement, covenant, condition, right of way or servitude (or other similar reservation, right, and restriction) or other defects and irregularities in the title to the applicable assets that do not materially interfere with the operation or maintenance of the Energy Systems or the rights and benefits of the Concessionaire under this Agreement from and after the Effective Date; (b) Any zoning, building, environmental, health, safety, or other Law; (c) The police and regulatory powers of the State, Prince George's County, or the City of College Park with respect to the Energy Systems, and the regulation of the use of the Public Way; (d) Any right reserved to or vested in any Governmental Authority under any statute or common law; (e) Any rights reserved to or vested in UMD or the University System by any statutory provision (it being understood and agreed that nothing in this definition shall limit or otherwise affect UMD's obligations or the Concessionaire's rights hereunder); or, (f) Any amendment, extension, renewal, or replacement of any of the foregoing.
Person	Any individual (including, the heirs, beneficiaries, executors, legal representatives, or administrators thereof); any corporation, partnership, joint venture, trust, limited liability company, limited partnership, joint stock company,

	unincorporated association, or other business entity; or any Governmental Authority, including UMD.
Phase I Capital Improvements	Capital Improvements that are funded at the Initial Financial Closing and designed, engineered, constructed, installed, tested, and commissioned by Concessionaire during the first five Contract Years.
Phase I Capital Improvements Design Standards	The standards governing the design of the Phase I Capital Improvements, as set forth in Appendix P-1, and applicable to Additional Capital Improvements to the extent agreed by the Parties.
Phase I Substantial Completion	The date, established by Concessionaire's delivery of the Phase I Substantial Completion Notice, on which all Phase I Capital Improvement Projects have been Accepted or reached Substantial Completion.
Phase I Substantial Completion Notice	Concessionaire's notification of UMD that all Phase I Capital Improvement Projects have been Accepted or reached Substantial Completion.
Phase II Capital Improvements	The Capital Improvements recommended by the Decarbonization Strategy Study completed as Project 4.0 of the Phase I Capital Improvements.
Phase III Capital Improvements	Capital Improvements other than the Phase I Capital Improvements and the Phase II Capital Improvements.
Plan Year	A Contract Year for which an Operating Plan is prepared.
Planned Improvement	A Capital Improvement that is included in the Five-Year Plan.
Planned Outage	An outage of one or more Energy Services to one or more UMD Buildings that is anticipated and planned pursuant to Part 5 of the Operating Requirements.
Plans and Specifications	The detailed design, architectural, engineering, performance specifications, Preliminary Design Documents, and customary standard design and construction documents required to perform the Design Services.

Plant Manager	The member of the Workforce that serves as Concessionaire's primary supervisor for managing, operating, and maintaining the Energy Systems in accordance with this Agreement. The Plant Manager may be an employee of the Key Operating Contractor.
PM Plan	This term is defined in Section 3.3 of the Operating Requirements.
Pre-Approved Change of Ownership	A Change of Ownership that has been pre-approved by the Board of Public Works through its approval of the Concession Agreement, as set forth in Section 3.6.7 of the Base Concession Agreement.
Pre-Existing Environmental Matter	An Environmental Matter present or existing at the time of Commencement.
Predictive Maintenance	This term is defined in Section 3.2.2 of the Operating Requirements.
Pre-Initial Financial Closing Submittal	Submittals to UMD by the Preferred Finalist on the Pre-Initial Financial Closing Submittal Deadline.
Pre-Initial Financial Closing Submittal Deadline	3:00 PM Eastern Prevailing Time on [date].
Preliminary Design Documents	Those architectural, engineering, and performance specifications and drawings prepared by Concessionaire to secure Governmental Authorizations for a Project.
Preliminary Proposal	A proposal prepared by Concessionaire pursuant to Section 10.5.2 of the Base Concession Agreement to determine the feasibility of an Additional Capital Improvement, Major Repair, Replacement, or other Capital Improvement.
Premises	The Leased Property upon or within which Capital Improvements are to be installed along with any areas on Campus to which Concessionaire has the right of access under the Concession Agreement, the Ground Lease, or the Easement Agreement.

Pre-Refinancing Equity IRR	An adjustment made during the calculation of a Refinancing Gain under Section 4.5.5 of the Base Concession Agreement to raise Concessionaire's internal rate of return to the Equity IRR.
Prevailing Wage Statute	Md. Code Ann., State Fin. & Proc. §17-201 *et seq.*
Preventive Maintenance	This term is defined in Section 3.2.1 of the Operating Requirements.
Program Agreements	The Concession Agreement, the Ground Lease, the Easement Agreement, the Direct Agreement, the Interconnection Agreement, and any other agreement entered into by UMD, Concessionaire, or a Key Contractor to govern implementation of the NextGen Program.
Program Agreement	Any one of the Program Agreements.
Program Debt	Bona fide indebtedness (including subordinated indebtedness) for, or with respect to, funds borrowed or obligations incurred (including bona fide indebtedness with respect to any financial insurance issued for funds borrowed) or for the value of goods or services rendered or received, the repayment of which has specified payment dates and is secured by one or more Security Documents. Program Debt includes principal; capitalized interest; accrued interest; customary and reasonable Lender, financial insurer, agent, and trustee fees, costs, expenses, and premiums with respect thereto; payment obligations under interest rate and inflation rate hedging agreements or other derivative facilities with respect thereto; reimbursement obligations with respect thereto, and lease financing obligations. Program Debt excludes: (a) Any indebtedness secured only by an assignment of economic interest in Concessionaire or of rights to cash flow or dividends from Concessionaire; (b) Debt that constitutes consideration paid for the sale of the economic rights in Concessionaire or Equity Participants; (c) Equity bridge loans; and,

	(d) Any increase in indebtedness to the extent resulting from an agreement or other arrangement Concessionaire enters into after it was aware (or should have been aware, using reasonable due diligence) of the occurrence or prospective occurrence of an event that gives rise to termination of this Agreement, including Concessionaire's receipt of a Notice of Termination for Convenience.
Program Executive	The executive-level member of the Workforce who serves as Concessionaire's primary manager of its implementation of the Program Documents and as Concessionaire's single point of contract with UMD.
Program Financing	The Program Debt and the Equity Investment.
Program Implementation Protocols	Written procedures adopted by the Operations Management Team to govern the implementation of the NextGen Program.
Program Implementation Council or **Council**	The group of executive-level representatives of each Party that perform the responsibilities set forth in Section 6.1.1 of the Base Concession Agreement.
Project	A Capital Improvement, a group of Capital Improvements, or a Major Repair and the aggregate of activities required to complete such Capital Improvement, Capital Improvements, or Major Repair in accordance with the Concession Agreement. Project activities include acquiring Governmental Authorizations, performing or causing the furnishing of design services, constructing, installing, testing, and commissioning and performing all other services, and furnishing all other documents required by the applicable Project Documents.
Project Documents	The Base Concession Agreement, the Appendices, the Project's Plans and Specifications, Shop Drawings, Applicable Industry Standards, the Design Criteria, the Phase I Capital Improvements Design Standards, and all other documents governing the design, engineering, construction, testing, and commissioning of a Project.
Project Price	The not-to-exceed price for designing, engineering, constructing, installing, commissioning, and testing of a Project. The Project Prices for the Phase I Capital Improvements are set forth in a schedule contained in Appendix P-6.

Project Proposal	A document submitted by Concessionaire to UMD pursuant to Section 10.5.2 of the Base Concession Agreement proposing an Additional Capital Improvement or an Unplanned Improvement.
Project Schedule	A schedule for the design, engineering, construction, installation, commissioning, and testing of a Project that identifies, *inter alia*, each of the critical path events and other milestones and tasks necessary for the Project's completion and Acceptance.
Project Site	The location on the Campus for a Project's construction or installation.
Project Threshold	The amount above which a Project requires the Board of Public Works' authorization before a Notice to Proceed can be issued. As of the Effective Date, the Project Threshold is $1,000,000.
Property Tax	Any ad valorem property Tax attributable to the Energy Systems, including an ad valorem Tax on real property and improvements, buildings, structures, fixtures, and tangible personal property.
Proprietary Intellectual Property	Intellectual Property created, used, applied, or reduced to practice that derives commercial value from its protection as a trade secret under applicable Law (including patent Law).

Prudent District Energy Practices	At a particular time, those practices, methods, standards, and acts that are engaged in and generally accepted by prudent providers of services of the kind contemplated by this Agreement in the United States, taking into account (i) practices, methods, and acts in use at Comparable Energy Systems or individual energy facilities forming part of Comparable Energy Systems; (ii) life-cycle maintenance costs and considerations; (iii) commercially reasonable sustainability practices then being provided for Comparable Energy Systems, and (iv) the operation and maintenance requirements set forth in this Agreement, and that, in the exercise of reasonable judgment at the time the decision was made or action taken, could reasonably have been expected to achieve the desired result consistent with applicable Law, safety, reliability, efficiency, and expedition. "Prudent District Energy Practices" is not intended to be limited to the optimum practice or method to the exclusion of all others, but rather to be a spectrum of reasonable practices, methods, standards, and acts.
Public Information Act	Maryland Code Annotated, General Provisions Article, Title 4.
Public Way	Any street, alley, sidewalk, or other passageway, dedicated or commonly used for pedestrian or vehicular traffic or other similar purposes, located on the Campus.
Punch List	With respect to any Project, the list generated by Concessionaire in accordance with Section 7.8.1(c) of the Construction Requirements which identifies all items of work that remain to be performed in order for UMD to issue a Final Completion Certificate.
Purple Line	The Maryland Transit Administration's light rail transit system between the Bethesda Metro Station and the New Carrollton Metro Station that runs through the Campus, thereby crossing the Energy Systems at points identified in Exhibit A to the Purple Line Agreement.
Purple Line Agreement	The Baseline Utility Owner Agreement (Relocation and Interface of MEDCO's Energy Systems and MTA's Purple Line at the University of Maryland, College Park) by and between MEDCO and the Maryland Transit Administration dated June 7, 2018, a copy of which is available for review in the Online

	Document Library and will become an appendix to the Base Concession Agreement.
Quality Control	The process by which Concessionaire determines whether its performance meets the standards set in the Concession Agreement and its own internal service quality standards and expectations for the Workforce. Quality Control includes performance in accordance with the KPIs.
Quality Control Plan	Concessionaire's plan for monitoring and maintaining the quality of the performance of its obligations, including, but not limited to, meeting or exceeding the KPIs, conducting the executive inspections required under Part 16 of the Operating Requirements, customer satisfaction assessments, inspecting work performed, and other measures.
Quality Standards	The minimum standards for steam, hot water, chilled water, and electricity delivered by Concessionaire set forth in the Operating Requirements.
Records	All information and data, whether stored on computer, electronic media, audio tape, video tape, paper, cloud-based or other storage device, or other form, including, but not limited to, financial and accounting records and all ledgers, banks statements, journals, requests for proposals or bids and responses (for both successful and unsuccessful Subcontractors and Suppliers), insurance policies, written policies and procedures, Subcontractor agreements and invoices, payroll documents, timesheets, books, documents, minutes, and correspondence, instructions, manuals, schedules, receipts, memoranda, as-built documents, the Operations Plan and its components, Standard Operating Procedures, and Operating Manuals, reports, test results, construction schedules, documentation of claims and claim costs asserted by or against UMD or Concessionaire, back charge logs, daily job logs and diaries, time cards, records, reports, and data required to be prepared and maintained by Law and Environmental Law, or necessary to support an application by UMD or Concessionaire for any federal or State Tax-related payment, incentive, grant, or other funding (including manufacturers' certificates of domestic content), and, other information and data in any matter relating to performance of this Agreement and the services provided thereunder.

Refinancing	Any of the following: (a) Any amendment, variation, novation, extension, renewal, supplement, refunding, defeasance or replacement of any Program Debt, Financing Agreement or Security Document (other than any Equity Participant Debt); (b) Any Program Debt incurred by Concessionaire in addition to the Phase I Capital Improvements Program Debt, secured or unsecured; (c) The disposition of any rights or interests in, or the creation of any rights of participation with respect to, Program Debt, Financing Agreements and Security Documents or the creation or granting by Concessionaire or any Lender of any other form of benefit or interest in either Project Debt, Financing Agreements and Security Documents or Concessionaire's Interest whether by way of security or otherwise; or, (d) Any other arrangement put in place by Concessionaire or another Person which has an effect similar to any of clauses (a) through (c) above.
Refinancing Gain	The amount determined under the methodology set forth in Sections 4.5.5 of the Base Concession Agreement.
Reimbursable Costs	The component of the Energy Service Charge that reimburses Concessionaire for certain specific costs identified in Section 17.1.1(b)(2) of the Base Concession Agreement, as determined pursuant to Appendix O-4, Section 1.5.
Relief Event	An event identified in Section 21.2.2 of the Base Concession Agreement.
Renewable PPA	One of the following agreements: (a) One of the power purchase agreements entered by UMD prior to the Effective Date to purchase Supplemental Electricity from electric generation facilities powered by wind, solar, or other renewable resource and any replacements, amendments, supplements, and extensions thereto; and, (b) Any new purchase power agreements between UMD and any third-party for Supplemental Electricity from such facilities

	and any replacements, amendments, supplements, and extensions thereto.
Repair	Action undertaken by the Concessionaire to return any portion of the Energy Systems to Good Working Order.
Replacement	The replacement of Equipment at the end of its useful life or at such point as required by Prudent District Energy Practice to maintain or improve the reliability, resiliency, sustainability, and efficiency of the Energy Systems.
Request for Change Order	A document prepared by Concessionaire and delivered to UMD that sets forth Concessionaire's rationale and supporting evidence for any Incremental Costs, any extension of time, its proposed Restoration Plan, or other requested relief related to the Relief Event or Force Majeure Event identified in such notice.
Request for Change Proposal	A document prepared by UMD pursuant to Section 16.1.2 of the Base Concession Agreement to which Concessionaire must respond pursuant to Section 16.1.3.
Required Insurance	The insurance coverage Concessionaire is required to purchase and maintain pursuant to Section 18.1.2 of the Base Concession Agreement.
Responsibility Determination	The determination required by UMD under Section 10A-202(e) of the P3 Statute for a Change in Ownership that requires UMD to evaluate: (a) The capacity of the changed ownership in all respects to perform fully the requirements of this Agreement; and, (b) The changed ownership possesses the integrity and reliability that will ensure good faith performance of this Agreement.
Restated Base Fixed O&M Charge	The monthly Fixed O&M Charge after Phase I Substantial Completion as determined pursuant to Section 17.1.1(b)(1) of the Base Concession Agreement.
Restoration	The reconstruction of all or a portion of the Energy Systems following an insured loss.

Restoration Commencement Phase	The second step in restoring an Energy Service after an Unplanned Service Outage.
Restoration Plan	The plan for completing a Restoration.
Retainage	The withholding of a portion of a Project price for a defined period to assure the Key Construction Contractor and its Subcontractors have finished a Project completely and correctly in accordance with the Concession Agreement.
Reversion Date	The date on which the Agreement expires or terminates.
Reversion Work	Work identified by the Parties pursuant to Section 9.12.3 of the Base Concession Agreement.
Routine Service Call	A term defined in Section 7.5.1 of the Operating Requirements.
Scheduled Performance Test	A Performance Test conducted by Concessionaire at regular intervals throughout the Operating Term upon prior notice to UMD. A list of Scheduled Performance Tests is contained in Appendix O-6.
Scheduled Replacement	A Replacement of Equipment the timing for which is set in the Five-Year Plan.
Scheduled Substantial Completion Date	With respect to a Project, the date established by a Project's Construction Schedule, by which all construction and Acceptance Testing of the Project is completed.
Security Document	Any mortgage, deed of trust, pledge, lien, indenture, trust agreement, loan agreement, hypothecation, assignment, collateral assignment, account control agreement, financing statement under the State Uniform Commercial Code, security instrument, or other charge or encumbrance of any kind, including any lease in the nature of a security instrument, given to any Lender or Conduit Issuer as security for Program Debt or Concessionaire's obligations pertaining to Program Debt.
Self-Support DTP	A District Thermal Plant, identified in Appendix H-5, for which UMD's Residential Life, Athletics, Dining Hall Services, and other auxiliary departments are responsible for the costs of operation and maintenance in whole or in part.

Self-Support DTP Encumbrance	An Encumbrance on a Self-Support DTP's Chilled Water System Equipment.
Service Call	Concessionaire's response to a Service Call Request.
Service Call Request	A request submitted by Facility Management's Customer Response Center to the Interim Operator under the Interim Operating Agreement or to Concessionaire under this Agreement regarding a possible malfunction of, or adverse condition affecting, any Energy System that requires a diagnosis of the problem, mitigation of damages and adverse impacts, and restoration of full requirements Energy Services.
Service Vehicle	An automobile, truck, or other vehicle utilized by Concessionaire in performing its obligations under the Concession Agreement.
Shop Drawings	Drawings, diagrams, illustrations, or schedules specifically prepared or assembled by or for the Concessionaire to illustrate some portion of a Project. Shop Drawings are not Plans and Specifications.
Small Business	Either of the following entities: (a) A business, other than a broker, that meets the criteria set forth in the State Finance and Procurement Article, Title 14, subtitle 5 of the Annotated Code of Maryland as in effect on the BAFO Date for the Phase I Capital Improvements or management, operation, and maintenance services procured by Concessionaire or a Concessionaire Party during the first Contract Year; or, (b) For all other work procured by Concessionaire or a Concessionaire Party, a business, other than a broker, meeting such criteria at the time of the procurement.
Standard Operating Procedures	Concessionaire's manual of established or prescribed methods to be followed routinely for operating the Energy Systems.
Source Code and Source Code Documentation	Software written in programming languages, including all comments and procedural code, such as job control language statements, in a form intelligible to trained programmers and capable of being translated into object or machine readable code for operation on computer equipment through assembly

	or compiling, and accompanied by documentation, including flow charts, schematics, statements of principles of operations, architectural standards, and commentary, explanations and instructions for compiling, describing the data flows, data structures, and control logic of the software in sufficient detail to enable a trained programmer through study of such documentation to maintain and/or modify the software without undue experimentation. Source Code and Source Code Documentation also include all modifications, additions, substitutions, updates, upgrades, and corrections made to the foregoing items.
Start-Up	The initial activation, operation, and testing of a Capital Improvement. Start-Up does not include Acceptance Testing.
Start-up Costs	Costs incurred by Concessionaire during the Transition Period to mobilize and prepare for assuming responsibility for managing, operating, and maintaining the Energy Systems at Commencement.
State	The State of Maryland and any of its agencies, units, or instrumentalities.
Steam Production Unit	A boiler or a heat recovery steam generator and all associated Equipment necessary to generate steam for Heating Service.
Step-out Notice	The notice pursuant to Section 9.1 of the Direct Agreement.
Structure	Any structural element, component, or system installed or constructed to accommodate Equipment or construction activities.
Subcontractor	A Person having a contract directly with Concessionaire or a Key Contractor to perform work or to provide services under the Concession Agreement.
Substantial Completion	A Project's status that is attained when its construction has been completed, Acceptance Testing has been successfully performed, and UMD has issued its acceptance of Substantial Completion Notice.
Substantial Completion Notice	Concessionaire's notification to UMD pursuant to Section 7.8.3 of the Construction Requirements that a Project has reached Substantial Completion.

Substituted Entity	A third party nominated by the Collateral Agent and approved by UMD under Article 10 of the Direct Agreement to act in Concessionaire's stead and not merely as a Step-in Party.
Sufficient Records	A term defined in Section 13.3.3(b) of the Base Concession Agreement.
Supplemental Electricity	Electric supply that supplements the production of the Electric Power Production Units to meet UMD's full electric requirements. Supplemental Electricity includes electricity: (a) Purchased by, or on behalf of, UMD from an electric supplier; (b) Purchased pursuant to a Renewable PPA; or, (c) Produced by a UMD Renewable Resource.
Supplier	A manufacturer, fabricator, supplier, distributor, or vendor having a contract directly with Concessionaire, a Key Contractor, or a Subcontractor to furnish supplies, materials, or Equipment to be used for the management, operation, maintenance of the Energy Systems or to be incorporated into a Project.
Suspension Order	An order issued by the UMD Procurement Officer pursuant to Section 7.7 of the Construction Requirements suspending construction of a Project.
Target 2035 Capital Improvements	The Phase I Capital Improvements and the Phase II Capital Improvements.
Tax	Any federal, State, local or foreign income, gross receipts, commercial activity, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, permit fees, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, parking, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated or other tax, levy, impost, stamp tax, duty, fee, withholding or similar imposition of any kind payable, levied, collected, withheld or assessed at any time, including

	any interest, penalty or addition thereto, whether disputed or not.
Temporary Equipment Costs	Costs incurred by Concessionaire to obtain equipment to maintain one or more Energy Services during construction of a Capital Improvement or Energy Service Outage.
Term	The period that begins on the Effective Date and runs through the Reversion Date.
Termination for Convenience	Termination of Concessionaire's performance of the Concession Agreement pursuant to Section 22.1 of the Base Concession Agreement.
Termination O&M Costs	The Fixed O&M Charge attributable to Operating Services that Concessionaire rendered on or before the effective date of the termination, but for which UMD has not paid.
Termination Payment	UMD's payment to Concessionaire when its performance of the Concession Agreement is terminated.
Thermal Demarcation Point	The point of interconnection between the Thermal Distribution System and the thermal system in a UMD Building or DTP.
Thermal Distribution System	The component of the Thermal System that transmits thermal energy from the Central Energy Plant to each Thermal Delivery Point.
Thermal System	The Central Energy Plant, the Thermal Distribution Systems, and the Condensate Return System.
Total Phase I Capital Improvements Cost	The value shown in Appendix P-5.1, Form L-7.6.
Total Thermal Production Capacity	The aggregate capacity of the Thermal Energy Production Units with all such units in operation, as determined by a Performance Test conducted in accordance with Appendix O-6.
Traffic Control Plan	Concessionaire's plan submitted to UMD pursuant to Section 7.5.2 of the Construction Requirements to identify the roadways, parking areas, and sidewalks to be impacted by a Project's construction and to explain how Concessionaire

	intends to comply with UMD's requirements for traffic control in construction areas.
Transaction	UMD grant of an exclusive concession to Concessionaire for the delivery of Energy Services to UMD for the Term and the renewal of the Energy Systems in exchange for UMD's payment of the Concessionaire Charge according to the Concession Agreement's terms and conditions.
Transition Agreement	The procedures established by UMD and the Maryland Economic Development Corporation to govern the transition of the Energy Systems from the Interim Energy Program to the NextGen Program. The Transition Agreement is contained in Contract Appendix O-1.
Transition Period	The portion of the Term that begins at the Effective Date and ends at Commencement.
Transition Protocols	Written procedures adopted by UMD, MEDCO, and the Interim Operator to govern the transition of the responsibility to manage, operate, and maintain the Energy Systems from the Interim Operator to Concessionaire.
UMD	The University of Maryland, College Park.
UMD Break	Days on which UMD is closed for business.
UMD Building	A building or facility located on the Campus that is served by an Energy System.
UMD Building Manager	The UMD employee with the responsibility of operating and maintaining a UMD Building.
UMD Building System	A steam, hot water, electric, or chilled water distribution system managed, operated, and maintained by UMD within a UMD Building.
UMD Change	Any of the following actions by UMD: (a) A modification to the terms and conditions of the Purple Line Agreement, the Interconnection Agreement, or other agreement between UMD and a third party after the BAFO Date

	that has a material impact of on the Concessionaire's obligations under the Program Contracts; (b) Any material modification by UMD in a Project's Plans or Specifications that occurs more than 30 days following UMD's final review thereof pursuant to Section 3.3.3 of the Construction Requirements; (c) A suspension of a Project solely for UMD's convenience pursuant to Section 7.7.1 of the Construction Requirements; and, (d) An expansion of the Program's scope of work or the imposition of new requirements or standards following the BAFO Date pursuant to a Directive Letter.
UMD Emergency Management Office	UMD's Office of Emergency Management and Business Continuity.
UMD Engineer	The UMD employee, contractor, or engineering firm with responsibility for conducting engineering reviews analyses and inspections and participating in the Operations Management Team under the Concession Agreement.
UMD Party	Any Person affiliated with the State, UMD, or the University System, including any official, employee, agent, lawyer, accountant, auditor, professional advisor, consultant, any other Person for whom the State, UMD, or the University System is responsible under the Law, or other representative of the State, UMD, or the University System.
University Policies	Those policies published in Section VI: General Administration and Section X, Policies 1.00 and 2.00 of the *Consolidated USM and UMD Policies and Procedures* (available at https://policies.umd.edu or equivalent publication) that apply by their terms to contractors operating on Campus.
UMD Procurement Officer	The official in UMD's Department of Procurement and Strategic Sourcing who administers the NextGen procurement and performs certain duties for implementing the NextGen Program contract as set forth in the Concession Agreement.

UMD Program Manager	The Person with day-to-day responsibility for administering the NextGen Program for UMD, coordinating the interconnected operation of the UMD Building Systems and the Energy Systems with Concessionaire, and serving as Concessionaire's primary point of contact with UMD.
UMD Renewable Resource	Any electric generation equipment operated by UMD or a UMD-retained third-party operator that produces Supplemental Electricity using solar, wind, water, or other renewable resource and is interconnected with the Electric Distribution System.
UMD Utility Services Budget	UMD's budgeted costs for Campus utility services.
University System	The University System of Maryland.
Unplanned Improvement	Major Repairs and Unscheduled Replacements
Unplanned Service Outage	An outage of one or more Energy Services to one or more UMD Buildings that is not a Planned Outage.
Unscheduled Replacement	A Replacement that: (a) Is not included in a Five-Year Plan or must be implemented in advance of its scheduled time set out therein; and, (b) Is required in order to maintain or return the Energy Systems to Good Working Order.
Urgent Service Call	This term is defined in Section 7.3.1 of the Operating Requirements.
Useful Life	An estimated number of years Equipment or major Energy Systems component is likely to remain in service for the purpose of generating or delivering Energy Services under this Agreement, as set at the time of the installation of the Equipment or major Energy Systems component by the manufacturer or by reference to a standard reference resource utilized in the district energy industry and adjusted each Contract Year thereafter based on performance data and inspections by qualified personnel.

Utility Access Point	A point of access to the Thermal Distribution System, the Electric Distribution System, or a Chilled Water Distribution System commonly referred to as a "manhole."
Variance	A change without significant impact on the management, operation, or maintenance of the Energy Systems or a Project's plans, costs, or schedule that is issued by the UMD Procurement Officer on a "no cost" basis without issuing a Change Order.
Variance Request	A document submitted by Concessionaire to UMD to request the issuance of a Variance.
Warranty Bond	A bond that provides funds to UMD to fix Defective work or material if Concessionaire does not do so.
Waste	Garbage, trash, and other refuse that does not include any Hazardous Substances.
Woman-Owned Business Enterprise	A business owned, operated, and controlled by one or more women that is certified as a Woman-Owned Business Enterprise by the State's Department of Transportation.
Workforce	Those individuals performing Energy Systems Operations or construction as employees or contract workers of Concessionaire.

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX B

GROUND AND EQUIPMENT LEASE

GROUND AND EQUIPMENT LEASE

BY AND BETWEEN

STATE OF MARYLAND TO THE USE OF THE UNIVERSITY SYSTEM OF MARYLAND ON BEHALF OF THE UNIVERSITY OF MARYLAND, COLLEGE PARK

AND

MARYLAND ENERGY IMPACT PARTNERS LLC

COLLEGE PARK, MARYLAND
[MONTH DAY, YEAR]

GROUND AND EQUIPMENT LEASE

THIS GROUND AND EQUIPMENT LEASE ("Lease"), made this ____day of ___, 20__ by and between the STATE OF MARYLAND to the use of the UNIVERSITY SYSTEM OF MARYLAND (“System”) on behalf of the UNIVERSITY OF MARYLAND, COLLEGE PARK (“UMD”), one of its constituent institutions, (referred to collectively as “Landlord”), and MARYLAND ENERGY IMPACT PARTNERS, a limited liability company organized and existing under the laws of the State of Delaware and qualified to do business in the State of Maryland ("Tenant"), such parties being hereinafter referred to individually as “Party” and collectively as “Parties.”

WHEREAS, Landlord has determined to improve and enhance certain energy services and infrastructure throughout UMD’s campus by means of a public private partnership pursuant to Annotated Code of Maryland, Finance and Procurement Code §§10A-101 – 10A-403;

WHEREAS, in furtherance thereof, UMD has issued RFP No. 96166-K to procure a manager and operator for the Energy Systems and a contractor for the capital improvement and enhancement of the Energy Systems and has selected Tenant for such purposes;

WHEREAS, in order to finance the costs of capital improvements and enhancements to the Energy Systems, on the date hereof, Landlord is leasing the Central Energy Plant, the Fuel Storage Facility, the Mowatt Substation, and certain District Thermal Plants to Tenant pursuant to this Lease and UMD and Tenant are entering into the Concession Agreement for the long-term management, operation, maintenance, and improvement of the Energy Systems;

WHEREAS, Tenant intends to finance the costs of the Phase I Capital Improvements with debt secured by among other things, the Leasehold Estate created by this Lease;

WITNESSETH, THAT IN CONSIDERATION of the covenants and agreements of the Parties hereto as set forth in this Lease and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged by each party hereto, Landlord hereby leases to the Tenant and the Tenant hereby leases from Landlord all of those tracts of land in Prince George's County, Maryland described in Exhibits A, B, C, and D (“Land”);

TOGETHER WITH the Easements granted pursuant to the Easement Agreement, and any and all rights, alleys, ways, waters, privileges, appurtenances, and advantages, to the same belonging or in any way appertaining (collectively with the Easements, "Appurtenances");

AND FURTHER HEREBY LEASES, all of which Land, Appurtenances and Energy Systems are hereinafter referred to collectively as "the Leased Property");

SUBJECT TO THE OPERATION AND EFFECT of the Permitted UMD Encumbrances;

TO HAVE AND TO HOLD the Leased Property unto Tenant, its heirs, personal representatives, successors, and assigns, for the term of years set forth herein;

UPON THE TERMS AND SUBJECT TO THE CONDITIONS that are hereinafter set forth.

ARTICLE 1
PRELIMINARY MATTERS

1.1 INCORPORATED DEFINITIONS. Unless otherwise defined herein, capitalized terms used herein shall have the meanings assigned to them in the Concession Agreement, as supplemented, modified, or amended from time to time.

1.2 ADDITIONAL DEFINITIONS. The following terms have the meanings set forth in this Section.

"Actual Substantial Completion Date" has the meaning given to it in the Concession Agreement.

"Appurtenances" has the meaning given to it in the Recitals.

"Auxiliary Chiller" means an electric-driven chiller that was installed in a UMD Building served by DTP-4 to supplement DTP-4's production of chilled water and .to precool water returning to DTP-4.

"BPW" means the State Board of Public Works, which is the State administrative body responsible for the expenditure of all capital appropriations and the superintendence of all State public works projects.

"Central Energy Plant" means the combined heat and power plant building located on the Campus (UMD Building 001), the Fuel Storage Facility, the Steam Production Units, the Electric Power Production Units, related Easements, and all pipes, structures, fuel storage facilities, machinery, Equipment, systems, and accessories located therein. A description of the Land on which the Central Energy Plant and the Fuel Storage Facility are located is contained in Exhibit A.

"Chilled Water Demarcation Point" means a point in a UMD Building at one of the following locations:

(a) For a UMD Building with a heat exchanger, the Chilled Water Demarcation Point shall be located at a point immediately before the isolation valve on the primary (building) side of the heat exchanger.

(b) For a UMD Building with a decoupler, the Chilled Water Demarcation Point shall be located at a point immediately before the first set of building

valves within the building's mechanical room. The building decoupler will be operated and maintained by UMD.

(c) For a UMD Building without a heat exchanger or a decoupler, the Chilled Water Demarcation Point shall be located at a point immediately before the first set of building valves within the building's mechanical room.

A diagram of the typical chilled water System Demarcation Point is contained in Exhibit K.

"Chilled Water Distribution System" means all pipes, structures, machinery, Equipment, and Easements that are necessary to distribute chilled water from, and return water to, a Chilled Water Production Unit. A map showing all Chilled Water Distribution Systems at Commencement is located in Exhibit G.

"Chilled Water Production Unit" means steam-driven chillers, electric driven chillers located in a DTP, Auxiliary Chillers, and the storage tanks, cooling towers, pumps, meters, pipes, structures, and other Equipment and facilities necessary to generate chilled water.

"Chilled Water System" means for each District Thermal Plant, the Chilled Water Production Units located therein, any Auxiliary Chillers, and the associated Chilled Water Distribution System.

"Commencement" means January 1, 2025.

"Concession Agreement" means the Energy Services Concession Agreement between UMD and Concessionaire (as amended or restated from time to time throughout the Term), which consists of the Base Concession Agreement and its appendices and schedules.

"Condemnation" means the taking of all or a portion of the Leased Property by the exercise of any power of eminent domain or conveyance to, or at, the direction of a Governmental Authority under the threat of such taking.

"Condensate Input Point" means each of the points at which UMD returns quantities of condensate to Tenant, which shall be located at the condensate collection point in each UMD Building that results in Tenant operating the pumped condensate receiver and the condensate piping existing in each UMD Building's mechanical room downstream of such receiver. A diagram of the typical Condensate Input point is contained in Exhibit I.

"Condensate Return Point" means the point at which a Condensate Return System enters the Central Energy Plant.

"Condensate Return System" means the system of pipes, structures, Equipment, accessories, and related Easements used to return condensate from each Condensate Input Point to a Condensate Return Point. A map of the Condensate Return System as of the Effective Date is contained in Exhibit E.

"District Thermal Plant" or "DTP" means one of the standalone buildings or spaces within UMD Buildings, all Equipment installed therein, and all systems connecting such Equipment to other UMD Buildings with the purpose of performing all, or substantially all of the following functions:

(a) Converting steam or electricity into chilled water for Cooling Service;

(b) Converting steam into hot water for Heating Service;

(c) Heating potable water for Domestic Hot Water Service; and,

(d) Delivering chilled water, heating hot water, and domestic hot water to the UMD Buildings connected to the DTP.

Descriptions of the Land for District Thermal Plant Nos. 1, 2, 3, 4 and the Tawes Hall DTP appear in the Ground Lease's Exhibits C-1 through C-5 .

"Domestic Hot Water Demarcation Point" means the point on a Domestic Hot Water Distribution System where the distribution pipe first enters the UMD Building served by such system.

"Domestic Hot Water Distribution System" means a system of Equipment, pipes, pumps, and structures that deliver domestic hot water from a Domestic Hot Water Production Unit to a Domestic Hot Water Demarcation Point.

"Domestic Hot Water Production Unit" means the heating unit that heats potable water received from the Campus water distribution system for delivery and use in a UMD Building or set of Buildings connected to a Domestic Hot Water Distribution System.

"Domestic Hot Water System" means a system consisting of a Hot Water Production Unit and the associated Domestic Hot Water Distribution System.

"Easements" means collectively, all easements, licenses, rights-of-way, and other temporary and permanent rights and privileges, and all appurtenances thereto, granted pursuant to the Easement Agreement, together with all exhibits, schedules, appendices, modifications, supplements, and amendments thereto.

"Easement Agreement" means the agreement between the State (for the use of the University System) as Grantor and Concessionaire as Grantee that provides Concessionaire certain easements through the Campus and access to the UMD Buildings for operating, maintaining, repairing, replacing, and using the Energy Systems.

"Effective Date" has the meaning given in Section 2.1.

"Electric Demarcation Point" means the point located on the low voltage side of the main disconnect panel within each UMD Building at which the Electric Distribution System interconnects with the electric system for each UMD Building and DTP. A diagram of the typical Electric Distribution System Demarcation Point is contained in Exhibit J.

"Electric Distribution System" means the system of 13.8 kilovolt feeder cables, generators, meters, devices, utility access points, duct banks, Equipment, 13.8 kilovolt transformers, breakers, loop switches, facilities, Easements, and all extensions thereto used to deliver electric energy from the Electric Input Points to each Electric Demarcation Point and DTP. A map of the Electric Distribution System as of the Effective Date is contained in Exhibit F.

"Electric Input Point" means any of the following points at which electricity enters the Electric Distribution System:

(a) The point of interconnection at the Mowatt Substation between the Electric System and the Pepco local distribution system.

(b) The point or points of interconnection between the Central Energy Plant and the Electric Distribution System; and,

(c) The point or points of interconnection between any UMD Renewable Resource and the Electric Distribution System

"Electric Power Production Unit" means any of the electric power generation units, temporary power generation units (if any), and the Equipment associated therewith (but not heat recovery steam generators), installed in the Central Energy Plant.

"Electric System" means the Mowatt Substation and the Electric Distribution System.

"Encumbrance" means any mortgage, lien, judgment, execution, pledge, charge, security interest, restriction, easement, servitude, option, reservation, lease, claim, trust, deemed trust or encumbrance of any nature whatsoever, whether arising by operation of Law, judicial process, contract, agreement or otherwise created.

"Energy Systems" means, collectively, the following systems providing Energy Services to the UMD Buildings: The Thermal System, the Electric System, the Chilled Water Systems, the Domestic Hot Water Systems, and other repairs, replacements, and additions thereto throughout the Term.

"First Leasehold Mortgage" means the Initial Mortgage together with any modification, amendment, or extension thereof.

"First Leasehold Mortgagee" means each Lender secured by the First Leasehold Mortgage.

"Hot Water Demarcation Point" means the point located in each UMD Building served by the Thermal Distribution System on the upstream side of the building service valve.

"Initial Mortgage" means the mortgage securing repayment of the funds borrowed by Tenant to finance designing, engineering, constructing, installing, improving, and testing the Phase I Capital Improvements.

"Key Construction Contractor" means a contractor that enters into a Key Contract with Concessionaire to perform Concessionaire's responsibilities for designing, engineering, constructing, installing, improving, and testing of Capital Improvements under the Concession Agreement.

"Key Operating Contractor" means a contractor that enters into a Key Contract with Concessionaire to perform Concessionaire's responsibilities for the management, operation, maintenance, and repair of the Energy Systems under the Concession Agreement.

"Land" has the meaning given to it in the Recitals.

"Land Records" means the public land records of Prince George's County, Maryland.

"Landlord Party" means any State, System, or UMD affiliated Person, including any director, officer, employee, official, partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, contractor, subcontractor, any other Person for whom the State, System, or UMD is responsible under the Law, or other representative of Landlord.

"Leased Property" has the meaning given it in the Recitals, provided that if at any time during the Term any portion of the Leased Property becomes no long subject to this Lease, the "Leased Property" shall thereafter mean so much thereof as remains subject to this Lease.

"Leasehold Estate" means the leasehold estate in the Leased Property held by Tenant under this Lease.

"Mowatt Substation" means the electric switching station located on Campus at 1 Mowatt Lane directly across the street from the Pepco local distribution system substation. A description of the Mowatt Substation is contained in Exhibit B hereto.

"Permitted UMD Encumbrance" means any of the following Encumbrances:

(a) Any easement, covenant, condition, right-of-way, or servitude (or other similar reservation, right, and restriction) or other defects and irregularities in the title to the applicable assets that do not materially interfere with the operation or maintenance of the Energy Systems or the rights and benefits of the Concessionaire under this Agreement from and after the Effective Date;

(b) Any zoning, building, environmental, health, safety, or other Law;

(c) The police and regulatory powers of the State, Prince George's County, or the City of College Park with respect to the Energy Systems, and the regulation of the use of the Public Way;

(d) Any right reserved to or vested in any Governmental Authority under any statute or common law;

(e) Any rights reserved to or vested in UMD or the University System by any statutory provision (it being understood and agreed that nothing in this definition shall limit or otherwise affect UMD's obligations or the Concessionaire's rights hereunder); or,

(f) Any amendment, extension, renewal, or replacement of any of the foregoing.

Permitted UMD Encumbrances as of the Effective Date are listed in the Ground Lease's Exhibit L.

"Net Condemnation Proceeds" means the amount by which the full and entire award made by the condemning authority on account of a Condemnation (excluding any portion thereof made on account of a taking of any real or personal property that is not located on or part of the Leased Property) exceeds the aggregate of all reasonable attorneys', experts' and other fees, and all other expenses, incurred by Landlord and/or Tenant in connection with such Condemnation or in collecting such award (excluding any portion

thereof incurred in connection with a taking of any real or personal property which is not part of the Leased Property or in collecting any award made for such taking).

"Rent" has the meaning set forth in Section 3.1.

"Restoration" means the process of repairing, restoring, or rebuilding the Energy Systems or any portion thereof to the condition existing prior to the occurrence of a fire or other casualty or with such modifications, including as to location or configuration, as directed by UMD.

"Steam Demarcation Point" means the point located in each UMD Building served by the Steam Distribution System that results in the Tenant operating and maintaining the following Equipment:

(a) The piping up to each UMD Building's building service valve;

(b) Each UMD Building's pressure reducing station or stations, including the high pressure to low pressure station, the high pressure to medium pressure station, and the medium pressure to low pressure station;

(c) All pressure relief valves in UMD Buildings with building pressure relieve valves with multiple pressure levels; and,

(d) The quenching systems in UMD Buildings that are not connected to the Condensate Return System.

A diagram of the typical Steam Demarcation Point is contained in Exhibit H.

"Tenant Default" means each of the events identified in Section 16.1 hereof.

"Tenant Party" means any Tenant-affiliated Person, including any director, officer, employee, official, partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, Key Contractor, Subcontractor, any other Person for whom Tenant is responsible under the Law, or other representative of Tenant.

"Termination Date" has the meaning set forth in Section 2.2.1.

"Thermal Distribution System" means the system of pipes, structures, machinery, Equipment, and related Easements used to deliver steam or hot water from the Central Energy Plant to each Steam Demarcation Point or Hot Water Demarcation Point. A map of the Thermal Distribution System as of the Effective Date is contained in Exhibit E.

"Thermal Production Unit" means each of the boilers, temporary boilers, and heat recovery steam generators located in the Central Energy Plant and all Equipment associated therewith.

"Thermal System" means the Central Energy Plant, the Thermal Distribution System, and the Condensate Return System.

"UMD Noncompliance Event" means any of the events listed in Section 20.1 of the Base Concession Agreement.

1.3 **INTERPRETATION.** This Lease shall be interpreted in accordance with the rules set forth in this Section.

1.3.1 *Agreement References.* The words "herein," "hereto," "hereof," "hereunder," and similar words of reference apply to this Lease as a whole and not to any specific division, section, or subdivision.

1.3.2 *Headings.* The descriptive headings of the articles, sections, and subsections of this Lease are provided for reference and convenience and are not intended to be inclusive or definitive or to affect the Lease's interpretation or scope.

1.3.3 *Article or Section Citations.* Unless otherwise noted, citation to a specific article or section refers to that article or section of this Lease.

1.3.4 *Meaning of "Including."* "Including" means "including without limitation." Any list of examples following "including" shall not restrict or limit the generality of the word or provision for which such examples are provided.

1.3.5 *Notice.* The word "notice" means "written notice" unless specified otherwise.

1.3.6 *Consents; Approvals.* Unless specified otherwise, whenever the provisions of this Lease require or provide for, or permit, an approval or consent by either Party, such approval or consent, and any request therefor, must be in writing (unless waived in writing by the other Party).

1.3.7 *Trade Meanings.* Unless otherwise defined, words or abbreviations that have well-known technical or construction industry or trade meanings are used herein in accordance with those meanings.

1.2.8 *Currency.* Unless specified otherwise, all statements of, or references to, dollar amounts or money in this Lease are to the lawful currency of the United States of America.

1.3.9 *Generally Accepted Accounting Principles*. All accounting and financial terms used herein, unless specifically provided to the contrary, shall be interpreted and applied to Tenant in accordance with Generally Accepted Accounting Principles and to UMD in accordance with the Standards of the Governmental Accounting Standards Board.

1.3.10 *Shared Drafting Responsibilities*. To preclude application of the doctrine of *contra preferentem*, this Lease shall not be construed against either Party because such Party drafted or issued the Agreement or any portion thereof.

1.3.11 *RELATIONSHIP TO OTHER AGREEMENTS.*

(a) The Parties recognize that this Lease, the Concession Agreement, the Easement Agreement, and other Program Agreements constitute an integrated, comprehensive set of agreements that are intended to secure reliable, resilient, efficient, sustainable, and affordable long-term Energy Services for UMD and to compensate Concessionaire for making these services available. All Program Agreements should be read together to accomplish these objectives.

(b) Notwithstanding Section 1.3.11(a), this Lease and other Program Agreements are separate and independent undertakings by the Parties. This Lease constitutes the final agreement between the Parties and is the complete and exclusive expression of their agreement on the matters exclusively addressed herein. All prior and contemporaneous negotiations and agreements on such matters are expressly merged into, and superseded by, this Agreement. The provisions of this Lease may not be explained, supplemented, or qualified through evidence of a prior course of dealing or trade usage. In entering into this Lease, neither Party has relied upon any statement, representation, warranty, or agreement of the other Party with regard to the issues it addresses except for those expressly contained in this Lease. There are no conditions precedent to the effectiveness of this Lease.

ARTICLE 2
EFFECTIVE DATE; TERM

2.1 **EFFECTIVE DATE.** This Lease shall become effective at Commencement, which shall be 12:00 a.m. on the date ("Effective Date") that Tenant assumes responsibility for the management, operation, and maintenance of the Energy Systems under the Concession Agreement.

2.2 LENGTH OF TERM.

2.2.1 This Lease shall be for a term commencing at Commencement and terminating at 11:59:59 o'clock p.m. on the date that is thirty years after the date of the Actual Substantial Completion Date of all Phase I Capital Improvements ("Termination Date") except that if the date of such termination is hereafter advanced to an earlier date by express, written agreement of the Parties hereto or termination of the Concession Agreement, then subject to Section 2.4, the date to which this Lease's termination is advanced shall thereafter be the Termination Date for all purposes hereof.

2.2.2 The Tenant shall not be entitled to renew this Lease.

2.3 CONFIRMATION OF TERM COMMENCEMENT AND TERMINATION. Landlord and Tenant shall, within 30 days after the request of the other, confirm in an instrument in recordable form, the commencement of the Term and the expiration of the Term or any earlier termination of this Lease by action of Law or in any other manner, and the date or dates thereof.

2.4 NO EARLY TERMINATION. Other than a termination in accordance with the terms of Sections 11.1 and 16.4.1(c), no other termination of this Lease shall be valid or effective unless the Parties agree in writing to its termination.

2.5 SURRENDER. At the expiration of the Term in accordance with the terms hereof or any earlier termination of this Lease, Tenant shall promptly yield up to Landlord the Leased Property, including without limitation, the Energy Systems.

2.5.1 On such expiration or termination, neither Tenant nor its creditors and representatives shall thereafter have any right at law or in equity in or to any or all of the Leased Property (including, without limitation, the Energy Systems) or to repossess any of same, or in, to, or under this Lease, and Landlord shall automatically be deemed immediately thereupon to have succeeded to all of the same, free and clear of the right, title or interest therein of any creditor of Tenant or any other person whatsoever.

2.5.2 Tenant hereby waives any and all rights of redemption that it may otherwise hold under applicable law upon expiration or earlier termination of this Lease.

2.6 The rights and benefits of the Leasehold Estate granted pursuant to this Agreement and the use of the Easement Areas are subject to, and the exercise of such rights and benefits shall be construed in accordance with, the following documents in the following order of priority: (a) the Concession Agreement; (b) this Lease; (c) and, to the extent not covered

by, and not inconsistent with, the foregoing and if there are University Policies then in effect, then in accordance with such University Policies.

ARTICLE 3
RENT

3.1 **RENT.** Tenant shall pay rent ("Rent") equal to the total sum of One Hundred Dollars ($100.00) for the Term.

3.2 **WHEN DUE AND PAYABLE.** The Rent due pursuant to Section 3.1 shall be payable within thirty (30) days following Commencement. Tenant shall pay the Rent promptly when due.

3.3 **FORM AND WHERE PAYABLE.** Tenant shall pay the Rent in lawful currency of the United States of America, to Landlord by delivering or mailing it to Landlord's address at Main Administration Building, College Park, MD, 20742, Attn.: Vice President for Finance or by utilizing a wire transfer in accordance with the instructions provided by Landlord from time to time.

ARTICLE 4
USE OF PROPERTY

4.1 **NATURE OF USE.** Unless otherwise required by Law, Tenant shall continuously use the Leased Property and the Capital Improvements solely to enable Tenant to perform its obligations pursuant to the Concession Agreement and in the manner permitted therein, and for such other uses as are reasonably and customarily attendant to such uses. Tenant shall not make any other use of the Leased Property without first obtaining Landlord's written consent thereto unless otherwise required by Law.

4.2 **TENANT'S PERFORMANCE.** Landlord acknowledges that during the Concession Agreement's term, Tenant may retain Key Contractors to manage, operate, maintain, and improve the Leased Property and perform certain of Tenant's responsibilities for the Agreement's performance. Landlord shall accept performance by a Key Contractor, as the case may be, as performance by Tenant. The provisions of this Lease shall not expand the responsibility of Tenant or impose additional obligations beyond those Tenant has undertaken hereunder.

4.3 **COMPLIANCE WITH LAW AND COVENANTS.** Subject to Section 4.2 hereof, Tenant, throughout the Term, at its sole expense, and in its possession, use, and improvement of the Leased Property, shall:

4.3.1 Keep in force throughout the Term all licenses, certifications, permits, and approvals required by applicable Law that are required to permit the Leased Property to be used in accordance with this Lease and to be held in the name of

Tenant. If any license, certifications, permits, and approvals is allowed to be held by a Key Contractor or UMD, Tenant shall not be required to hold such license, in certifications, permits, and approvals its name;

4.3.2 Pay or cause to be paid when due all personal property taxes, income taxes, license fees, and other taxes assessed, levied, or imposed upon Tenant or any other person in connection with the operation of any business upon the Property or its use thereof in any other manner;

4.3.3 Not take or fail to take any action that Tenant is required to take, as the result of which action or failure to act, Landlord's estate, right, title, or interest in and to any or all of the Leased Property might be impaired; and,

4.3.4 Not cause or permit the escape, disposal, or release of any Hazardous Substance, or allow the storage or use of any Hazardous Substance in any manner not sanctioned by applicable Law or allow any Hazardous Substance to be brought onto the Leased Property, except as may be necessary or convenient to perform the obligations undertaken by Tenant pursuant to the Concession Agreement.

4.4 **PERMITS**. UMD agrees to join in such Governmental Authorizations as may be necessary or appropriate to enable Tenant to comply with the provisions of Section 4.3 and to perform its obligations under the Concession Agreement.

4.5 **EASEMENTS.** The Parties agree to execute, deliver, and record the Easement Agreement immediately following their execution, delivery, and recording of this Lease.

4.6. **ACCEPTANCE OF PROPERTY CONDITION.** Subject to Section 3.3 of the Base Concession Agreement, Tenant accepts the Leased Property "as is" without representation, warranty or covenants of any kind or nature except as provided in Article 14 herein.

ARTICLE 5
TAXES

5.1 **TAXES.** Tenant shall pay when due all Taxes payable during the Term that are determined based on the use of, operations at, occupancy of, or conduct of business in or from the Energy Systems, including any Property Taxes levied on the Energy Systems' appraised value or other method.

5.2 **PROPERTY TAXES.**

5.2.1 *Exemption.* The Parties acknowledge that, as of their execution of this Lease, the Energy Systems are exempt from Property Taxes. To the extent the Energy Systems are no longer exempt from any Property Taxes due to any cause other

than Tenant's acts or omissions (except for Tenant's execution of this Lease and the Concession Agreement or those actions Tenant is directed or obligated to take under those agreements), Landlord shall reimburse Tenant an amount equal to the total Property Taxes due and payable.

5.2.2 *Reduction.* Tenant shall use commercially reasonable efforts to reduce the amount of Property Taxes to be reimbursed by UMD pursuant to Section 5.2.1. For the purposes of this provision only, "commercially reasonable efforts" mean that the amount of the potential reduction exceeds the estimated cost of obtaining such reduction.

5.2.3 *Payment by Landlord*. Landlord reserves the right, without being obligated to do so, to pay the amount of any Taxes not timely paid by Tenant and which are not being contested by Tenant. Landlord's payment shall be deemed additional consideration hereunder, due and payable by Tenant in accordance with Section 3.9.3 of the Base Concession Agreement.

ARTICLE 6
INSURANCE

6.1 **TENANT REQUIRED INSURANCE COVERAGE.** Except as provided in Section 18.1.11 and 18.1.13 of the Base Concession Agreement, Tenant shall purchase and maintain all policies of insurance required to be purchased and maintained by Concessionaire under the Concession Agreement.

6.2 **REQUIREMENTS FOR ALL INSURANCE POLICIES.** The Parties' performance of their obligations regarding the Energy Systems' insurance shall be governed by Article 18 of the Base Concession Agreement, which is incorporated herein by reference.

6.3 **COMPLIANCE WITH INSURANCE REQUIREMENTS OF INITIAL MORTGAGE.** Landlord agrees that compliance by Tenant with the provisions of the First Leasehold Mortgage shall constitute compliance with this Article 6, provided that Landlord continues to be named as an insured as required herein.

ARTICLE 7
PUBLIC UTILITY CHARGES

7.1 **TENANT PAYMENT RESPONSIBILITY.** Tenant shall pay or cause to be paid all charges for all public utility services (including telecommunications, but excluding Commodities utilized in the production of steam, hot water, chilled water, or electricity) during the Term. Landlord shall not be liable to Tenant for any failure, modification, or interruption of any such service whatsoever, including any such failure, modification, or interruption that

either arises out of a circumstance beyond the control of Tenant or is required by any Law.

7.2 **NO LIMITATION.** Section 7.1 hereof shall not be construed to modify, amend, relieve, waive, or otherwise affect any right or obligation of Tenant under other Program Agreements.

ARTICLE 8
IMPROVEMENTS TO LEASED PROPERTY

8.1 **CAPITAL IMPROVEMENTS.** Tenant shall complete such Capital Improvements to the Leased Property as authorized under the Concession Agreement and subject to its terms.

8.2 **ALTERATIONS.** Except as provided in other Program Agreements, Tenant shall not complete any material alteration, Capital Improvement, or material addition to the Leased Property or demolish any portion thereof, without first presenting to Landlord plans and specifications therefor and obtaining Landlord's written consent thereto (which consent shall not unreasonably be withheld so long as, in Landlord's reasonable judgment, such alteration, Capital Improvement, addition, or demolition will not violate applicable Law or this Lease). Tenant may, without having to obtain Landlord's consent, make minor alterations, improvements, and additions to the Energy Systems.

8.3 **MATERIALS.** Except as provided in other Program Agreements, any alteration, improvement, or addition made to the Leased Property by either Party shall be made only in a good and workmanlike manner, using new, first-class materials, and in accordance with all applicable building codes and other Law.

8.4 **LIENS.** Tenant shall not directly or indirectly create, or cause to be created, any lien, encumbrance, charge, or imposition on the Leased Property or any other property owned or leased by Landlord.

8.4.1 *Tenant's Obligation to Release*. Within 30 days of learning of the filing of a lien, encumbrance, charge, or imposition on the Leased Property or other property owned or leased by Landlord (other than a Permitted Concessionaire Encumbrance), Tenant shall release, or cause the release of, (by bonding or otherwise) such lien, encumbrance, charge, or imposition.

8.4.2 *Landlord's Right to Release.* Landlord, upon 30 days' notice to Tenant, may satisfy or remove any lien, encumbrance, charge, or imposition levied against the Leased Property or other property owned or leased by Landlord by posting with the court a bond in the lien's amount.

(a) UMD shall not satisfy or remove any such liens, encumbrances, charges, or impositions that Tenant is contesting in good faith and for which Tenant has posted with the court a bond in the lien's amount.

(b) No later than 30 days after receipt of Landlord's invoice, Tenant shall reimburse Landlord for the costs and expenses Landlord has reasonably incurred to satisfy or remove any lien, encumbrance, charge, or imposition (including reasonable attorney fees). UMD may set off the amount of such invoice against any amounts due and owing to Tenant.

ARTICLE 9
REPAIRS AND MAINTENANCE

9.1 **REPAIRS.** Tenant shall take good care of the Leased Property in accordance with the Concession Agreement.

9.2. **MAINTENANCE.** Tenant shall keep and maintain all of the Leased Property in accordance with the Concession Agreement.

ARTICLE 10
LANDLORD'S RIGHT OF ENTRY

10.1 **INSPECTION AND REPAIR.**

10.1.1 *Right to Inspect.* Landlord and its authorized representatives shall be entitled to enter the Leased Property at any time to inspect the Leased Property, subject to, and in accordance with, the Program Agreements.

10.1.2 Landlord agrees not to exercise its rights of inspection, repair, or entry on the Leased Property if such use would contravene, or be inconsistent with, any Program Agreement.

10.2 **RIGHT TO PERFORM.** Landlord shall be entitled to pay or perform any covenant or obligation imposed on Tenant and to seek reimbursement from Tenant, subject to the right of Tenant to dispute the same in good faith and to the Program Agreements.

10.3 **RIGHT TO EXAMINE AND AUDIT BOOKS.** Landlord may examine, make extracts from, copy, and audit all Records of Tenant with respect to the Leased Property according to the terms and conditions set forth in the Concession Agreement.

ARTICLE 11
CONDEMNATION

11.1 SUBSTANTIAL CONDEMNATION. If all or substantially all of the Leased Property (as provided in Section 11.1.4) is taken by Condemnation, then:

11.1.1. Tenant shall promptly give written notice thereof to Landlord and the First Leasehold Mortgagee;

11.1.2 This Lease shall partially terminate for as much of the Leased Property as is the subject of such Condemnation on the date ("the Vesting Date") on which the title to such Leased Property vests in the condemning authority. The Rent shall be apportioned and paid up to the Vesting Date; and,

11.1.3. Landlord, Tenant, and the First Leasehold Mortgagee shall together make one claim for an award for their combined interests in the Leased Property, and the Net Condemnation Proceeds shall be paid as follows and in the following order of priority:

(a) First, to the First Leasehold Mortgagee, to be applied in accordance with its terms;

(b) Second, in the event of a Condemnation described in Section 11.1.4(b), then, to the Depository in the amount determined in accordance with Section 11.1.5 for disbursement in accordance with such Section provided, however, that Landlord shall have demonstrated to Tenant and the First Leasehold Mortgagee that following Restoration, those Energy Systems not subject to the Condemnation shall be in a usable condition such that the payments due and payable by UMD pursuant to the Concession Agreement with respect to such Energy Systems will be sufficient to pay, as and when due and payable, the First Leasehold Mortgage and the other obligations secured thereby;

(c) Third, to the extent the First Leasehold Mortgage has not been paid in full pursuant to clause (a) above, to the First Leasehold Mortgagee, up to the amount necessary to pay and discharge in full the First Leasehold Mortgage and the obligations secured thereby; and

(d) Fourth, to Tenant up to the amount of any undisputed and unpaid obligation due and payable by Landlord, and,

(e) Fifth, the remaining balance, if any, to Landlord.

11.1.4 For purposes of this Section, all or substantially all of the Leased Property shall be deemed to have been taken in a Condemnation if and only if either:

(a) The amount of the Net Condemnation Proceeds is equal to or greater than the amount necessary to discharge in full the First Leasehold Mortgage and all of the obligations secured thereby; or,

(b) Such Condemnation renders the Central Energy Plant, the Electric Distribution System, the Thermal Distribution System, or the Chilled Water Systems not reasonably usable for the continued delivery of Energy Services in substantially the same manner and to substantially the same extent as such Energy Services were conducted immediately before such Condemnation.

11.1.5 In the event of a Condemnation described in Section 11.1.4(b), Tenant shall immediately notify Landlord and the First Leasehold Mortgagee thereof and within 30 days shall notify Landlord and the First Leasehold Mortgagee of the estimated cost of Restoration, the outstanding principal balance of the First Leasehold Mortgage, the amount of the Net Condemnation Proceeds received as a result thereof, and any other amounts that would be necessary to effect Restoration to make those Energy Systems not subject to the Condemnation usable for the purposes intended by Section 11.1.3(b). Tenant shall commence and complete such Restoration with reasonable diligence at Tenant's expense, to the extent the Net Condemnation Proceeds paid to the Depository and any other monies collected from third parties as a result of such Condemnation are made available by the First Leasehold Mortgagee and Landlord and are sufficient for such purpose.

(a) Depository shall disburse such portion of the Net Condemnation Proceeds to Tenant to pay, or reimburse Tenant for, the cost of Restoration upon Tenant's written request accompanied by evidence satisfactory to Landlord and the First Leasehold Mortgagee that an amount equaling the amount requested is then due and payable or has been paid, and is properly a part of such cost, and that the Net Condemnation Proceeds not yet advanced will be sufficient to complete such Restoration.

(b) Before Restoration commences and at any time thereafter upon its receipt of a notice from Landlord or the First Leasehold Mortgagee, Tenant shall deposit with the Depository such sums as are required (in addition to any amount then held by the Depository for such purpose) to complete such Restoration. Upon receipt by Landlord and the First

Leasehold Mortgagee of evidence satisfactory to them that such Restoration has been completed and the cost thereof paid in full, and that no mechanics, supplier, or similar lien for labor or materials supplied in connection therewith may attach to the Property, any balance remaining of the Net Condemnation Proceeds shall be applied as set forth in the further provisions of Section 11.1.3(c), (d), and (e).

11.2 NON-SUBSTANTIAL CONDEMNATION. If not all or substantially all of the Leased Property is subject to Condemnation, then:

11.2.1 This Lease shall continue in full force and effect;

11.2.2 Tenant shall promptly notify Landlord and the First Leasehold Mortgagee of the Condemnation and then within thirty (30) days, provide Landlord and the First Leasehold Mortgagee the estimated cost of Restoration, the outstanding principal balance of the First Leasehold Mortgage, the amount of insurance proceeds or Condemnation award, and any other amounts which may be applied to effect Restoration;

11.2.3. Tenant shall commence and complete Restoration with reasonable diligence at Tenant's expense, so nearly as possible to return the Leased Property's value, condition, and character to that before such damage or destruction to the extent Net Condemnation Proceeds and any other monies collected from third parties as a result of such damage or destruction are available and sufficient for such purpose; and,

11.2.4 The Net Condemnation Proceeds shall be paid to the Depository, and shall be disbursed by the Depository in the following order of priority:

(a) First, the Depository shall pay to the First Leasehold Mortgagee the portion of the Net Condemnation Proceeds, if any, to which the First Leasehold Mortgagee is entitled on account of such Condemnation under its first Leasehold Mortgagee;

(b) Second, the Depository shall pay the Net Condemnation Proceeds to Tenant to pay or reimburse Tenant for the cost of Restoration in order to render the portion of the Leased Property not subject to Condemnation usable for the purposes intended, upon Tenant's written request accompanied by evidence satisfactory to Landlord and the First Leasehold Mortgagee that an amount equaling the amount requested is then due and payable or has been paid, and is properly a part of such cost, and that the Net Condemnation Proceeds not yet advanced will be sufficient to complete such Restoration and that Tenant has satisfied the

conditions for disbursement of proceeds as set forth in the First Leasehold Mortgage.

(1) Before construction commences and at any time thereafter upon notice to it from Landlord or the First Leasehold Mortgagee, Tenant shall deposit with the Depository such sums as are required (in addition to any amount then held by the Depository for such purpose) to complete the Restoration.

(2) Upon receipt by Landlord and the First Leasehold Mortgagee of evidence satisfactory to them that such Restoration has been completed and the cost thereof paid in full, and that no mechanics, supplier's, or similar lien for labor or materials supplied in connection therewith may attach to the Leased Property or any other property of Landlord and that such conditions as are set forth in the First Leasehold Mortgage have been satisfied, any balance remaining of the Net Condemnation Proceeds shall be applied as set forth below;

(c) Third, to Tenant up to the amount of any undisputed and unpaid obligation due and payable by Landlord; and

(d) Fourth, the Depository shall pay Landlord so much, if any, of the Net Condemnation Proceeds as is necessary to cure any Event of Default (which amount shall not include any Rent which, on the Vesting Date, has not accrued hereunder; and

(e) Fifth, to Landlord.

11.2.5 Anything in this Lease to the contrary notwithstanding, on the expiration or earlier termination of this Lease before Restoration is completed free and clear of any liens or encumbrances, any of the Net Condemnation Proceeds not theretofore applied to the cost of such Restoration shall be paid in the following order of priority:

(a) First, to the First Leasehold Mortgagee, in the amount necessary to pay and discharge in full the First Leasehold Mortgage and the obligations secured thereby;

(b) Second, to Tenant up to the amount of any undisputed and unpaid obligation due and payable by Landlord; and,

(c) Third, to Landlord.

11.3 **NO WAIVER OF RIGHT TO CONDEMN.** Notwithstanding anything contained herein to the contrary, Landlord, UMD, and the System have not waived or shall be deemed to have waived or otherwise limited, restricted, or affected their respective right to condemn the Leased Property or any portion thereof, including the Leasehold Estate as provided or permitted by Law.

ARTICLE 12
ASSIGNMENT AND CHANGES OF OWNERSHIP

12.1 **BOARD OF PUBLIC WORKS APPROVAL.** Pursuant to Section 10-305 of the State Finance and Procurement Article of the Annotated Code of Maryland, any sublease or assignment of a leasehold estate on property owned by the State of Maryland is subject to the BPW's prior approval. The BPW hereby approves the execution and delivery of the First Leasehold Mortgage and the recordation thereof against Tenant's interest in this Lease, any assignment of the First Leasehold Mortgagee's interest in this Lease by an assignment of the First Leasehold Mortgage, and any assignment to the First Leasehold Mortgagee or its nominee, provided however, that any further assignment or transfer of all or any part of the Leasehold Estate by Tenant or the First Leasehold Mortgagee (including but not limited to a sale, assignment, sublease or transfer to a third party as the result of a foreclosure, deed in lieu thereof, or any similar arrangement or proceeding) shall be subject to the BPW's prior approval in accordance with the same provisions applicable to a Permitted Transfer pursuant to Section 12.3.

12.2 **NO ENCUMBRANCE ON FEE.** Notwithstanding anything contained herein to the contrary, the Fee Estate shall not be subject to any lien or encumbrance of any kind and may not be subordinated by any action taken by Tenant. No provision hereof, including the provisions of this Article 12, shall be construed as granting any right, title, lien, or encumbrance in or to the Fee Estate remaining with Landlord.

12.3 **PERMITTED TRANSFERS.**

12.3.1 Except as provided in Sections 12.3.2 and 12.3.3 hereof, Tenant shall not assign, sublet, mortgage, or transfer the Leasehold Estate either through direct assignment of this Lease to another person or through a Change of Ownership.

12.3.2 *Change of Ownership.* Tenant shall not transfer the Leasehold Estate through a Change of Ownership unless such Change of Ownership constitutes a Pre-Approved Change of Ownership under Section 3.6.7 of the Base Concession Agreement or if UMD (and, if required, the BPW) approves the Change of Ownership under Sections 3.6.2 and 3.6.4 thereof.

12.3.3 *Refinancing.* If the First Leasehold Mortgage approved in Section 12.1 has been refinanced or otherwise paid and discharged in full, Tenant may mortgage the Leasehold Estate to a new First Leasehold Mortgagee approved by UMD.

12.3.4 Tenant's obligations under this Lease prior to the effective date of any transfer of the Leasehold Estate permitted under this Section 12.3 shall not be altered or impaired in any way by such transfer.

12.4 BENEFIT AND BURDEN. Subject to the foregoing provisions of this Article 12, this Lease shall be binding upon, and shall inure to the benefit of, the Parties and their respective heirs, personal representatives, successors, and assigns in interest.

ARTICLE 13
ESTOPPEL CERTIFICATE; SHORT FORM

13.1 ESTOPPEL CERTIFICATE. At any time during the Term, a Party may request in writing that the other Party, within 30 days following the request, execute and deliver to the requesting Party or its designee an estoppel certificate in recordable form containing the following information:

13.1.1 The responding Party's certification that, as of the certificate's date:

(a) This Lease is unmodified and in full force and effect (or, if there has been any modification, that it is in full force and effect as so modified, stating therein the nature of such modification);

(b) Tenant accepted possession of the Leased Property and the date on which such acceptance occurred;

(c) The dates to which Rent and other charges arising hereunder have been paid;

(d) The amount of any prepaid Rent or any credit due to Tenant hereunder;

(e) To the best of the responding Party's knowledge, information, and belief, whether the requesting Party is in default of performing any of its obligations hereunder (and, if so, specifying the nature of each such default); and,

(f) The existence or nonexistence of any other fact or condition reasonably requested by the requesting party.

13.1.2 The responding Party's acknowledgment and agreement that any statement made in the certificate may be relied upon by the requesting party and any other entity to which the certificate is addressed.

13.2 SHORT FORM. If requested by any person with an interest in this transaction, the Parties shall execute, acknowledge, and deliver simultaneously with their execution of this Lease or at any time thereafter a short form or memorandum of this Lease in form and substance satisfactory to each Party hereto in its reasonable judgment) for recordation among the Land Records at the expense of the requesting person.

ARTICLE 14
CONDITION OF TITLE AND LEASED PROPERTY

14.1 TITLE. Landlord hereby represents that as of the Effective Date, Landlord is the owner of a fee simple estate in and to the Leased Property, subject to the operation and effect of the Permitted UMD Encumbrances, and subject to required approvals by the Board of Regents and the Board of Public Works, Landlord has the full right, power, and authority to enter into this Lease and thereby to lease the Leased Property.

14.2 QUIET ENJOYMENT. Tenant shall have quiet and peaceful possession of the Leased Property during the Term so long as all of its obligations hereunder are timely performed unless such possession is terminated pursuant to Section 16.4.1(c) or any other provision of this Lease permitting such termination.

14.2 NO IMPUTED LIABILITY.

14.2.1 Nothing in this Lease shall be deemed to impose upon Landlord any liability on account of any act or failure to act by any person other than Landlord (or, where expressly so provided herein, Landlord's agents and employees).

14.2.2 Nothing in this Lease shall be deemed to impose upon Tenant any liability on account of any act or failure to act by any person other than Tenant (or, where expressly so provided herein, Tenant's agents and employees).

ARTICLE 15
ENVIRONMENTAL MATTERS

15.1 COMPLIANCE WITH ENVIRONMENTAL LAW. Tenant shall manage and maintain the Leased Property in compliance with all applicable Environmental Laws and the Environmental Authorizations issued pursuant thereto and in accordance with the Concession Agreement.

15.2 **PRE-EXISTING ENVIRONMENTAL MATTERS OR CLAIMS.** As between the Parties, Landlord shall be responsible under this Agreement for the costs and expenses of Environmental Matters and Environmental Claims existing at, or arising as the result of, Environmental Matters present or existing at Commencement, subject to, and in accordance with, the Concession Agreement.

15.3 **POST-COMMENCEMENT ENVIRONMENTAL MATTERS AND CLAIMS.** Subject to, and in accordance with, the Concession Agreement, Tenant shall be responsible under this Lease for the costs and expenses of all Environmental Matters and Environmental Claims occurring on or after Commencement to the extent caused by, or resulting from, any acts or omissions in violation of the obligations of Tenant or any Tenant Party under that agreement.

ARTICLE 16
TENANT DEFAULT

16.1 **DEFINITION.** As used in this Lease, each of the following actions, omissions, or events shall constitute a Tenant Default:

16.1.1 Tenant fails to pay the Rent it is obligated to pay under this Lease, when and as it is due and payable hereunder and without Landlord's demand therefor;

16.1.2 Tenant abandons all or part of the Leased Property, which shall be deemed to have occurred if Tenant demonstrates through statements, acts, or omissions a refusal to continue to design, construct, operate, or maintain all or a material part of the Energy Systems if such actions are excused by the occurrence of a Force Majeure Event or a Relief Event;

16.1.3 Subject to Section 16.7 hereof, Tenant commences a voluntary case under bankruptcy, insolvency, or other similar Law, is the subject of an involuntary case under bankruptcy, insolvency, or other similar Law; or,

16.1.4 Tenant acts, or fails to act, in a manner that constitutes a Concessionaire Default under Section 19.1 of the Base Concession Agreement.

16.2 **NOTICE.** Subject to Section 16.3, Landlord shall not exercise any right or remedy under this Lease upon the occurrence of a Tenant Default or applicable Law unless and until both of the following conditions have been satisfied:

16.2.1 Landlord has notified Tenant and the First Leasehold Mortgagee of the Tenant Default as provided in Section 19.2 of the Base Concession Agreement; and,

16.2.2 Tenant has failed to cure such Tenant Default within the applicable cure period under Section 19.3 of the Base Concession Agreement.

16.3 FIRST LEASEHOLD MORTGAGEE'S OPPORTUNITY TO CURE. The First Leasehold Mortgagee may cure a Tenant Default that has not been cured by Tenant within the applicable cure period. Prior to exercising any right of termination or other remedy granted by Law or this Lease, Landlord shall notify the First Leasehold Mortgagee of such occurrence and shall provide the First Leasehold Mortgagee with a reasonable opportunity (not less than the cure period provided Tenant under Section 25.3 of the Base Concession Agreement) to cure Tenant Default. The First Leasehold Mortgagee may pay any amount or perform any act required of Tenant under this Lease, and all payments made or acts done by First Leasehold Mortgagee shall be effective as acts of Tenant to cure the Tenant Default. The First Leasehold Mortgagee must advise Landlord whether it intends to cure the Tenant Default within 5 days following the date of its receipt of Landlord's notice under this Section.

16.4 LANDLORD'S REMEDIES FOR UNCURED TENANT DEFAULT.

16.4.1 Subject to Section 16.3 and the rights of the First Leasehold Mortgagee under the Direct Agreement, and without limiting the Landlord's rights under Section 19.5 of the Base Concession Agreement in connection with a Concessionaire Default, if Tenant does not cure a Tenant Default within the applicable cure period, upon the expiration of that cure period and any agreed-upon extension thereof, Landlord may take any or all of the following actions in addition to any of the remedies provided under Section 19.5 of the Base Concession Agreement:

(a) Landlord may reenter and repossess any or all of the Leased Property and any or all Capital Improvements thereto; or

(b) Landlord may bring suit for the collection of any amounts for which Tenant may be in default or for the performance of any other covenant or agreement;

(c) Landlord may terminate this Lease by giving written notice of such termination to Tenant and the First Leasehold Mortgagee, which termination shall be effective as of the date of such notice or any later date therefor specified by Landlord therein (provided that Landlord shall not be deemed to have accepted any abandonment or surrender by Tenant of any or all of the Leased Property or the Leasehold Estate under this Lease unless Landlord has so advised Tenant and the First Leasehold Mortgagee expressly and in writing, regardless of whether Landlord has reentered or relet any or all of the Leased Property or exercised any or all of Landlord's other rights under this Section or applicable Law);

(d) Landlord may cure such Event of Default in any other manner;

(e) Landlord may pursue any combination of such remedies or any other right or remedy available to Landlord on account of the Tenant Default under this Lease, or at Law, or in equity.

16.4.2 No expiration or termination of this Lease, summary dispossession proceeding, abandonment, reletting, bankruptcy, Landlord re-entry, or vacancy, shall relieve Tenant of any of its liabilities and obligations under this Lease that accrued on or before such expiration or termination.

16.5 LANDLORD'S COSTS AND EXPENSES. Tenant shall, immediately on its receipt of a written demand therefor from Landlord, reimburse Landlord for all expenses (including any and all repossession costs, management expenses, operating expenses, legal expenses, and attorneys' fees) incurred by Landlord in:

16.5.1 Curing or seeking to cure any Tenant Default;

16.5.2 Exercising or seeking to exercise any of Landlord's rights and remedies under the provisions of this Lease, at law, or in equity; and,

16.5.3 Taking any other action arising out of the Tenant Default, all of which expenses, with interest as provided by Law.

16.6 LANDLORD'S RE-ENTRY. Except as provided in this Article 16 or in Article 25 of the Base Concession Agreement, Tenant hereby expressly waives, so far as permitted by Law, the service of any notice of Landlord's intention to re-enter provided for in any statute, and Tenant, for itself and all persons claiming through or under Tenant (including any the First Leasehold Mortgagee and any other leasehold mortgagee or creditor), also waives any and all right of redemption or re-entry or repossession in case Tenant is dispossessed by a judgment or warrant of any court or judge or in case of Landlord's re-entry or repossession or in case of any expiration or termination of this Lease. (The terms "enter," "re-enter," "entry," or "re-entry" as used in this Lease must be construed in their common meaning, not in their technical, legal sense.)

16.7 LENDER RIGHTS. If Tenant commences a voluntary case under bankruptcy, insolvency, or other similar Law or is the subject of an involuntary case under bankruptcy, insolvency, or other similar Law, then Landlord's right to exercise its remedies under this Article 17 shall be subject to the following conditions:

16.7.1 Landlord shall not be entitled to exercise any remedy in Section 16.4 without the consent of the First Leasehold Mortgagee or any person (other than Tenant) claiming by, through, or under the First Leasehold Mortgage, including a purchaser at foreclosure.

16.7.2 If this Lease is terminated prior to its expiration date by reason of a Tenant Default, rejection in a bankruptcy or insolvency proceeding, or for any other reason, and the First Leasehold Mortgage and the obligations secured thereby have not been paid or discharged in full, then at the request of the First Leasehold Mortgagee, Landlord will enter into a new lease of the Leased Property with the nominee of the First Leasehold Mortgagee for so long as the First Leasehold Mortgage and the obligations secured thereby remain outstanding, which new lease shall be on the same terms and conditions contained herein, provided that all sums due Landlord under Section 16.5 and other provisions of this Lease are paid in full.

16.8 OTHER TENANT FAILURES TO PAY OR PERFORM. If Tenant fails to pay or perform any of its obligations hereunder, Landlord may bring a proceeding to compel specific performance of this Lease, to cure such failure, and to be reimbursed its direct costs and expenses it incurs as a result of the failure or taking action pursuant to this Section.

ARTICLE 17
DISPUTE RESOLUTION

17.1 DISPUTE RESOLUTION PROCEDURE. Except as may otherwise be provided by applicable Law, all disputes and claims arising under, or resulting from, this Lease shall be resolved in accordance with this provision.

17.1.1 *Informal Dispute Resolution*. For all disputes arising under this Lease, a Party shall notify the other Party in writing of the dispute. Within 10 days following the other Party's receipt of such notice (or such other time as the Parties may agree), the Parties shall attempt to resolve the dispute by negotiation through the Program Implementation Council.

17.1.2 *Mediation*. Contingent upon the prior written approval of the State's Attorney General, if the dispute is not resolved by negotiation within thirty (30) days following the receipt of the dispute notice under Section 17.1.1 (or such other time as the Parties may agree), the Parties may resolve the dispute through mediation under terms and conditions mutually agreed by the Parties and the State's Attorney General. Each Party shall pay one-half of the mediator's fees and expenses. If the dispute is not resolved within ninety (90) days following the State Attorney General's mediation approval, then the aggrieved Party shall follow the process set forth in Section 17.1.3.

17.1.3 *Formal Dispute Resolution*.

(a) *Claim Submittal.* A Claim shall be made in writing and submitted to the UMD Procurement Officer for decision in consultation with the State's Office of the Attorney General.

(b) *Timing of Claim.* Unless a lesser period is provided by applicable statute, regulation, or this Agreement, a Party with a Claim must file a written notice of that Claim with the UMD Procurement Officer within 30 days following the Parties' inability to settle the Claim through negotiation or mediation, as applicable. Contemporaneously with or within 30 days of the filing of a notice of Claim, but no later than the date of final payment under this Agreement, a Party must submit to the UMD Procurement Officer its written Claim containing the information specified in Code of Maryland Regulations 21.10.04.02.

(c) *Contents of Claim.* When a Claim cannot be resolved through negotiation or mediation, the Party sponsoring the Claim shall submit a written request for final decision to the UMD Procurement Officer. The written request shall set forth all relevant facts surrounding the dispute then known to the Party sponsoring the Claim, which shall be supported by Records and affidavits.

(d) *Hearing.* At the discretion of the UMD Procurement Officer, the Parties may be afforded an opportunity to be heard and to offer evidence regarding the Claim.

(e) *Decision on Claim.* The UMD Procurement Officer shall render a written decision on all Claims within one hundred eighty (180) days of receipt of a Party's written Claim, unless he or she determines that a longer period is necessary to resolve the Claim. If a decision is not issued within one hundred eighty (180) days, the UMD Procurement Officer shall notify the Parties of the time within which such a decision shall be rendered and the reasons for such time extension. This decision shall be furnished to the Parties, by certified mail, return receipt requested, or by any other method that provides evidence of receipt. The UMD Procurement Officer's decision shall be deemed the final action of the State, subject to the right of appeal pursuant to Section 17.1.3(f).

(f) *Appeal.* The UMD Procurement Officer's decision shall be final and conclusive unless a Party files a written appeal with the State Board of Contract Appeals within thirty (30) days of receipt of said decision or, if such appeal is not available under the Law, a Party files an action in State Circuit Court.

17.2 PERFORMANCE DURING PENDENCY OF CLAIM. Pending resolution of a Claim or dispute, Tenant shall proceed diligently with the performance of this Agreement and thereafter, in accordance with the UMD Procurement Officer's determination or decision.

ARTICLE 18
GENERAL PROVISIONS

18.1 NOTICES.

18.1.1 *RECIPIENTS.*

(a) All notices by Landlord to Tenant shall be given to the Program Executive, the Plant Manager, and other Persons identified in Exhibit M hereto.

(b) All notices by Tenant to UMD shall be given to the UMD Program Manager, the UMD Program Engineer, and other Persons identified in Exhibit M hereto.

(c) At any time, either Party may change the identity of the Persons to whom notice must be sent by delivering written notice of such change to the other Party. The UMD Program Manager shall update Exhibit M hereto as necessary and distribute the revised Exhibit to the Program Executive for distribution to other Tenant personnel.

18.1.2 *METHOD OF NOTICE*. Any notice required to be given pursuant to this Agreement shall be in writing and personally delivered or sent by United States Postal Service, Next Business Day delivery postage pre-paid, or other overnight delivery service with next Business Day delivery fees and charges pre-paid.

18.1.3 *DATE OF NOTICE RECEIPT*. Notice shall be deemed received as follows:

(a) On the next Business Day after the date of mailing if the notice is deposited with the United States Postal Service or another carrier for next Business Day delivery;

(b) On the date of delivery if the notice is personally delivered; or,

(c) If notice is given during a time when UMD is not open to conduct business, notice to UMD shall be deemed received on the first Business Day following such time, except when related to an Emergency.

18.1.4 *NOTICE BY ELECTRONIC MAIL*. A Party may give notice by electronic mail, provided that such Party retains proof of transmission and transmits a paper original of

the notice to the other Party for delivery on the next Business Day. The date of the electronic mail shall be deemed to be the date of the notice's delivery, unless such electronic mail is sent to UMD during a time when UMD is not open to conduct business, in which case the notice is effective on the first Business Day following such time.

18.2 COMPLETE UNDERSTANDING. Subject to Section 1.3.11, this Lease represents the complete understanding between the parties hereto as to the subject matter hereof and the rights and obligations of the parties hereto as to the same, and supersedes all prior negotiations, representations, guaranties, warranties, promises, statements, or agreements, either written or oral, between the parties hereto as to the same. No inducements, representations, understandings, or agreements have been made or relied upon in the making of this Lease, except those specifically set forth in this Lease. Neither party hereto has any right to rely on any other prior or contemporaneous representation made by anyone concerning this Lease which is not set forth herein.

18.3 AMENDMENT. This Lease may be amended only by an instrument that has met both of the following criteria:

18.3.1 The amendment has been executed and delivered by each Party and any First Leasehold Mortgagee, provided that such First Leasehold Mortgagee has given express, written notice to Landlord of its status as such before Landlord's execution and delivery of such instrument; and,

18.3.2 The amendment has been approved by the System's Board of Regents and the Board of Public Works.

18.4 WAIVER.

18.4.1 No Party hereto shall be deemed to have waived the exercise of any right which it holds hereunder unless such waiver is made expressly and in writing (and, without limiting the generality of the foregoing, no delay or omission by any Party hereto in exercising any such right shall be deemed a waiver of its future exercise). No such waiver made in any instance involving the exercise of any such right shall be deemed a waiver for any other instance or any other right.

18.4.2 Without limiting the generality of the foregoing, no action taken or not taken by Landlord under this Section or any other provision of this Lease (including but not limited to Landlord's acceptance of the payment of Rent after the occurrence of any Tenant Default) shall operate as a waiver of any right to be paid a late charge or of any other right or remedy which Landlord would otherwise have against Tenant on account of such Tenant Default under this Lease or applicable Law.

18.5 GOVERNING LAW; VENUE.

18.5.1 *GOVERNING LAW*. This Lease shall be construed and interpreted in accordance with the Law of the State (excluding any conflict of laws rule or principle that might refer such construction or interpretation to the Laws of another jurisdiction).

18.5.2 *VENUE.* Other than Disputes subject to the Dispute Resolution Process, any action or proceeding arising out of, relating to, or resulting from this Agreement shall be filed in the Circuit Court in and for Prince Georges County, Maryland, which court, and the courts with the jurisdiction to review the decisions of that court, shall be the only courts with any authority to decide any such cause of action. Tenant and Landlord hereby irrevocably submit to the jurisdiction of such courts with regard to such action or proceeding and irrevocably waive, to the fullest extent permitted by applicable Law, any objection they may have now or hereafter to the laying of venue in such courts and any claim that an action or proceeding has been brought in an inconvenient forum.

18.6 NON-DISCRIMINATION. Tenant shall not discriminate in any manner against an employee or applicant for employment because of:

18.6.1 Race, color, religion, creed, age, sex, gender identity and expression, sexual orientation, marital status, national origin, ancestry, genetic information, physical or mental disability, or any otherwise unlawful use of characteristics or disability of a qualified individual with a disability unrelated in nature and extent so as unreasonably to preclude the performance of such employment; or,

18.6.2 The individual's refusal to submit to a genetic test or make available the results of a genetic test.

18.7 CERTIFICATE OF CORPORATION. If the Tenant or any successor or assign of the Tenant is a corporation, such Tenant shall, to the extent required by applicable Law, certify that it is a domestic or foreign corporation that is registered or qualified in accordance with the Corporations and Associations Article of the Annotated Code of Maryland and is in good standing and has filed all its annual reports with the State of Maryland Department of Assessments and Taxation. Such Tenant shall further certify that such Tenant has paid all taxes due to the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, and the State of Maryland Department of Labor, Licensing and Regulation and has paid all withholding taxes due to the State. Such Tenant shall further pledge to remain in good standing in the State for the duration of the Term of this Lease.

18.8 FINANCIAL DISCLOSURE. Tenant agrees to comply with the State Finance and Procurement Article, Section 13-221, of the Annotated Code of Maryland that requires that every business that enters into contracts, leases, or other agreements with the State of Maryland, under which the business is to receive from the State of Maryland or its units or both a total of $200,000 or more during any calendar year, shall within thirty (30) days of the time when the $200,000 total is reached, file with the State's Secretary of State a list containing the names and addresses of its resident agent, each of its officers, and any individual who is a beneficial owner of five percent (5%) or more of the contracting business.

18.9 NO CONTINGENT FEES. Tenant warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for Tenant, to solicit or secure this Lease, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee, or any other consideration contingent on the making of this Lease.

18.10 POLITICAL CONTRIBUTION DISCLOSURE.

18.10.1 *REQUIRED REPORTING.* Tenant shall comply with Election Law Article, Title 14 of the Annotated Code of Maryland, which requires that every person entering into a procurement contract with the State and receives the amount of $200,000 or more pursuant to that contract, shall file with the State Board of Elections a statement disclosing:

(a) All contributions made during the reporting period to a candidate for elective office in any primary or general election; and,

(b) The name of each candidate to whom one or more contributions in a cumulative amount of $500 or more were made during the reporting period.

18.10.2 *REPORTING DEADLINES.* The statement required under Section 18.10.1 shall be filed with the State Board of Elections twice during each calendar year throughout the Term, on or before:

(a) May 31, to cover the six (6) month period ending April 30; and,

(b) November 30, to cover the six (6) month period ending October 31.

18.11 CALCULATION OF TIME. Under this Lease, a period of days shall begin on the first day after the event that began the period and shall end at 5:00 p.m. Eastern Prevailing Time on the last day of the period. Unless specified otherwise, if the last day of the period does not

fall on a Business Day, the period shall be deemed to end at 5:00 p.m. EPT on the next Business Day.

18.12 EXHIBITS. Each writing or plat referred to herein as being attached hereto as an exhibit or otherwise designated herein as an exhibit hereto is hereby made a part hereof.

18.13 SEVERABILITY.

18.13.1 Each provision of this Lease shall be valid and enforceable to the fullest extent permitted by applicable Law. The invalidity of any one or more phrases, sentences clauses, or sections, contained in this Lease shall not affect the remaining portions of this Lease or any part thereof and shall not affect the validity or enforceability of the balance of this Lease, which shall be construed and enforced as if the Lease did not contain such invalid or unenforceable provision or part.

18.13.2 If any paragraph, section, subdivision, sentence, clause, or phrase of this Lease is for any reason held to be invalid, illegal, or unenforceable in any respect by a Governmental Authority having proper jurisdiction in a final, non-appealable decision, such decision shall not affect, or render void, the remaining portions of this Lease. In such event, the Parties shall negotiate in good faith and agree to such amendments, modifications, or supplements as shall be necessary to give maximum effect under the circumstances to the Parties' intention in this Lease.

18.13.3 If the Parties cannot agree on an appropriate amendment, modification, or supplement, either Party may refer the matter for determination pursuant to Dispute Resolution.

18.14 INDEPENDENT CONTRACTOR; NO JOINT VENTURE OR PARTNERSHIP.

18.14.1 Tenant is an independent contractor. In no event shall the relationship between Landlord and its constituent entities and Tenant be construed as creating any relationship whatsoever between Landlord and Tenant's employees or agents. Except as otherwise provided in this Lease, Tenant has sole authority and responsibility to employ, discharge, and otherwise control its employees and has complete and sole responsibility as a principal for its agents, contractors, subcontractors, and other persons that Tenant or any contractor hires to perform or assist in performing work pursuant to this Lease or the Concession Agreement.

18.14.2 Nothing in this Agreement is intended or shall be construed to create a partnership, joint venture, or similar relationship between Landlord and its

constituent entities and Tenant and in no event shall either Party take a position in any tax return or other writing of any kind that a partnership, joint venture, or similar relationship exists. While the term "public-private partnership" may be used on occasion to refer to contractual relationships of the type created by this Agreement, use of this term does not indicate any intention by the Parties to form or hold themselves out as a *de jure* or *de facto* partnership, joint venture, or similar relationship to share net profits or net losses, or give UMD control or joint control over Tenant's financial decisions or discretionary actions concerning the work or Tenant's performance of this Agreement.

18.14.3 Neither Tenant nor any of its employees or agents is, or shall be, deemed to be an employee or agent of Landlord. Tenant shall not have, or be deemed to have, power or authority to make any commitments on Landlord's behalf or to execute agreements in the name of, or on behalf of, Landlord. Tenant shall not enter into any agreement with any Governmental Authority, utility, property owner, or other third party having regulatory jurisdiction over any aspect of the work or any Project undertaken pursuant to this Agreement or having any property interest affected by a Project or work that in any way purports to obligate Landlord, or states or implies that Landlord has an obligation to such third party to undertake any activity, unless Landlord otherwise approves.

18.15 NO WAIVER OF SOVEREIGN IMMUNITY. Nothing contained in this Lease shall be deemed to constitute a waiver of any immunity which the State, Landlord, the System, or UMD may be entitled to under State Law, as the same may be amended from time to time. Sovereign immunity is waived only by virtue of, and to the extent set forth in, Title 12 of the State Government Article of the Annotated Code of Maryland.

18.16 SUCCESSORS AND ASSIGNS. This Lease shall inure to the benefit of, and shall be binding upon, the successors and assigns of Landlord and Tenant.

18.17 SURVIVAL. The provisions of Sections 10.3, 18.15, and 18.17 and Articles 11 and 15 shall survive the expiration or earlier termination of this Lease.

IN WITNESS WHEREOF, each Party hereto has executed this Lease or caused it to be executed on its behalf by its duly authorized representatives, the day and year first above written.

MARYLAND ENERGY IMPACT PARTNERS LLC

By: _____
[Typed Name]
Its: [Title]
Date:

UNIVERSITY SYSTEM OF MARYLAND

_____
J. A. Perman, Chancellor
Date: [Month] [Day], 202__

UNIVERSITY OF MARYLAND, COLLEGE PARK

By:_____
Daryll J. Pines, President
Date:

[SIGNATURES AND NOTARIES CONTINUED ON THE FOLLOWING PAGES]

Approved by the State of Maryland Board of Public Works on the _____day of ___ 202_ by Agenda Item No. __-__.

STATE OF MARYLAND BOARD OF PUBLIC WORKS

_____
Wes Moore, Governor

_____
Brooke Lierman, Comptroller

_____
John T. Gontrum, Executive Secretary

_____
Derek E. Davis, Treasurer

Attorney's Certification

This Lease was prepared by an attorney licensed to practice law in the State of Maryland.

_____
Daniel Leland Kaiser

Approved as to form and legal sufficiency this _____ day of _____. 202___.

_____
Jeffrey Palkovitz, Assistant Attorney General

STATE OF MARYLAND
COUNTY OF _____, TO WIT:
I

On this ___ day of _____, 20____before me the undersigned officer, personally appeared _____ known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged __self to be the _____ of MARYLAND ENERGY IMPACT PARTNERS LLC, and, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of MARYLAND ENERGY IMPACT PARTNERS LLC in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF PRINCE GEORGE'S TO WIT:

On this __ day of _____, 20__, before me the undersigned officer, personally appeared J.A. Perman, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Chancellor of the University System of Maryland, and, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the University System of Maryland, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF PRINCE GEORGE'S TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared Daryll J. Pines known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the President of the University of Maryland, College Park and being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the University of Maryland, College Park, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF _____ TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared Wes Moore, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Governor of the State of Maryland and that holding such capacity, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF _____ TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared Brooke Lierman, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged herself to be the Comptroller of the State of Maryland and that holding such capacity, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by herself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF _____ TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared Derek E. Davis, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Treasurer of the State of Maryland and that holding such capacity, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

LIST OF EXHIBITS

A	Description of Land for the Central Energy Plant and Fuel Storage Facility Site
B	Description of Land for the Mowatt Substation
C	Description of Land for Certain District Thermal Plants
D	Reserved
E	Map of Thermal Distribution System and Condensate Return System
F	Map of Electric Distribution System
G	Map of District Chilled Water Systems
H	Diagram of Typical Steam Distribution System Demarcation Point
I	Diagram of Typical Condensate Input Point
J	Diagram of Typical Electric Distribution System Demarcation Point
K	Diagram of Typical Chilled Water System Demarcation Point
L	List of Permitted UMD Encumbrances
M	Persons to Receive Notices

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX C

EASEMENT AGREEMENT

EASEMENT AGREEMENT

BY AND BETWEEN

STATE OF MARYLAND TO THE USE OF THE UNIVERSITY SYSTEM OF MARYLAND ON BEHALF OF THE UNIVERSITY OF MARYLAND, COLLEGE PARK

AND

MARYLAND ENERGY IMPACT PARTNERS LLC

COLLEGE PARK, MARYLAND
[MONTH, DAY, YEAR]

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT ("Agreement") is made this ____day of ___, 20__ by and between the STATE OF MARYLAND to the use of the UNIVERSITY SYSTEM OF MARYLAND (“System”) on behalf of the UNIVERSITY OF MARYLAND, COLLEGE PARK (“UMD”), one of its constituent institutions, (referred to collectively as “Grantor”), acting by and through the Board of Public Works of Maryland ,and MARYLAND ENERGY IMPACT PARTNERS, a limited liability company organized and existing under the laws of the State of Delaware and authorized to do business in the State of Maryland ("Grantee"),

WHEREAS, Grantor has decided to improve and enhance certain energy services and infrastructure throughout UMD’s campus by means of a public private partnership pursuant to Annotated Code of Maryland, Finance and Procurement Code §§10A-101 – 10A-403;

WHEREAS, in furtherance thereof, UMD has issued RFP No. 96166-K for the NextGen Energy Program (“NextGen Program”) to identify a private sector partner to manage, operate, maintain, and improve the Energy Systems and has selected Grantee for such purposes;

WHEREAS, UMD and Grantee have entered into the Energy Services Concession Agreement (“Concession Agreement”) to establish the terms and conditions for Grantee’s implementation of the NextGen Program;

WHEREAS, in furtherance thereof, Grantor as Landlord and Grantee as the Tenant have entered into the Ground and Equipment Lease (“Ground Lease”); and,

WHEREAS, to facilitate full performance of its obligations under the Concession Agreement and the Ground Lease, Grantee requires full access to the Leased Property located throughout UMD’s campus and within its buildings and facilities,

WITNESSETH, THAT IN CONSIDERATION of the covenants and agreements of the Parties as are set forth in the Ground Lease and of the covenants and agreements contained herein, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged by each Party hereto, the Grantor and Grantee agree as follows:

ARTICLE 1
PRELIMINARY MATTERS

1.1 **INCORPORATED DEFINITIONS.** Unless otherwise defined herein, capitalized terms used herein shall have the meanings assigned such terms in the Concession Agreement and the Ground Lease, as supplemented, modified, or amended from time to time.

1.2 **ADDITIONAL DEFINITIONS.** The following terms have the meanings set forth in this Section.

"Campus" has the meaning given to it in Section 2.1.

“Chilled Water System Easement Area” has the meaning given to it in Section 2.1.1.

“Chilled Water System Easement" means, collectively, all easements granted pursuant to Section 2.1.1 and the easements and licenses granted pursuant to Sections 2.1.6 and 2.2 of this Agreement to the extent applicable to the Chilled Water System Easement Area.

“Condensate Return System Easement Area” has the meaning given to it in Section 2.1.2.

“Condensate Return System Easement” means, collectively, the easement granted pursuant to Section 2.1.2 and the easements and licenses granted pursuant to Sections 2.1.6 and 2.2 to the extent applicable to the Condensate Return System Easement Areas.

“Domestic Hot Water Distribution System Easement Area” has the meaning given in Section 2.1.3.

“Domestic Hot Water Distribution System Easements” means, collectively, all easements granted pursuant to Section 2.1.3 and the easements and licenses granted pursuant to Sections 2.1.6 and 2.2 of this Agreement to the extent applicable to the Hot Water Distribution System Easement Area.

"Easements" means, collectively, the Chilled Water System Easement, the Condensate Return System Easement, the Domestic Hot Water Distribution System Easement, the Electric Distribution System Easement, the Thermal Distribution System Easement, and the Temporary Laydown Area Easement.

"Easement Areas" means, collectively, the areas described in Sections 2.1.1 through 2.1.7.

"Electric Distribution System Easement" means the easement granted pursuant to Section 2.1.4 and the easements and licenses granted pursuant to Sections 2.1.6 and 2.2 to the extent applicable to the Electric Distribution System Easement Area.

"Grantee" means the Maryland Energy Impact Partners and any successors and assigns of Grantee, as Tenant, under the Ground Lease.

"Grantor" means the State of Maryland for the use of the University System of Maryland on behalf of the University of Maryland, College Park acting by and through the Board of

Public Works of Maryland and any successors and assigns of Grantor, as landlord, under the Ground Lease.

"Ground Lease" has the meaning given it in the Recitals.

"Licenses" means, collectively, the licenses granted pursuant to Sections 2.2.1 and 2.2.2.

“Party” means Grantor or Grantee.

“Parties” means Grantor and Grantee.

"Temporary Laydown Easement Area" has the meaning given to it in Section 2.1.7.

“Temporary Laydown Easement” means the easement granted pursuant to Section 2.1.7 and the licenses granted pursuant to Section 2.2 to the extent applicable to the Temporary Laydown Easement Area.

“Thermal Distribution System Easement” means, collectively, all easements granted pursuant to Section 2.1.5 and the easements and licenses granted pursuant to Sections 2.1.6 and 2.2 to the extent applicable to the Thermal Distribution System Easement Area.

“UMD” means the University of Maryland, College Park.

1.3 **INTERPRETATION.** This Agreement shall be interpreted in accordance with the rules set forth in this Section.

1.3.1 *Agreement References.* The words “herein,” “hereto,” “hereof,” “hereunder,” and similar words of reference apply to this Agreement as a whole and not to any specific division, section, or subdivision.

1.3.2 *Headings.* The descriptive headings of the articles, sections, and subsections of this Agreement are provided for reference and convenience and are not intended to be inclusive or definitive or to affect the Agreement’s interpretation or scope.

1.3.3 *Article or Section Citations.* Unless otherwise noted, citation to a specific article or section refers to that article or section of this Agreement.

1.3.4 *Meaning of "Including."* "Including" means "including without limitation." Any list of examples following "including" shall not restrict or limit the generality of the word or provision for which such examples are provided.

1.3.5 *Notice.* The word "notice" means "written notice" unless specified otherwise.

1.3.6 *Consents; Approvals.* Unless specified otherwise, whenever the provisions of this Agreement require or provide for, or permit, an approval or consent by either Party, such approval or consent, and any request therefor, must be in writing (unless waived in writing by the other Party).

1.3.7 *Trade Meanings.* Unless otherwise defined, words or abbreviations that have well-known technical or construction industry or trade meanings are used herein in accordance with those meanings.

1.3.8 *Currency.* Unless specified otherwise, all statements of, or references to, dollar amounts or money in this Agreement are to the lawful currency of the United States of America.

1.3.9 *Generally Accepted Accounting Principles*. All accounting and financial terms used herein, unless specifically provided to the contrary, shall be interpreted and applied to Grantee in accordance with Generally Accepted Accounting Principles and to Grantor in accordance with the Standards of the Governmental Accounting Standards Board.

1.3.10 *Shared Drafting Responsibilities*. To preclude application of the doctrine of *contra preferentem*, this Agreement shall not be construed against either Party because such Party drafted or issued the Agreement or any portion thereof.

1.3.11 *Relationship to Other Agreements.*

(a) The Parties recognize that this Agreement, the Concession Agreement, the Ground Lease, and other Program Agreements constitute an integrated, comprehensive set of agreements that are intended to secure reliable, resilient, efficient, sustainable, and affordable long-term Energy Services for UMD and to compensate Concessionaire for making these services available. All Program Agreements should be read together to accomplish these objectives.

(b) Notwithstanding Section 1.3.11(a), this Agreement and other Program Agreements are separate and independent undertakings by the Parties. This Agreement constitutes the final agreement between the

Parties and is the complete and exclusive expression of their agreement on the matters exclusively addressed herein. All prior and contemporaneous negotiations and agreements on such matters are expressly merged into, and superseded by, this Agreement. The provisions of this Agreement may not be explained, supplemented, or qualified through evidence of a prior course of dealing or trade usage. In entering into this Agreement, neither Party has relied upon any statement, representation, warranty, or agreement of the other Party with regard to the issues it addresses except for those expressly contained in this Agreement. There are no conditions precedent to the effectiveness of this Agreement.

ARTICLE 2
GRANTS

2.1 **GRANT OF EASEMENTS.** Subject to the reservations, restrictions, terms, and conditions hereinafter set forth, Grantor hereby grants and conveys to the Grantee, its successors and assigns, the following easements in, under, on and through portions of the Grantor's fee simple property located on UMD's College Park Campus in Prince George's County, Maryland ("Campus"):

2.1.1 *Easement for the Chilled Water Distribution Systems*. A nonexclusive twenty-foot-wide easement for each Chilled Water System ("Chilled Water System Easement Area") solely for the construction, installation, connection, operation, maintenance, repair, replacement, and use of each Chilled Water Distribution System (as shown in Exhibit G of the Ground Lease) in accordance with the Concession Agreement. The center line of such easement shall be the midpoint or center of a Chilled Water Distribution System's facilities located in such area.

2.1.2 *Easement for the Condensate Return System*. A nonexclusive twenty-foot-wide easement for the Condensate Return System ("Condensate Return System Easement Area") solely for the construction, installation, connection, operation, maintenance, repair, replacement, and use of such Condensate Return System (as shown in Exhibit E of the Ground Lease) in accordance with the Concession Agreement. The center line of such easement shall be the midpoint or center of the Condensate Return System facilities located in such area.

2.1.3 *Easement for the Domestic Hot Water Distribution Systems.* A nonexclusive twenty-foot-wide easement for each Domestic Hot Water System ("Domestic Hot Water Distribution System Easement Area") solely for the construction, installation, connection, operation, maintenance, repair, replacement, and use

of each Domestic Hot Water Distribution System (as shown in Exhibit E of the Ground Lease) in accordance with the Concession Agreement. The center line of such easement shall be the midpoint or center of a Chilled Water Distribution System's facilities located in such area.

2.1.4 *Easement for the Electric Distribution System*. A nonexclusive twenty-foot-wide easement for the Electric Distribution System ("Electric Distribution System Easement Area") solely for the construction, installation, connection, operation, maintenance, repair, replacement, and use of such Electric Distribution System (as shown in Exhibit F of the Ground Lease) in accordance with the Concession Agreement. The center line of such easement shall be the midpoint or center of the Electric Distribution System facilities located in such area.

2.1.5 *Easement for the Thermal Distribution System*. A nonexclusive twenty-foot-wide easement, for each Thermal Distribution System ("Thermal Distribution System Easement Area") solely for the construction, installation, connection, operation, maintenance, repair, replacement, and use of each Thermal Distribution System in accordance with the Concession Agreement. The center line of such easement shall be the midpoint or center of the Thermal Distribution System facilities located in such area, provided that if a hot water distribution line and a steam distribution line are located underground in close proximity to each other, each shall have its own twenty-foot-wide easement.

2.1.6 *Temporary Construction Easement*. A temporary nonexclusive construction easement over the area adjacent to each of the Chilled Water Distribution System Easement Areas, the Condensate Return System Easement Area, each of the Domestic Hot Water Distribution System Easement Areas, the Electric Distribution System Easement Area, and the Thermal Distribution System Easement Area, solely to conduct the work to be performed pursuant to the Concession Agreement and for any other work relating to the Energy Systems to be performed for the use and benefit of UMD.

2.1.7 *Temporary Laydown Easement Area*. A temporary nonexclusive easement (the "Temporary Laydown Easement Area") solely for storage and staging purposes in connection with the work to be performed by Grantee pursuant to the Concession Agreement and for any other work relating to the Energy Systems for the use and benefit of UMD. The Temporary Laydown Area Easement shall be located in areas to be designated, from time to time, by UMD, upon the request of the Grantee, and shall be for such periods of time as UMD and the Grantee may agree.

2.1.8 *Encroachments*. An exclusive easement for the following areas (if any):

(a) Areas in which the footings or foundation of the Central Energy Plant, the Mowatt Substation, the District Thermal Plants subject to the Ground Lease, the Fuel Storage Facility, or any other area subject to the Ground Lease may extend beyond the metes and bounds description comprising the Leased Property under the Ground Lease; and,

(b) Areas into which roofs, eaves, and similar portions of the Central Energy Plant, the Mowatt Substation, the District Thermal Plants subject ot the Ground Lease, the Fuel Storage Facility, or any other area subject to the Ground Lease extend beyond the metes and bounds description comprising the Leased Property under the Ground Lease.

2.2 LICENSES. Subject to the reservations, restrictions, terms, and conditions herein, Grantor, hereby grants and conveys to Grantee, its successors and assigns, the following licenses (collectively, the "Licenses') in, under, on, and through portions of the Grantor's fee simple property located on the Campus:

2.2.1 *License for Access*. A nonexclusive license exclusively for the following activities:

(a) Ingress and egress over the roads, walkways, alleys, and other means of pedestrian and vehicular access over the Campus to the Chilled Water Distribution System Easement Area, the Condensate Return System Easement Area, the Domestic Hot Water Distribution System Easement Areas the Electric Distribution System Easement Area, the Thermal Distribution System Easement Area, and the Temporary Laydown Easement Area; and,

(b) Access to those areas within any buildings, structures, or other facilities where portions of a Chilled Water Distribution System, the Condensate Return System, a Domestic Hot Water Distribution System, the Electric Distribution System, or a Thermal Distribution System are located. Such access shall be made available at such times and in accordance with such procedures as permitted under the Concession Agreement and as set from time to time by the Parties.

(c) Access to those District Thermal Plants located within UMD Buildings. Such access shall be made available at such times and in accordance with such procedures as permitted under the Concession Agreement and as set from time to time by the Parties.

2.2.2 *License for Parking*. A nonexclusive license for parking to permit Grantee, Key Contractors, and other Grantee Parties to perform Grantee's obligations under the Concession Agreement.

(a) The exercise of the license granted under this Section shall consist of the right to apply to UMD for a permit for parking on the Campus in accordance with UMD's rules and regulations in effect from time to time, as applicable to students, faculty, and staff. Any such parking permits shall be subject to UMD's parking fees or other charges (including meter fees, parking permit fees, parking sticker fees, and parking ticket charges). Grantor makes no representation as to the availability of any such parking permits.

(b) Grantee shall comply with University's parking regulations, as in effect from time to time.

2.3 **RIGHT TO REMOVE.** Grantee shall have the right to remove, demolish, raze, and otherwise dispose of any pipes, structures, machinery, Equipment, and improvements now or hereafter comprising part of the Energy Systems and located within the Easement Areas as required by the Concession Agreement.

2.4 **ADDITIONAL CONDITIONS AND RESTRICTIONS.** The rights and benefits of the Easements and Licenses granted pursuant to this Agreement and the use of the Easement Areas are subject to, and the exercise of such rights and benefits shall be in accordance with, the following documents in the following order of priority: (a) the Concession Agreement; (b) the Ground Lease; (c) and, to the extent not covered by, and not inconsistent with, the foregoing and if there are University Policies then in effect, then in accordance with such University Policies.

2.5 **BURDEN.** The burden of the Easements shall run with, and bind upon the title to, the areas comprising the Easements and upon each person from time to time holding such title of record.

2.6 **BENEFIT; APPURTENANCE.** The rights and benefits of this Agreement shall run with the Leased Property and shall be appurtenant thereto. The rights and benefits may not be sold, transferred, conveyed, mortgaged, or alienated in any respect, except as part of, and together with, the Leased Property and may be conveyed together with the Leased Property pursuant to, and together with the Leased Property being conveyed pursuant to, any mortgage.

2.7 GRANTOR'S RESERVATIONS.

2.7.1 *Easement Areas*. Grantor, on behalf of itself and its successors and assigns, hereby reserves the right to use the Easement Areas for any purposes that are not inconsistent with, and that do not materially interfere with, the Grantee's use of the Easement Areas in accordance with the Concession Agreement. Access to, and use of the Easement Areas by, Grantor shall not be restricted, hindered, impaired, or otherwise limited except as needed to provide security for the Temporary Laydown Easement Area.

2.7.2 *Licenses*. Grantor, on behalf of itself and its successors, and assigns, hereby reserves the right to restrict and limit use of the Licenses for any purposes that are not inconsistent with, and which do not materially interfere with, the Grantee's need to use of the Licenses in accordance with the Concession Agreement.

2.9 RELATIONSHIP OF THIS AGREEMENT AND GROUND LEASE. Notwithstanding Section 1.3.11, the Easements created hereby are intended to be appurtenant to the Grantee's rights under the Ground Lease and the rights and obligations of the Parties hereto are subject to the same terms, conditions, and limitations contained in the Ground Lease. The Easement Areas constitute a part of the Leased Property under the Ground Lease and all of the rights and obligations of the Parties under the Ground Lease apply to the Easements Areas created under this Agreement.

2.10 NEW OR RELOCATED PORTIONS OF THE ENERGY SYSTEMS. The Easement Areas granted pursuant to this Agreement apply to the Leased Property wherever it is located within the Campus, including the location of any facilities relocated pursuant to Section 8.2 or Article 11 of the Ground Lease.

ARTICLE 3
EXERCISE OF EASEMENTS; IMPROVEMENTS

3.1 MANNER OF EXERCISE. Any use of the Easement Areas and any activities conducted thereon shall be done only in accordance with the Ground Lease and the Concession Agreement.

3.2 CAPITAL IMPROVEMENTS. All Capital Improvements shall be constructed, and all other work within the Easement Areas shall be performed, as permitted by, and in accordance with, the Concession Agreement without cost to Grantor except as provided therein.

3.3 ACCEPTANCE OF ENERGY SYSTEMS WITHIN EASEMENT AREAS. Subject to Section 3.3 of the Base Concession Agreement, Tenant accepts the Leased Property "as is" without

representation, warranty or covenants of any kind or nature except as provided in Article 14 of the Ground Lease.

3.4 **DUTY AND COST OF MAINTENANCE.** Except as provided in the Ground Lease, Grantee shall not be obligated to maintain any areas over which a License has been granted, such use thereof by Grantee being "as is."

3.5 **TERMINATION OF EASEMENTS.** The Easements shall terminate immediately and automatically upon, and simultaneously with, a termination of the Ground Lease by application of Law or otherwise without the necessity of any further writing, instrument, act, or deed.

ARTICLE 4
GENERAL PROVISIONS

4.1 **EFFECTIVE DATE.** This Agreement shall become effective at Commencement, which shall be at 12:00 a.m. on January 1, 2025 or such other date on which Grantee assumes responsibility for the management, operation, and maintenance of the Energy Systems under the Concession Agreement.

4.2 **AMENDMENT.** This Agreement may be amended only by an instrument executed and delivered by each Party and any First Leasehold Mortgagee, provided that such First Leasehold Mortgagee has given express, written notice to Grantor of its status as such before Grantor's execution and delivery of such instrument.

4.3 **GOVERNING LAW; VENUE.**

4.3.1 *GOVERNING LAW*. This Agreement shall be construed and interpreted in accordance with the Law of the State (excluding any conflict of laws rule or principle that might refer such construction or interpretation to the Laws of another jurisdiction).

4.3.2 *VENUE.* Other than Disputes subject to the Dispute Resolution Process, any action or proceeding arising out of, relating to, or resulting from this Agreement shall be filed in the Circuit Court in and for Prince Georges County, Maryland, which court, and the courts with the jurisdiction to review the decisions of that court, shall be the only courts with any authority to decide any such cause of action. Grantee and Grantor hereby irrevocably submit to the jurisdiction of such courts with regard to such action or proceeding and irrevocably waive, to the fullest extent permitted by applicable Law, any objection they may have now or hereafter to the laying of venue in such courts and any claim that an action or proceeding has been brought in an inconvenient forum.

4.4 **ASSIGNMENT.** This Agreement shall be binding upon, and shall inure to the benefit of, the Parties and their respective successors and assigns and may not be assigned except together with an assignment of the Leased Property under the Ground Lease.

4.5 **NON-DISCRIMINATION.** Grantor shall not discriminate in any manner against an employee or applicant for employment because of:

4.5.1 Race, color, religion, creed, age, sex, gender identity and expression, sexual orientation, marital status, national origin, ancestry, genetic information, physical or mental disability, or any otherwise unlawful use of characteristics or disability of a qualified individual with a disability unrelated in nature and extent so as reasonably to preclude the performance of such employment; or,

4.5.2 The individual's refusal to submit to a genetic test or make available the results of a genetic test.

4.6 **NO CONTINGENT FEES.** Grantor warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for Grantor, to solicit or secure this Agreement, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee, or any other consideration contingent on the making of this Agreement.

4.7 **POLITICAL CONTRIBUTION DISCLOSURE**.

4.7.1 *REQUIRED REPORTING.* Grantor shall comply with Election Law Article, Title 14 of the Annotated Code of Maryland, which requires that every person entering into a procurement contract with the State and receives the amount of $200,000 or more pursuant to that contract, shall file with the State Board of Elections a statement disclosing:

(a) All contributions made during the reporting period to a candidate for elective office in any primary or general election; and,

(b) The name of each candidate to whom one or more contributions in a cumulative amount of $500 or more were made during the reporting period.

4.7.2 *REPORTING DEADLINES.* The statement required under Section 4.7.1 shall be filed with the State Board of Elections twice during each calendar year throughout the Term, on or before:

(a) May 31, to cover the six (6) month period ending April 30; and,

(b) November 30, to cover the six (6) month period ending October 31.

4.8 **NO WAIVER OF SOVEREIGN IMMUNITY.** Nothing contained in this Agreement shall be deemed to constitute a waiver of any immunity which the State, Grantor, the System, UMD, or Grantee may be entitled to under State Law, as the same may be amended from time to time. Sovereign immunity is waived only by virtue of, and to the extent set forth in, Title 12 of the State Government Article of the Annotated Code of Maryland.

4.9 **EFFECT OF THIS AGREEMENT.** Nothing in the provisions of this Agreement shall be deemed in any way to grant any easement over, under, or through any of Grantor's land or improvements whatsoever, unless within the Easement Areas.

IN WITNESS WHEREOF, each Party has executed this Agreement, or caused it to be executed, on its behalf by its duly authorized representatives, the day and year first above written.

MARYLAND ENERGY IMPACT PARTNERS LLC

By: _____
[Typed Name]
Its: [Title]
Date: [Month, Day, Year]

UNIVERSITY SYSTEM OF MARYLAND

_____
J. A. Perman, Chancellor
Date: [Month] [Day], 202__

UNIVERSITY OF MARYLAND, COLLEGE PARK

By:_____
Daryll J. Pines, President
Date:

Attorney's Certification

This Easement Agreement was prepared by an attorney licensed to practice law in the State of Maryland.

_____
Kirk Howard Betts

Approved as to form and legal sufficiency this _____ day of _____. 202___.

_____
Jeffrey Palkovitz, Assistant Attorney General

STATE OF MARYLAND
COUNTY OF _____, TO WIT:
I

On this ___ day of _____, 20____before me the undersigned officer, personally appeared _____, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged ___self to be the _____ of MARYLAND ENERGY IMPACT PARTNERS LLC, and, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of MARYLAND ENERGY IMPACT PARTNERS in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF PRINCE GEORGE'S TO WIT:

On this __ day of _____, 20__, before me the undersigned officer, personally appeared J.A. Perman, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Chancellor of the University System of Maryland, and, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the University System of Maryland, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF PRINCE GEORGE'S TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared Daryll J. Pines known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the President of the University of Maryland, College Park and being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the University of Maryland, College Park, by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX D

CONTACT INFORMATION FOR NOTICES

Pursuant to Section 26.2.1 of the Base Concession Agreement, notices shall be given to the Persons identified below.

For Concessionaire:	For UMD
Henry Patel Program Executive [redacted] Tel: [redacted] Email: [redacted]	Karen Elvidge Manager, Construction/Facilities Procurement Procurement and Business Services 2100B Chesapeake Building 4300 Terrapin Trail College Park, MD 20742 Tel: (301) 405-3269 Email: kelvidge@umd.edu, nextgenprocure@umd.edu
With copies to: Daniel W. Bandy Site/Plant Manager [redacted] Tel[redacted]) Email: [redacted]	With copies to: Susan C. Corry, CEM Director, Engineering & Energy Facilities Management 7401 Baltimore Avenue, 4th Floor College Park, Maryland 20740 Tel: (301) 405-6697 Email: scorry@umd.edu
With copies for financial matters to: Plenary Americas Attn: Nigel Kirkwood (CFO) Financial Services Provider [redacted] Email:[redacted]	Gregg Garbesi Assistant Director, Utilities & Energy Management 7401 Baltimore Ave., 4th Floor College Park, MD 20740 Tel: 301-405-8915 Email: vgarbesi@umd.edu

	Daniel Leland Kaiser, Esq. Associate General Counsel Office of the General Counsel University of Maryland, College Park 2117 Seneca Building College Park, Maryland 20742-6070 Tel: (301) 405-0945 Email: dkaiser@umd.edu

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX E

FORM OF CONTRACT AFFIDAVIT

A. AUTHORITY

I HEREBY AFFIRM THAT:

I, _____ (print name), _____ (title), of _____ (print firm name) possess the legal authority to make this Affidavit.

B. CERTIFICATION OF REGISTRATION OR QUALIFICATION WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION

I FURTHER AFFIRM THAT:

The business named above is a (check applicable box):

(1) Corporation — ☐ domestic or ☐ foreign;
(2) Limited Liability Company — ☐ domestic or ☐ foreign;
(3) Partnership — ☐ domestic or ☐ foreign;
(4) Statutory Trust — ☐ domestic or ☐ foreign;
(5) ☐ Sole Proprietorship.

and is registered or qualified as required under Maryland Law. I further affirm that the above business is in good standing both in Maryland and (IF APPLICABLE) in the jurisdiction where it is presently organized, and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation. The name and address of its resident agent (IF APPLICABLE) filed with the State Department of Assessments and Taxation is:
Name and Department ID Number:
_____Address:_____

and that if it does business under a trade name, it has filed a certificate with the State Department of Assessments and Taxation that correctly identifies that true name and address of the principal or owner as:

Name and Department ID Number:
_____
Address:_____.

C. FINANCIAL DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, the provisions of State Finance and Procurement Article, §13-221, Annotated Code of Maryland, which require that every business that enters into contracts, leases, or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate $200,000 or more shall, within 30 days of the time when the aggregate value of the contracts, leases, or other agreements reaches $200,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

D. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, Election Law Article, §§14-101 — 14-108, Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State of Maryland, including its agencies or a political subdivision of the State, during a calendar year in which the person receives in the aggregate $200,000 or more shall file with the State Board of Elections a statement disclosing contributions in excess of $500 made during the reporting period to a candidate for elective office in any primary or general election.

E. DRUG AND ALCOHOL-FREE WORKPLACE

(Applicable to all contracts unless the contract is for a law enforcement agency and the agency head or the agency head's designee has determined that application of COMAR 21.11.08 and this certification would be inappropriate in connection with the law enforcement agency's undercover operations.)

I CERTIFY THAT:

(1) Terms defined in COMAR 21.11.08 shall have the same meanings when used in this certification.

(2) By submission of its bid or offer, the business, if other than an individual, certifies and agrees that, with respect to its employees to be employed under a contract resulting from this solicitation, the business shall:

(a) Maintain a workplace free of drug and alcohol abuse during the term of the contract;

(b) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of drugs, and the abuse of drugs or alcohol is prohibited in the business' workplace and specifying the actions that will be taken against employees for violation of these prohibitions;

(c) Prohibit its employees from working under the influence of drugs or alcohol;

(d) Not hire or assign to work on the contract anyone who the business knows, or in the exercise of due diligence should know, currently abuses drugs or alcohol and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program;

(e) Promptly inform the appropriate law enforcement agency of every drug-related crime that occurs in its workplace if the business has observed the violation or otherwise has reliable information that a violation has occurred;

(f) Establish drug and alcohol abuse awareness programs to inform its employees about:

(i) The dangers of drug and alcohol abuse in the workplace;

(ii) The business's policy of maintaining a drug and alcohol free workplace;

(iii) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees who abuse drugs and alcohol in the workplace;

(g) Provide all employees engaged in the performance of the contract with a copy of the statement required by §E(2)(b), above;

(h) Notify its employees in the statement required by §E(2)(b), above, that as a condition of continued employment on the contract, the employee shall:

(i) Abide by the terms of the statement; and
(ii) Notify the employer of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace not later than 5 days after a conviction;

(i) Notify the procurement officer within 10 days after receiving notice under §E(2)(h)(ii), above, or otherwise receiving actual notice of a conviction;

(j) Within 30 days after receiving notice under §E(2)(h)(ii), above, or otherwise receiving actual notice of a conviction, impose either of the following sanctions or remedial measures on any employee who is convicted of a drug or alcohol abuse offense occurring in the workplace:

(i) Take appropriate personnel action against an employee, up to and including termination; or
(ii) Require an employee to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program; and

(k) Make a good faith effort to maintain a drug and alcohol-free workplace through implementation of §E(2)(a)—(j), above.

(3) If the business is an individual, the individual shall certify and agree as set forth in §E(4), below, that the individual shall not engage in the unlawful manufacture, distribution, dispensing, possession, or use of drugs or the abuse of drugs or alcohol in the performance of the contract.

(4) I acknowledge and agree that:

(a) The award of the contract is conditional upon compliance with COMAR 21.11.08 and this certification;

(b) The violation of the provisions of COMAR 21.11.08 or this certification shall be cause to suspend payments under, or terminate the contract for default under COMAR 21.07.01.11 or 21.07.03.15, as applicable; and

(c) The violation of the provisions of COMAR 21.11.08 or this certification in connection with the contract may, in the exercise of the discretion of the Board of Public Works, result in suspension and debarment of the business under COMAR 21.08.03.

F. CERTAIN AFFIRMATIONS VALID

I FURTHER AFFIRM THAT:

To the best of my knowledge, information, and belief, each of the affirmations, certifications, or acknowledgements contained in that certain Bid/Proposal Affidavit dated _____ , 20___ , and executed by me for the purpose of obtaining the contract to which this Exhibit is attached remains true and correct in all respects as if made as of the date of this Contract Affidavit and as if fully set forth herein.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: _____

By: _____ (printed name of Authorized Representative and Affiant)

_____ (signature of Authorized Representative and Affiant)

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX F-1

FORM OF INITIAL FINANCIAL CLOSING SECURITY

APPENDIX F-1

FORM OF INITIAL FINANCIAL CLOSING SECURITY

IRREVOCABLE NONTRANSFERABLE STANDBY LETTER
OF CREDIT

Letter of Credit Number: [insert number]

Initial Expiration Date: [insert expiration date]

Beneficiary: [insert beneficiary]

Applicant: [insert applicant]

Ladies and Gentlemen:

_____ (the "Bank") hereby establishes this Irrevocable Nontransferable Standby Letter of Credit ("Letter of Credit") in favor of the University of Maryland, College Park (the "Beneficiary"), for the account of Maryland Economic Impact Partners LLC (the "Applicant") the amount of Ten Million United States Dollars ($10,000,000) (the "Available Amount"), effective immediately. This Letter of Credit is in support of Applicant's obligations to Beneficiary pursuant to the provisions of that certain Energy Services Concession Agreement dated as of [DATE] (the "Concession Agreement").

This Letter of Credit shall be of no further force or effect at ____p.m., Eastern Standard Time on _____, 20__ or, if such day is not a Business Day (as hereinafter defined), on the next Business Day (as may be extended pursuant to the terms of this Letter of Credit, the "Expiration Date").

For the purposes hereof, "Business Day" shall mean any day on which commercial banks are not authorized or required to close in _____.

It is a condition of this Letter of Credit that it shall be deemed automatically extended without amendment for a one year period beginning on the present Expiration Date hereof and upon each anniversary of such date, unless at least sixty (60) days prior to any such Expiration Date, Bank has sent Beneficiary written notice, at the address provided below, that Bank elects not to permit this Letter of Credit to be so extended, and will expire on its then-current

Expiration Date. No presentation made under this Letter of Credit after such Expiration Date will be honored.

Subject to the terms and conditions herein, funds under this Letter of Credit are available to the Beneficiary by valid presentation on or prior to 5:00 p.m. Eastern Prevailing Time, on or prior to the Expiration Date, of the following:

1. A copy of this Letter of Credit and all amendments; and

2. Original Drawing Certificate in the form of Attachment A attached hereto and which forms an integral part hereof, duly completed and purportedly bearing the signature of an authorized representative of the Beneficiary.

Any full or partial drawing hereunder may be requested by transmitting copies of the requisite documents as described above to the Bank by facsimile at [facsimile number for draws] or such other number as specified from time-to-time by the Bank.

The facsimile transmittal shall be deemed delivered when followed up by a phone call at …… or ……. to confirm receipt. Drawings made by facsimile transmittal are deemed to be the operative instrument without the need of originally signed documents.

Partial drawing of funds shall be permitted under this Letter of Credit, and this Letter of Credit shall remain in full force and effect with respect to any continuing balance; *provided,* the Available Amount shall be reduced by the amount of each such drawing.

This Letter of Credit is not transferable or assignable. Any purported transfer or assignment shall be void and of no force or effect.

All correspondence and any drawings (other than those made by facsimile) hereunder are to be directed to [Bank address/contact].

All notices to Beneficiary shall be in writing and are required to be sent by certified letter, overnight courier, or delivered in person to: _____. Only notices to Beneficiary meeting the requirements of this paragraph shall be considered valid. Any notice to Beneficiary which is not in accordance with this paragraph shall be void and of no force or effect.

Banking charges shall be the sole responsibility of the Applicant.

This Letter of Credit sets forth in full our obligations and such obligations shall not in any way be modified, amended, amplified or limited by reference to any documents, instruments or agreements referred to herein, except only the attachment referred to herein; and any such reference shall not be deemed to incorporate by reference any document, instrument or agreement except for such attachment.

The Bank engages with the Beneficiary that Beneficiary's drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored if presented to the Bank on or before the Expiration Date or, if such day is not a Business Day, on the next Business Day. Except in the case of an increase in the Available Amount, this Letter of Credit may not be amended or modified without the Beneficiary's prior written consent.

Except so far as otherwise stated, this Letter of Credit is subject to the International Standby Practices ISP98 (also known as ICC Publication No. 590), or revision currently in effect (the "ISP"). As to matters not covered by the ISP, the laws of the State of Maryland, without regard to the principles of conflicts of laws thereunder, shall govern all matters with respect to this Letter of Credit.

AUTHORIZED SIGNATURE for Bank

By:_____

Name:_____

Title:_____

DRAWING CERTIFICATE

TO: [INSERT NAME AND ADDRESS OF ISSUING BANK]

RE: [INSERT NAME OF ISSUING BANK] LETTER OF CREDIT NO. XXXXXX.]

AMOUNT: $

DATE:

The undersigned, a duly authorized officer of the Beneficiary, hereby certifies to [Paying Bank], with reference to the Irrevocable Letter of Credit No: [Insert] ("Letter of Credit"), that Applicant did not satisfy one or more of the conditions precedent identified in Section 4.3.4(b) of the Base Concession Agreement at or before the Initial Financial Closing Time, the Beneficiary did not waive such condition precedent, and the parties did not achieve a timely Initial Financial Closing.

AT SIGHT OF THIS DEMAND PAY TO THE ORDER OF AMOUNT OF U.S.$
(U.S. DOLLARS)

DRAWN UNDER [

REMIT FUNDS AS FOLLOWS:

[INSERT PAYMENT INSTRUCTIONS]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX F-2

FORM OF PAYMENT BOND

AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

Key Construction Contractor

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

Concessionaire

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name
and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name
and Title:

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX F-3

FORM OF PERFORMANCE BOND

AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

Key Construction Contractor

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

Concessionaire

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

MULTIPLE OBLIGEE RIDER

(Concurrent Execution with Payment and Performance Bond)

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
Hartford, Connecticut 06183

This Rider is executed concurrently with and shall be attached to and forms a part of Performance and Payment Bonds No. (hereinafter individually referred to as "Performance Bond" or "Payment Bond", and collectively referred to as "Bonds") issued by Travelers Casualty and Surety Company of America, (hereinafter referred to as "Surety"), as Surety, on the day of , 20 .

WHEREAS, on or about the day of , 20 , _____ (hereinafter called the "Principal"), entered into a written agreement with _____ (hereinafter called the "Primary Obligee") for _____ (hereinafter called the "Contract"); and

WHEREAS, Principal is required by the Contract to provide Bonds and Primary Obligee has requested that _____, and _____ be named as additional obligees under the Bonds; and

WHEREAS, Principal and Surety have agreed to execute and deliver this Rider in conjunction with the Bonds.

NOW, THEREFORE, the undersigned hereby agree and stipulate that _____ _____, and _____ shall be added to the Bonds as named obligees (hereinafter referred to as "Additional Obligees"), subject to the conditions set forth below:

1. The Surety shall not be liable under the Bonds to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them, shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract, to the Surety) strictly in accordance with the terms of said Contract as to payments and shall perform all other obligations to be performed under said Contract at the time and in the manner therein set forth.

2. The aggregate liability of the Surety under the Performance Bond, to any or all of the obligees (Primary and Additional Obligees), as their interests may appear, is limited to the penal sum of the Performance Bond; the Additional Obligees' rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under the Contract. At the Surety's election, any payment due under the Performance Bond may be made by joint check payable to one or more of the obligees.

3. The aggregate liability of the Surety under the Payment Bond to any or all of the obligees (Primary and Additional Obligees), and to persons or entities that are entitled to make claim under the Payment Bond (hereinafter, "Claimants"), as their interests may appear, is limited to the penal sum of the Payment Bond; the Primary Obligee's and Additional Obligees' rights hereunder, if any, are subject to the same defenses Principal and/or Surety have against the Primary Obligee and/or the Claimants under the Payment Bond. At the Surety's election, any payment due under the Payment Bond may be made by joint check payable to one or more of the obligees and/or Claimants.

Except as herein modified, the Bonds shall be and remains in full force and effect.

Signed this day of , 20 .

(Principal)

By: _____

_____.,

(Primary Obligee)

By: _____

,

Travelers Casualty and Surety Company of America

By: _____

, Attorney-in-Fact

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX F-4

FORM OF PERFORMANCE LETTER OF CREDIT

FORM OF LETTER OF CREDIT

IRREVOCABLE NONTRANSFERABLE STANDBY LETTER
OF CREDIT

Letter of Credit Number: [insert number]

Initial Expiration Date: [insert expiration date]

Beneficiary: [insert beneficiary]

Applicant: [insert applicant]

Ladies and Gentlemen:

_____ (the "Bank") hereby establishes this Irrevocable Nontransferable Standby Letter of Credit ("Letter of Credit") in favor of _____ (the "Beneficiary"), for the account of _____, (the "Applicant"), for the amount of _____ United States Dollars ($_____) (the "Available Amount"), effective immediately. This Letter of Credit is in support of Applicant's obligations to Beneficiary pursuant to the provisions of that certain Energy Services Concession Agreement dated as of [DATE] (the "Concession Agreement").

This Letter of Credit shall be of no further force or effect at _____p.m., Eastern Standard Time on _____, 20__ or, if such day is not a Business Day (as hereinafter defined), on the next Business Day (as may be extended pursuant to the terms of this Letter of Credit, the "Expiration Date").

For the purposes hereof, "Business Day" shall mean any day on which commercial banks are not authorized or required to close in _____.

It is a condition of this Letter of Credit that it shall be deemed automatically extended without amendment for a one year period (or, if such period ends on a day that is not a Business Day, until the next Business Day thereafter) beginning on the present Expiration Date hereof and upon each anniversary of such date (or, if such period ends on a day that is not a Business Day, until the next Business Day thereafter), unless at least sixty (60) days prior to any such Expiration Date, Bank has sent Beneficiary written notice, at the address provided below, that Bank elects not to permit this Letter of Credit to be so extended, and will expire on its then-current
Expiration Date. No presentation made under this Letter of Credit after such Expiration Date will be honored.

Subject to the terms and conditions herein, funds under this Letter of Credit are available to the Beneficiary by valid presentation on or prior to 5:00 p.m. Eastern Prevailing Time, on or prior to the Expiration Date, of the following:

1. A copy of this Letter of Credit and all amendments; and

2. A copy of the Drawing Certificate in the form of Attachment A attached hereto and which forms an integral part hereof, duly completed and purportedly bearing the signature of an authorized representative of the Beneficiary.

Any full or partial drawing hereunder may be requested by transmitting copies of the requisite documents as described above to the Bank by facsimile at [facsimile number for draws] or such other number as specified from time-to-time by the Bank.

The facsimile transmittal shall be deemed delivered when received. Drawings made by facsimile transmittal are deemed to be the operative instrument without the need of originally signed documents.

Partial drawing of funds shall be permitted under this Letter of Credit, and this Letter of Credit shall remain in full force and effect with respect to any continuing balance; *provided,* the Available Amount shall be reduced by the amount of each such drawing.

This Letter of Credit is not transferable or assignable. Any purported transfer or assignment shall be void and of no force or effect.

All correspondence and any drawings (other than those made by facsimile) hereunder are to be directed to [Bank address/contact].

All notices to Beneficiary shall be in writing and are required to be sent by certified letter, overnight courier, or delivered in person to: _____. Only notices to Beneficiary meeting the requirements of this paragraph shall be considered valid. Any notice to Beneficiary which is not in accordance with this paragraph shall be void and of no force or effect.

Banking charges shall be the sole responsibility of the Applicant.

This Letter of Credit sets forth in full our obligations and such obligations shall not in any way be modified, amended, amplified or limited by reference to any documents, instruments or agreements referred to herein, except only the attachment referred to herein; and any such reference shall not be deemed to incorporate by reference any document, instrument or agreement except for such attachment.

The Bank engages with the Beneficiary that Beneficiary's drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored if presented to the Bank on or before the Expiration Date. Except in the case of an increase in the Available Amount, this Letter of Credit may not be amended or modified without the Beneficiary's prior written consent.

Except so far as otherwise stated, this Letter of Credit is subject to the International Standby Practices ISP98 (also known as ICC Publication No. 590), or revision currently in effect (the "ISP"). As to matters not covered by the ISP, the laws of the State of Maryland, without regard to the principles of conflicts of laws thereunder, shall govern all matters with respect to this Letter of Credit.

AUTHORIZED SIGNATURE for Bank

By:_____

Name:_____

Title:_____

DRAWING CERTIFICATE

TO: [INSERT NAME AND ADDRESS OF ISSUING BANK]

RE: [INSERT NAME OF ISSUING BANK] LETTER OF CREDIT NO. XXXXXX.]

AMOUNT: $

DATE:

The undersigned, a duly authorized officer of the Beneficiary, hereby certifies to [Paying Bank], with reference to the Irrevocable Letter of Credit No: [Insert] ("Letter of Credit"), that **[CHECK APPROPRIATE BOX**]:

[ ] Applicant's obligations to Beneficiary under that certain Energy Services Concession Agreement dated _____, 20___ ("Concession Agreement") extend beyond the expiration date of this Letter of Credit and Applicant did not provide Beneficiary a renewal or substitute Letter of Credit having a term of at least 1 year and the same terms and conditions as this Letter of Credit at least thirty (30) days prior to its expiration date in accordance with Section 9.6.2(c)(1) of the Concession Agreement;

[ ] Applicant has (a) failed to pay monies due Beneficiary or has failed to perform one or more of its material obligations to Beneficiary under the Concession Agreement and (b) has not paid actual or liquidated damages payable by Applicant to Beneficiary for such nonpayment or nonperformance;

[ ] Some or all of the Reversion Work performed by Applicant does not comply with the requirements set forth in Section 9.12.2 of the Concession Agreement or has not been performed properly or in a timely manner in accordance with Section 9.12.3 and Beneficiary has incurred costs and expenses to bring the Energy System into compliance with the Reversion Work Plan; and,

[ ] Following expiration of the Operating Term, Beneficiary has discovered Defective Work performed by Applicant during the Operating Term that required Beneficiary to incur costs and expenses to correct .
and Beneficiary is therefore authorized and entitled to draw any amount up to the maximum allowed by the attached Letter of Credit.

AT SIGHT OF THIS DEMAND PAY TO THE ORDER OF AMOUNT OF U.S.$
(U.S. DOLLARS)

DRAWN UNDER [

REMIT FUNDS AS FOLLOWS:

[INSERT PAYMENT INSTRUCTIONS]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX F-5

FORM OF WARRANTY BOND

DRAFT **AIA® Document A313™ – 2020**

Warranty Bond

CONTRACTOR/PRINCIPAL:
(Name, legal status, and address)
« »« »
« »

SURETY:
(Name, legal status, and address)
« »« »
« »

OWNER/OBLIGEE:
(Name, legal status, and address)
University of Maryland, College Park« »« »
« »Procurement and Business Services
2113R Chesapeake Building
4300 Terrapin Trail
College Park, Maryland 20742

CONSTRUCTION CONTRACT
Date: « »
Description: Energy Services Concession Agreement, College Park, Maryland
(Name and location)
« »
« »

BOND
Term of the Bond
The Term of this Bond commences on the date of final completion under the Construction Contract and continues for a period of 1 year, unless otherwise specified below, notwithstanding a longer warranty period set forth in the Construction Contract.

Amount of this Bond: $ « 50,000,000 »
Modifications to this Bond: « » None « X » See Section 16

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title: « »« »

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title: « »« »

(Any additional signatures appear on the last page of this Warranty Bond.)

(FOR INFORMATION ONLY — Name, address, and telephone)
AGENT or **BROKER:**
« »
« »
« »

OWNER'S REPRESENTATIVE:
(Architect, Engineer, or other party:)
« »
« »
« »
« »
« »
« »

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 During the Term of the Bond, the Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the Contractor's warranty obligations set forth in the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor satisfies its warranty obligations under the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond. It is understood and agreed that in no event shall the Surety's obligations under this Bond extend to warranties provided by the Contractor's suppliers and manufacturers.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

.1 the Owner first provides notice to the Contractor and the Surety during the Term of the Bond of the Owner's intent to declare a Contractor Default;

.2 the Contractor fails to remedy the Contractor Default within a reasonable amount of time of such notice; and,

.3 the Owner declares a Contractor Default and notifies the Surety.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly, under reservation of rights, and at the Surety's expense, remedy the Contractor's Default. The Surety may, with the consent of the Owner, arrange for the Contractor to remedy the Contractor's Default.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 The responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. The Surety is obligated, without modification or qualification, for the responsibilities of the Contractor for correction of defective work as set forth in the Construction Contract, and additional legal and design professional costs resulting from the Contractor's Default or resulting from the actions or failure to act of the Surety under Section 5.

§ 8 The Owner may request an extension of the Term of this Bond. The Surety, at its sole option, may extend the Term of this Bond by continuation certificate or rider setting forth the new expiration date.

.1 If the Surety extends the Term of this Bond, the Bond shall be considered one continuous bond.

.2 If the Surety decides not to extend the Term of this Bond, then the Surety shall notify the Owner in writing thirty (30) days prior to the end of the current term of this Bond at the address indicated on page 1.

.3 Neither the Surety's failure to extend the Term of this Bond nor the Contractor's failure to provide a replacement bond or other acceptable security shall be considered a breach or default by the Surety or Contractor on this Bond, nor serve as a basis for a claim or demand on this Bond.

§ 9 The Surety's total liability under this Bond is limited to the Amount of this Bond indicated on Page 1, regardless of whether the Term of this Bond is extended, the length of time this Bond remains in force, and the number of premiums that shall be payable or paid.

§ 10 No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work of the Contractor required by the Construction Contract is located and shall be instituted within two years after a declaration of Contractor Default. If the provisions of this Paragraph are void or

prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be in writing and mailed or delivered to the address shown on the first page of this Bond.

§ 13 Provisions in this Bond that conflict with applicable statutory or other legal requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein.

§ 14 Definitions

§ 14.1 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.2 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with the warranties required under the Construction Contract.

§ 14.3 Owner Default. Failure of the Owner, which has not been remedied or waived, to perform or otherwise comply with the other material terms of the Construction Contract.

§ 14.4 Contract Documents. All the documents that comprise the Construction Contract.

§ 14.5 Surety. The company or companies lawfully authorized to issue surety bonds in the jurisdiction where the project is located.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this Bond are as follows:

Section 3's introductory clause is modified to read as follows: If there is no Owner Noncompliance Event under the Construction Contract, the Surety's obligation under this Bond shall arise after:

Section 14.3 is deleted and replaced by the following: **Owner Noncompliance Event**. Owner's actions or failures to act identified in Section 20.1 of the Construction Contract.

« »

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:	« »« »	Name and Title:	« »« »
Address:	« »	Address:	« »

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX G-1

FORM OF DIRECT AGREEMENT

This agreement ("Agreement") is entered into as of this ___ day of _____, 2023 ("Effective Date") by and between the UNIVERSITY OF MARYLAND, COLLEGE PARK ("UMD"), a constituent institution of the University System of Maryland, and MARYLAND ENERGY IMPACT PARTNERS LLC ("Concessionaire"), a limited liability company organized and existing under the laws of the State of Delaware and qualified to do business in the State of Maryland, and _____ ("Collateral Agent"), a _____ organized and existing under the laws of the State of _____, acting in its capacity as collateral agent for, and on behalf of the Lenders, all such parties being hereinafter referred to individually as "Party" and collectively as "Parties."

PREAMBLE

1. UMD and Concessionaire have entered into the Energy Services Concession Agreement ("Concession Agreement), which requires Concessionaire to secure financing from third parties for the implementation of the NextGen Energy Program ("NextGen Program"), a program to ensure long-term reliable, efficient, sustainable, and affordable heating, cooling, and electric service ("Energy Services") for UMD's buildings and facilities.

2. To enable Concessionaire to finance certain Capital Improvements to UMD's thermal, chilled water, and electric production and distribution systems ("Energy Systems"), Lenders have agreed to make debt facilities available to Concessionaire on the terms and conditions set out in the Financing Agreements and the Security Documents, subject to the provision of certain assurances from UMD regarding Lenders' and Collateral Agent's rights in the event of a Concessionaire Default.

3. UMD and Concessionaire have previously provided such assurances in the Concession Agreement for the benefit of the Collateral Agent and Lenders as express third-party beneficiaries of such assurances.

4. In reliance on such assurances, and on this Agreement, Lenders have agreed to make financing available for the NextGen Program's Phase I Capital Improvements.

5. The execution of this Agreement by UMD in favor of the Collateral Agent is a condition precedent to such financing being made available to Concessionaire.

NOW THEREFORE in consideration of the mutual terms and covenants contained in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, UMD, Concessionaire, and the Collateral Agent agree as follows:

1.0 PRELIMINARY MATTERS

1.1 DEFINITIONS. Acronyms, abbreviations, and capitalized terms used and not otherwise defined in this Agreement have the meanings and constructions given to them in the Concession Agreement. The following terms used in this Agreement have the meanings set forth below.

Collateral Agent has the meaning given it in the Preamble and includes any replacement collateral agent that may be appointed from time to time pursuant to a Financing Agreement.

Concessionaire has the meaning given it in the Preamble.

Concessionaire Additional Capital Improvement Completion Default means a Concessionaire Default under Section 19.1.13 of the Base Concession Agreement.

Concessionaire Interest means all right, title, and interest of Concessionaire in, to, under, or derived from the Concession Agreement and other Program Documents.

Concessionaire Wrongful Transfer Default means a Concessionaire Default under Section 19.1.6 of the Base Concession Agreement (unauthorized Change of Ownership or transfer of interest).

Cure Period means the period available to Lenders to cure a Concessionaire Default. For the purposes of this Agreement, such period begins when the Lenders deliver a notice of their intent to cure under Section 25.3; of the Base Concession Agreement.

Direct Agreement has the meaning given to it in the Preamble.

Discharge Date means the date on which all obligations of Concessionaire under all Financing Agreements have been irrevocably discharged in full to the satisfaction of the Collateral Agent.

Effective Date means the date on which all Parties have executed this Agreement.

Enforcement Notice means a notice delivered by the Collateral Agent to UMD of any decision to accelerate amounts outstanding under a Financing Agreement or to exercise any enforcement remedies thereunder.

Event of Default means an "Event of Default" (or its equivalent) as defined in a Financing Agreement with a Lender that is entitled to enter into a Direct Agreement and has entered into such an agreement through the Collateral Agent.

Incurable Concessionaire Default means a Concessionaire Default under Sections 19.1.1 or 19.1.4 of the Concession Agreement.

Lender Notice means a notice relating to a cure period under the Financing Agreement or any Security Document, an anticipated Concessionaire Default, a "warning" notice, and similar notifications.

Restricted Person means a Person (or any managing member, general partner, or controlling investor of such Person) that, after exhausting all rights of appeal, is disqualified, suspended, debarred, or otherwise excluded from bidding, proposing, or contracting with any federal or State department or agency.

Revival Date means the date on which a Step-in Period expires.

Revived Rights has the meaning given to it in Section 12.2.

Step-in Date means the later of (a) the date of the receipt of the Step-in Notice; and (b) if required by Section 7.2(b), the date of UMD's approval to the appointment of the Step-in Party, in both cases subject to UMD's receipt of any payments required under Section 8.3(d).

Step-in Notice means the notice issued by the Collateral Agent pursuant to Section 7.1 to designate a Step-in Party.

Step-in Party means a Person designated by the Collateral Agent pursuant to exercise the rights and perform the obligations under Article 8.

Step-in Period means the period from and including the Step-in Date until the earliest of (a) the Substitution Effective Date; (b) the Step-out Date; (c) the date of termination of the Concession Agreement by UMD in accordance with such agreement and this Agreement; (d) the date of the expiration of the Concession Agreement's Term; or (e) expiration of the applicable Cure Period without cure of the Concessionaire Default to which it relates (including any applicable Cure Period under Section 25.3 of the Concession Agreement); or (f) the date on which an Incurable Concessionaire Default occurs, provided, however, that (i) to the extent that the Collateral Agent is prohibited from exercising its step-in rights by any Governmental Entity, the Step-in Period shall be extended for the period of such prohibition, and (ii) the Step-in Period with respect to any Concessionaire Additional Capital Improvement Completion Default shall be deemed extended for the period described in Section 5.5 to the extent the Collateral Agent complies with the requirements of such section.

Step-out Date means the effective date a Step-in Party designates for ceasing its step-in as set forth in any Step-out Notice served by the Step-in Party pursuant to Section 9.1.

Step-out Notice means the notice given by a Step-in Party to UMD to set the Step-out Date.

Substitute Accession Agreement means the agreement to be entered into by a Substituted Entity pursuant to Section 11.1. The form of the Substitute Accession Agreement is contained in Appendix A.

Substituted Entity means a Suitable Substitute nominated by the Collateral Agent and approved by UMD under Section 10.2 of this Agreement to act in Concessionaire's stead and not merely as a Step-in Party.

Substitution Effective Date means the date on which the Substitute Accession Agreement becomes effective, as determined pursuant to Section 11.1(b).

Substitution Notice means the notice given by the Collateral Agent under Section 10.1 to advise UMD of its intent to designate a Substituted Entity.

Suitable Substitute means an entity that is not a Restricted Person and reasonably demonstrates its technical and financial qualifications, either directly or through Key Contractors, to manage, operate, maintain, and improve the Energy Systems and to perform the Concession Agreement.

UMD Notice means the notice given by UMD to the Collateral Agent under Section 4.1.

Unauthorized Transfer Concessionaire Default means the Concessionaire Default set forth in Section 19.1.6 of the Concession Agreement.

1.2 INTERPRETATION. In this Agreement, unless the context otherwise requires:

(a) *Agreement References.* The words "herein," "hereto," "hereof," "hereunder," and similar words of reference apply to this Agreement as a whole and not to any specific division, section, or subdivision.

(b) *Headings.* The descriptive headings of the articles, sections, and subsections of this Agreement are provided for reference and convenience and are not intended to be inclusive or definitive or to affect the Agreement's interpretation or scope.

(c) *Article or Section Citations.* Unless otherwise noted, citation to a specific article or section refers to that article or section of this Agreement.

(d) *Meaning of "Including."* "Including" means "including without limitation." Any list of examples following "including" shall not restrict or limit the generality of the word or provision for which such examples are provided.

(e) *Notice.* The word "notice" means "written notice" unless specified otherwise.

(f) *Consents; Approvals.* Unless specified otherwise, whenever the provisions of this Agreement require or provide for, or permit, an approval or consent by either Party, such approval or consent, and any request therefor, must be in writing (unless waived in writing by the other Party).

(g) *Currency.* Unless specified otherwise, all statements of, or references to, dollar amounts or money in this Agreement are to the lawful currency of the United States of America.

(h) *Pronouns.* Whenever the context may require, any pronoun shall include the corresponding male, female, and neuter forms.

(i) *Equivalent Meaning.* The word "will" has the same meaning and effect as the word "shall."

(j) *Persons.* Any reference herein to any Person, or to any Person in a specified capacity shall be construed to include such Person's successors and permitted assigns or such Person's successors in such capacity, as the case may be.

(k) *Other Agreements*. References herein to this Agreement or to any other agreement or document relating to the NextGen Program includes a reference all amendments and modifications to this Agreement or such other agreements or documents.

(l) "Winding-up", "Liquidation", "dissolution", "insolvency", "adjustment", or "reorganization" of a Person and references to the "liquidator", "assignee", "administrator", "receiver", "custodian", "conservator", "sequestrator", or "trustee" of a Person shall be construed so as to include any equivalent or analogous proceedings or, as the case may be, insolvency representatives or officers under the law of the jurisdiction in which such Person is incorporated, organized, or constituted or any jurisdiction in which such Person or, as the case may be, insolvency representative or officer carries on business including the seeking of winding-up, liquidation, dissolution, reorganization, administration, arrangement, adjustment, or relief of debtors.

1.3 ORDER OF PRECEDENCE. In the event of any irreconcilable conflict, ambiguity, or inconsistency between the provisions of the Concession Agreement and the provisions of this Agreement, the provisions of this Agreement shall prevail.

1.4 NO EFFECT ON CONCESSION AGREEMENT. Nothing in this Agreement amends or modifies any of Concessionaire's obligations to UMD under the Concession Agreement.

1.5 APPLICATION TO OTHER AGREEMENTS. The rights and obligations of the Parties under Articles 4 through 18 hereof shall apply with respect to all Financing Agreements, the Lenders thereunder, and the underlying Security Documents so long as any Program Debt secured by such Security Documents remains outstanding.

2.0 REPRESENTATIONS AND WARRANTIES

2.1 UMD REPRESENTATIONS. UMD represents to Concessionaire and the Collateral Agent that as of the Effective Date, the statements in this Section 2.1 are true, correct, and complete. UMD acknowledges that Concessionaire and Collateral Agent are relying upon these representations in entering into this Agreement.

(a) *ORGANIZATION*. UMD is a constituent institution of the University System and is duly organized and existing under the Law of the State.

(b) *POWER AND AUTHORITY*. The University System and the Board of Public Works have duly authorized and approved UMD's execution and delivery of the Concession Agreement, this Agreement, the Ground Lease, and the Easement Agreement, and have duly authorized and approved UMD's performance of its obligations under those agreements. UMD therefore has the power, authority, and legal right to enter into the Concession Agreement, this Agreement, the Ground Lease, and the Easement Agreement and to perform its obligations under these agreements.

(c) *ENFORCEABILITY*. This Agreement constitutes the valid and legally binding obligation of UMD, enforceable against UMD in accordance with its terms, except as far as enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforcement of creditors' rights.

(d) *NO CONFLICTS*. UMD's execution, delivery, and performance of the Concession Agreement and this Agreement and UMD's performance of its obligations under these agreements, will not contravene or violate, or result in breach or acceleration of, UMD's governing documents, any material obligation of UMD under any applicable Law, or any agreement, instrument, or document to which UMD is a party or by which it is bound.

(e) *CONSENTS*. No consent is required to authorize UMD's execution, delivery, and performance of this Agreement except as has been duly obtained or made.

(f) *LITIGATION*. There is no claim, litigation, investigation, or proceeding pending or threatened against, or affecting, UMD that would reasonably be expected to have a Material Adverse Effect on the Initial Financial Closing, the validity or enforceability of the Concession Agreement and this Agreement, or UMD's performance of the Concession Agreement and this Agreement.

(g) *NO DEFAULT.* As of the Effective Date, there is no UMD Noncompliance Event and UMD is not aware of a Concessionaire Default. There exists no event or condition of which UMD is aware that would, with the giving of notice or passage of time or both, constitute a UMD Noncompliance Event or a Concessionaire Default.

(h) *INITIAL FINANCING AGREEMENT; INITIAL SECURITY DOCUMENTS.* The documents contained in Appendices C and D hereto constitute the Initial Financing Agreement and the Initial Security Documents. Each such document complies with Section 25.1.1 of the Concession Agreement (to the extent applicable).

2.2 CONCESSIONAIRE'S REPRESENTATIONS AND WARRANTIES. Concessionaire represents and warrants to UMD and the Collateral Agent that as of the Effective Date, the statements in this Section 2.2 are true, correct, and complete. Concessionaire acknowledges that UMD and Collateral Agent are relying upon these representations and warranties in entering into this Agreement.

(a) *ORGANIZATION*. Concessionaire is a limited liability company duly organized, validly existing, and in good standing under the Laws of Maryland and is duly qualified to transact business and is in good standing in the State and will remain duly qualified and in good standing throughout the term and for as long as any obligations remain outstanding under this Agreement and the Concession Agreement.

(b) *POWER AND AUTHORITY.* Concessionaire has the power, authority, and right to enter into the Concession Agreement, this Agreement, the Ground Lease, and the Easement Agreement, and to perform its obligations under these agreements. Concessionaire's execution, delivery, and performance of the Concession Agreement, this Agreement, the Ground Lease, and the Easement Agreement, have been duly authorized by all necessary action of Concessionaire's governing body and each person executing these agreements has been duly authorized to execute and deliver it on Concessionaire's behalf.

(c) *ENFORCEABILITY*. The Concession Agreement and this Agreement constitute the valid and legally binding obligation of Concessionaire, enforceable against Concessionaire in accordance with its terms, except as such enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforcement of creditors' rights.

(d) *NO CONFLICTS.* Concessionaire's execution, delivery, and performance of the Concession Agreement and this Agreement and the Transaction's consummation, will not contravene or violate, result in breach or acceleration of any material obligation of Concessionaire under any applicable Law; or any agreement, instrument, or document to which Concessionaire is a party or by which it is bound;

(e) *CONSENTS*. Except for consents required to be obtained by Concessionaire or the Parties jointly under this Agreement, no consent is required to authorize Concessionaire's execution, delivery, and performance of this Agreement except as has been duly obtained or made.

(f) *NO DEFAULT.* As of the Effective Date, there is no Concessionaire Default and Concessionaire is not aware of an UMD Noncompliance Event. There exists no event or condition of which Concessionaire is aware that would, with the giving of notice or passage of time or both, constitute a Concessionaire Default or a UMD Noncompliance Event.

(g) *PURPOSE OF LOAN.* The purpose of the Program Debt evidenced and secured by the Initial Financing Agreement is exclusively that set forth in Section 4.1 of the Concession Agreement.

(h) *INITIAL FINANCING AGREEMENT; INITIAL SECURITY DOCUMENTS.* The documents contained in Appendices C and D hereto constitute the Initial Financing Agreement and the Initial Security Documents. Each such document complies with Section 25.1.1 of the Concession Agreement (to the extent applicable).

2.3 COLLATERAL AGENT'S REPRESENTATIONS AND WARRANTIES. The Collateral Agent represents and warrants to UMD and the Concessionaire that as of the Effective Date, the statements in this Section 2.3 are true, correct, and complete. Collateral Agent acknowledges that UMD and Concessionaire are relying upon these representations and warranties in entering into this Agreement.

(a) *ORGANIZATION*. Collateral Agent is a **[form of business]** duly organized, validly existing, and in good standing under the Laws of **[state]** and is duly qualified to transact business and is in good standing in the State and will remain duly qualified and in good standing throughout the term and for as long as any obligations remain outstanding under this Agreement and the Concession Agreement.

(b) *POWER AND AUTHORITY.* Collateral Agent has the power, authority, and right to enter into this Agreement and to perform its obligations hereunder. Collateral Agent's execution, delivery, and performance of this Agreement has been duly authorized by all necessary action of Collateral Agent's governing body and each person executing this Agreement has been duly authorized to execute and delivery it on Collateral Agent's behalf.

(c) *ENFORCEABILITY*. This Agreement constitutes the valid and legally binding obligation of Collateral Agent, enforceable against Collateral Agent in accordance with its terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium, or other similar Laws affecting the enforcement of creditors' rights generally; and, (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(d) *PRIORITY*. Collateral Agent, on behalf of each Lender, has (or each such Lender has) entered into a senior or first-tier subordinate Security Document with Concessionaire with respect to each Financing Agreement in favor of each such Lender.

(e) *CONCESSION AGREEMENT*. The Collateral Agent, on behalf of each Lender, acknowledges that UMD and Concessionaire have designated each Lender of Program Debt as third-party beneficiaries of the Concession Agreement and has agreed to be bound by the terms and conditions of Article 26 of such agreement and other terms and conditions that apply to it.

3.0 UMD'S CONSENT TO SECURITY

3.1 UMD CONSENT TO ASSIGNMENT. UMD acknowledges notice and receipt of the Initial Financing Agreement and Initial Security Documents listed in Appendices C and D hereto. Notwithstanding anything in the Concession Agreement to the contrary, but in reliance on Concessionaire's and the Collateral Agent's representations and warranties set forth in Section 2.2 and 2.3, UMD acknowledges that indebtedness under such Initial Financing Agreement and secured by such Initial Security Documents constitutes the Program Debt for the Phase I Capital Improvements under the Concession Agreement and hereby consents to the collateral assignment by Concessionaire to the Collateral Agent of the Concessionaire Interest pursuant to the terms and provisions of the Security Documents.

3.2 UMD CONSENT TO SECURITY INTEREST IN EQUITY. If the Initial Security Documents include a pledge of equity interests in Concessionaire held by Equity Members, and notwithstanding anything in the Concession Agreement to the contrary, UMD acknowledges notice and receipt of such Initial Security Documents, and in reliance on Concessionaire's and Collateral Agent's representations and warranties set forth in Sections 2.2 and 2.3, hereby consents to the granting by each of such Equity Members to the Collateral Agent of a security interest in such equity interests in Concessionaire pursuant to the terms and provisions of such Initial Security Documents.

3.3 NO CONCESSIONAIRE DEFAULT. In reliance on Concessionaire's and Collateral Agent's representations and warranties set forth in Sections 2.2 and 2.3, and notwithstanding anything in the Concession Agreement to the contrary, UMD agrees that (i) the Security Documents' grant of the security interest in, and first lien over, the Concessionaire Interest, (ii) the grant of the security interest by each Equity Member in Concessionaire pursuant to such Security Documents, and (iii) the execution of this Agreement by Concessionaire, the Collateral Agent, and UMD does

not constitute a Concessionaire Default or any other default by Concessionaire of the Concession Agreement or other Program Documents. UMD further affirms that such grants would not, with the giving of notice or lapse of time or both, constitute a Concessionaire Default or other default by Concessionaire of the Concession Agreement or other Program Documents, and that such grants do not require UMD's consent other than provided herein. Concessionaire and Collateral Agent agree that the forgoing does not constitute UMD's approval of, or waiver of the right to approve, any transfer to a Substituted Entity.

4.0 UMD NOTICE OF TERMINATION AND EXERCISE OF REMEDIES

4.1 UMD NOTICE OBLIGATION.

(a) *NOTICE TO COLLATERAL AGENT.* UMD shall notify the Collateral Agent by issuing a UMD Notice promptly upon issuing either of the following notices to Concessionaire pursuant to Section 19.2.1 of the Base Concession Agreement:

(i) A Notice of Potential Concessionaire Default for all failures to perform except those identified in Sections 19.1.1 and 19.1.4 of the Base Concession Agreement; or,

(ii) A notice of UMD's intent to exercise its remedies under Section 19.5 of the Base Concession Agreement as the result of the occurrence of an Incurable Concessionaire Default.

4.2 UMD NOTICE CONTENTS. Each UMD Notice shall contain the following information in detail sufficient to enable the Collateral Agent to evaluate the scope and amount of any Concessionaire liability:

(a) *UNPERFORMED OBLIGATIONS*. UMD shall specify Concessionaire's unperformed obligations that serve as grounds for the notices to Concessionaire and UMD's potential termination of the Concession Agreement or the exercise of other rights under Section 19.5 of the Base Concession Agreement;

(b) *AMOUNTS CURRENTLY DUE AND PAYABLE*. To the extent known to UMD:

(i) All amounts due and payable by Concessionaire to UMD under the Program Documents on or before the date of the UMD Notice;

(ii) The amounts that remained unpaid on the UMD Notice's date; and,

(iii) The basis for Concessionaire's obligation to pay such amounts.

(c) *AMOUNTS PROJECTED TO BE DUE AND PAYABLE.* The estimated amount of Concessionaire's payment obligation to UMD under the Concession Agreement that UMD reasonably foresees will arise during the applicable Cure Period, if any; and,

(d) *OTHER UNPERFORMED OBLIGATIONS.* Any other unperformed obligations of Concessionaire of which UMD is aware as of the date of the UMD Notice.

4.3 UMD NOTICE UPDATE. Upon the Collateral Agent's request (but not more frequently than monthly), UMD shall update the statements and information in its UMD Notice.

4.4 COLLATERAL AGENT'S RIGHTS. Upon its receipt of a UMD Notice and the lapse of the applicable cure period afforded Concessionaire under Section 19.4 of the Base Concession Agreement or immediately upon its receipt of a UMD Notice pursuant to Section 4.1(a)(ii), the Collateral Agent shall have the rights set forth in Article 6 and the right to deliver a Step-in Notice to UMD under Section 7.1.

4.5 OTHER NOTICES TO COLLATERAL AGENT. After UMD issues a UMD Notice and continuing until the related Revival Date, then as long as any Program Debt secured by any Security Document remains outstanding, UMD shall promptly provide the Collateral Agent with a copy of any other notice UMD gives to Concessionaire relating to any Concessionaire Default.

5.0 LIMITATIONS ON UMD'S REMEDIES DURING CURE PERIOD; CURE PERIOD EXTENSION

5.1 FORBEARANCE OF TERMINATION.

(a) *EFFECTIVE FORBEARANCE PERIODS.* UMD shall not exercise either of the remedies identified in Section 5.1(b) during any of the following periods:

(i) The applicable cure period afforded Concessionaire under the Section 19.4 of the Base Concession Agreement;

(ii) The period specified by Section 25.3 of the Base Concession Agreement during which the Collateral Agent may issue the notice of its intent to cure a Concessionaire Default; and,

(iii) Any Cure Period under this Agreement.

(b) During any period identified in Section 5.1(a), UMD shall not:

(i) Terminate the Concession Agreement pursuant to Section 19.5.6 thereof; or,

(ii) Take, join in, or support, whether directly or indirectly, any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution, or winding up of Concessionaire or for the composition or readjustment of the Concessionaire's debts, or any similar insolvency procedure in relation to Concessionaire, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator, or similar official for the Concessionaire.

(b) *UMD's Reserved Rights*. Nothing in this Article 5.1 prevents UMD from taking either of the following actions:

(i) Exercising either of the remedies identified in Section 5.1 on a Revival Date for any prior Concessionaire Default; or,

(ii) Exercising any other rights and remedies available to it under the Concession Agreement with respect to the Concessionaire Default that was the subject to a UMD Notice or any other Concessionaire Default, subject to Sections 5.2 through 5.6 hereof.

5.2 Forbearing Performance Security Draw. If the Collateral Agent is an additional obligee under any Payment Bond or Performance Bond posted by Concessionaire or a Key Contractor under the Concession Agreement or if the Collateral Agent is a transferee beneficiary under any letter of credit posted under that agreement, and if within 10 days after UMD notifies Concessionaire and the Collateral Agent of its intent to submit a claim under such security, the Collateral Agent notifies UMD of its intention to exercise its remedies under such security, then UMD shall forbear from exercising its remedies as additional obligee or transferee beneficiary so long as the Collateral Agent promptly commences and continues such good faith, diligent exercise of its remedies. If the Concessionaire Default that was the subject of the UMD Notice remains uncured at the end of the Cure Period, UMD shall no longer be required to forebear and may exercise any such remedies.

5.3 Forbearing Key Contract Enforcement. To the extent UMD has rights to enforce any Key Contract, whether as assignee of Concessionaire's rights or otherwise, UMD shall not exercise remedies against a Key Contractor during this Agreement's term during any Cure Period.

5.4 Forbearing Step In Rights.

(a) If UMD exercises any step-in rights under Section 19.2.2 and 19.5.1 of the Base Concession Agreement and the Collateral Agent delivers a Step-in Notice, then UMD shall cease exercising its step-in rights when the Step-in Party obtains possession, custody, and control of the Energy Systems from Concessionaire (or UMD as the case may be).

(b) Even if the conditions identified in Section 25.4.1 of the Base Concession Agreement have not been met, UMD shall cease the exercise of its step-in rights under Section 19.5.1 of the Concession Agreement upon receipt from the Collateral Agent of a notice citing

this Section 5.4, under which the Collateral Agent represents that it has cured or stands ready to commence good faith and diligent curative action of the Concessionaire Default that gave rise to UMD's original exercise of its step-in rights.

(c) If UMD has assumed possession and control of the Energy Systems by exercising its step-in rights under 19.5.1 of the Concession Agreement, the Collateral Agent must nonetheless deliver a Step-in Notice for UMD to relinquish such possession and control to Collateral Agent or the Step-in Party.

5.5 EXTENSION OF LONG STOP DATE. UMD shall deliver a UMD Notice to the Collateral Agent if it delivers a Notice of Potential Concessionaire Default to Concessionaire pursuant to Section 19.2.1 of the Base Concession Agreement on account of a failure to perform under Section 19.1.13. Upon receipt of such UMD Notice, the Collateral Agent, acting on behalf of the Lenders, shall have an additional 6 months beyond the Project's Substantial Completion Date (as adjusted) to achieve or cause Concessionaire to achieve Substantial Completion, provided that the Collateral Agent delivers a Step-in Notice within 5 Business Days following its receipt of the UMD Notice.

5.6 COLLATERAL AGENT'S RIGHT TO CURE. During any Cure Period and without delivering a Step-in Notice, the Collateral Agent may perform or arrange for the performance of any act, duty, or obligation required of Concessionaire under the Concession Agreement or may cure any breach by Concessionaire thereunder at any time (even if a UMD has delivered a Notice of Termination pursuant to Section 19.5.6 of the Concession Agreement). UMD shall accept such performance or cure by or on behalf of, the Collateral Agent in lieu of performance by Concessionaire and in satisfaction of Concessionaire's obligations under the Concession Agreement, provided such performance or cure fully conforms to, and complies with, the Concession Agreement, the other Program Documents, and any applicable Project Documents.

(a) *NOTICE.* The Collateral Agent shall notify Concessionaire and UMD of its intent to cure a Concessionaire Default in accordance with Section 25.3 of the Base Concession Agreement.

(b) *CURE PERIOD.* If the Collateral Agent notifies UMD of its intent to cure a Concessionaire Default, it shall cure such Concessionaire Default within the Cure Period and any extension specified by, and in accordance with the requirements of, Section 25.3 of the Base Concession Agreement.

(c) To the extent that any Concessionaire Default is cured or any payment liabilities or performance obligations of Concessionaire are performed in accordance with the Concession Agreement by, or on behalf of, the Collateral Agent during the Cure Period, such action shall discharge the relevant liabilities or obligations of Concessionaire to UMD.

(d) Any curing of a Concessionaire Default by the Collateral Agent shall not be construed as an assumption by the Collateral Agent of any obligations, covenants, or agreements of Concessionaire under the Concession Agreement, except with respect to the work, services, or actions taken or performed by, or on behalf of, the Collateral Agent and otherwise as set forth in this Agreement.

6.0 LENDER NOTICE; PAYMENTS TO COLLATERAL AGENT

6.1 LENDER NOTICE.

(a) The Collateral Agent shall deliver to UMD a copy of each Lender Notice it gives to Concessionaire under any Financing Agreement or Security Document.

(b) Each Lender Notice shall specify the circumstances and nature of the Concessionaire Default or other reason for which it is issuing the Enforcement.

6.2 ENFORCEMENT NOTICE. Collateral Agent shall promptly notify UMD of any decision to issue an Enforcement Notice to Concessionaire and shall provide UMD a copy thereof.

6.3 UMD PAYMENTS FOLLOWING ENFORCEMENT NOTICE.

(a) *PAYMENT TO ACCOUNT.* Upon receipt of an Enforcement Notice relating to a Concessionaire Default and until further notification from the Collateral Agent, UMD thereafter shall pay into an account designated by the Collateral Agent any payments required to be made by UMD to Concessionaire under the Concession Agreement, including any Termination Payment, but subject to all rights, defenses, adjustments, deductions, and offsets respecting payment available to UMD under such agreement.

(b) *ACCOUNT INFORMATION.* Each Enforcement Notice shall specify the following account information, which Collateral Agent shall update in a notice to UMD as necessary to ensure that it is true and correct at all times:

(i) The financial institution in which the account exists and the account number; and,

(ii) The identity, position title, mailing address, and other contact information of individual responsible for administering the account.

(c) *DISCHARGE OF UMD PAYMENT OBLIGATION.* All sums paid pursuant to this Section 6.3 shall be deemed paid to Concessionaire under the Concession Agreement and shall constitute a complete discharge of UMD's payment obligations to Concessionaire. UMD shall have no liability whatsoever to Concessionaire, any Lender, the Collateral Agent, or any third party for any delay in processing any invoice pursuant to Section 6.3. In no event shall any

payment be due to the Collateral Agent earlier than when it is due under the Concession Agreement.

6.4 UMD'S RELIANCE ON LENDER NOTICE. UMD may rely on any Enforcement Notice purported to be signed and delivered by or for the Collateral Agent, without UMD obligation or liability to Concessionaire, any Lender, the Collateral Agent, or any third party to ascertain or investigate its authenticity, truth, or accuracy.

7.0 STEP-IN NOTICE.

7.1 ISSUANCE. The Collateral Agent may issue a Step-In Notice in response to a UMD Notice at any time during the Concessionaire's applicable cure period under Section 19.4 of the Base Concession Agreement.

7.2 STEP-IN PARTY. All Step-in Notices shall nominate a Step-in Party, which may be either of the following entities:

(a) The Step-in Party may be the Collateral Agent, a Lender, a receiver, or any entity that is wholly owned by a Lender or group of Lenders; or,

(b) The Step-in Party may be any Person approved by UMD as a Substituted Entity in accordance with Section 10.2.

8.0 RIGHTS AND OBLIGATIONS ON STEP-IN

8.1 STEP-IN PARTY'S RIGHTS. Starting on the Step-in Date and throughout the Step-in Period, the Step-in Party:

(a) May exercise and enjoy Concessionaire's rights and powers under the Concession Agreement and this Agreement to perform the actions identified in the Step-in Notice;

(b) May exercise and enjoy the rights and powers to be assumed or granted to a Step-in Party under this Agreement; and,

(c) Shall be liable for the performance of all Concessionaire obligations under the Concession Agreement arising on or after the Step-in Date and during the Step-in Period that the Step-in Party seeks to perform.

8.2 UMD'S OBLIGATIONS DURING STEP-IN PERIOD. Without prejudice to its rights under Article 12, during the Step-in Period, UMD shall:

(a) Not terminate or deliver a Notice of Termination under Section 19.5.6 of the Concession Agreement unless:

(i) Such Step-in Period expires without cure of the Concessionaire Default to which it relates; or,

(ii) The grounds for termination or giving the Notice of Termination or otherwise exercising its rights under Section 19.5 of the Concession Agreement are a subsequent Concessionaire Default, subject to its own cure period;

(b) Not take or support any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution, or winding up of Concessionaire or for the composition or readjustment of Concessionaire's debts, or any similar insolvency procedure in relation to Concessionaire, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator, or similar official for Concessionaire or any part of the Concessionaire Interest;

(c) Continue to make payments pursuant to Section 6.3 of this Agreement; and,

(d) Endorse or pay over as may be directed by the Collateral Agent any checks received by UMD with respect to, or funds drawn by UMD under, the Performance Security if, in each case, such security is in the form of a surety bond; provided that the Collateral Agent shall reimburse UMD for any costs and expenses it incurs in attempting to cure the Concessionaire Default to the extent that:

(i) UMD is entitled to such reimbursement pursuant to the Concession Agreement;

(ii) UMD has promptly notified the Collateral Agent of such losses at or prior to the time of endorsement; and,

(iii) The Collateral Agent's obligations to reimburse UMD for such losses do not exceed the proceeds from any such security.

8.3 STEP-IN PARTY'S AUTHORITY; UMD'S RIGHT TO REIMBURSEMENT.

(a) *DISCHARGE OF UMD'S OBLIGATIONS.* UMD's performance in favor of either the Step-in Party or Concessionaire shall be a good and effective discharge of UMD's obligations under this Agreement and the Concession Agreement;

(b) *DISCHARGE OF CONCESSIONAIRE'S OBLIGATIONS.* UMD's receipt of complete, conforming, and compliant performance in accordance with the Concession Agreement from

either the Step-in Party or Concessionaire shall be a good and effective discharge of Concessionaire's corresponding obligations under the Concession Agreement;

(c) *STEP-IN PARTY'S AUTHORITY.* At any time during the Step-in Period, the Collateral Agent may notify UMD and Concessionaire, that during the Step-in Period, the Step-in Party shall be solely entitled to make any decisions, to give any directions, approvals, or consents to receive any payments or otherwise to deal with UMD in place of Concessionaire under the Concession Agreement. UMD may rely conclusively on any such decisions, directions, approvals, or consents, without any duty whatsoever to ascertain or investigate the validity thereof, and any such decisions, directions, approvals, or consents shall be as binding on Concessionaire as if made or given by Concessionaire itself;

(d) *REIMBURSEMENT OF UMD'S COSTS AND EXPENSES.* Any amount due from Concessionaire to UMD under the Concession Agreement or this Agreement as of the Step-in Date shall be paid to UMD on the Step-in Date, subject to UMD notifying the Step-in Party prior to the Step-in Date of such amount(s).

(e) *CONCESSIONAIRE NOT RELIEVED OF OBLIGATIONS.* Concessionaire shall not be relieved from any of its obligations under the Concession Agreement, whether arising before or after the Step-in Date, by reason of the Step-in Party exercising the rights provided herein, except to the extent provided in Sections 6.3 and 9.1.

9.0 STEP-OUT

9.1 STEP-OUT NOTICE. A Step-in Party may terminate its obligations to UMD under this Agreement with regard to the event giving rise to the Step-in Notice by delivering a Step-out Notice to UMD at least 30 days prior to the effective date of such termination.

9.2 STEP-IN PARTY'S RELEASE. On and after the termination date specified in a Step-in Notice, the Step-in Party shall be released from all obligations under this Agreement, except for any related obligations or liabilities of the Step-in Party arising on or before that date and otherwise set forth in the Step-out Notice.

9.3 TERMINATION OF UMD'S OBLIGATIONS. UMD's obligations to the Step-in Party under this Agreement with regard to the event giving rise to a Step-in Notice shall terminate upon the Step-out Date.

10.0 SUBSTITUTION PROPOSAL BY THE COLLATERAL AGENT

10.1 SUBSTITUTION NOTICE. At any time during a Cure Period or any Step-in Period, the Collateral Agent may issue a Substitution Notice to notify UMD of its intent to nominate a Substituted Entity. The Collateral Agent may nominate more than one Substituted Entity. Each nominee must be a Suitable Substitute.

10.2 UMD's APPROVAL. Each Substituted Entity nominee must be approved by UMD prior to assuming responsibility for the management, operation, maintenance, and improvement of the Energy Systems.

10.3 INFORMATION TO SUPPORT NOMINATION. As soon as practicable after delivery of a Substitution Notice, the Collateral Agent shall deliver to UMD information sufficient to demonstrate that the proposed Substituted Entity (and to the extent applicable, any proposed third-party Key Contractor) is a Suitable Substitute to manage, operate, maintain, and improve the Energy Systems and to perform the Concession Agreement according to its terms (including achievement of the Key Performance Indicators and ability to pay Deductions). Such information shall include:

(a) The name and addressed of the proposed Substituted Entity and its proposed Key Contractors;

(b) The names of the proposed Substituted Entity's shareholders or members and the share capital or partnership or membership interests, as the case may be, held by each of them;

(c) the manner in which the Collateral Agent proposes to finance the proposed Substituted Entity in the performance of the Concession Agreement and the extent to which such financing is committed;

(d) Copies of the most recent financial statements (and, if available, the financial statements for the last three financial years) of the proposed Substituted Entity and each of its proposed Key Contractors or in case of a newly formed special purpose entity, its opening balance sheet;

(e) Copies of the formation documents and other evidence of organization and authority (including organizational documents, resolutions, and incumbency certificates) for the proposed Substituted Entity and each of its proposed Key Contractors;

(f) Details of the resources available to the proposed Substituted Entity and its proposed Key Contractors, and the appropriate qualifications, experience, and technical competence available to the proposed Substituted Entity and its proposed Key Contractors to enable the proposed Substituted Entity to perform Concessionaire's obligations under the Concession Agreement.

(g) The names of the directors/managers/partners of the proposed Substituted Entity and its Key Contractors and the key personnel who will become Key Managers and otherwise have responsibility for the day-to-day management of the Substituted Entity's participation in the NextGen Program;

(h) Disclosure of any actual or potential conflicts between UMD's interests and the interests of the proposed Substituted Entity and its Key Contractors;

(i) All certificates, including certificates regarding debarment or suspension, forms, statements, representations, and warranties, and opinion(s) of counsel that UMD may reasonably request, executed by the proposed Substituted Entity and, where applicable, proposed Key Contractors, provided that UMD shall not be responsible for the costs and expenses of preparing and presenting such certificates, forms, statements, representations, warranties, and opinion(s); and,

(j) Any other information relating to the proposed Substituted Entity and its Key Contractors within the reasonable control of the Collateral Agent and the Lenders that UMD may reasonably request for validating nominee as a Suitable Substitute.

10.4 UMD APPROVAL. UMD shall approve the Substituted Entity nominated by the Collateral Agent, provided both of the following conditions have been satisfied:

(a) Concessionaire has delivered to UMD all information relevant to approval of the nominee pursuant to Section 10.3; and,

(b) UMD has completed a Responsibility Determination and has determined that the Substituted Entity satisfy the following criteria:

(i) Concessionaire will have the capacity in all respects to perform fully the requirements of the Agreement; and,

(ii) Concessionaire will possess the integrity and reliability that will ensure good faith performance of the Agreement.

10.5 CAPACITY. For the purposes of UMD's determination under Section 10.4, "capacity" means:

(a) The technical and commercial competency, the expertise, the experienced personnel, and the technical resources to perform the Agreement fully in accordance with the KPIs and all other provisions of this Agreement;

(b) The financial resources necessary to perform the Agreement fully, including:

(i) The capacity to fund all Additional Capital Improvements and other work identified in the Five-Year Performance Improvement Plan in

effect on the date of UMD's receipt of the Collateral Agent's nomination;

(2) The ability to assume the obligation to fund implementation of the Reversion Work Plan; and,

(3) The capacity to fulfill all of Concessionaire's indemnification obligations under the Agreement.

10.6 LENDER-OWNED SUBSTITUTED ENTITY. Any entity that is wholly owned by a Lender or a group of Lenders shall be deemed a Substituted Entity, provided that the Collateral Agent delivers to UMD the information required by Section 10.3 to establish that the Substituted Entity is a Suitable Substitute, either directly or through its Key Contractors.

10.7 RECEIVERS.

(a) The appointment of a receiver at the behest of the Concessionaire shall be subject to UMD's prior approval.

(b) The appointment of a receiver at the behest of any Lender, through the Collateral Agent, shall be subject to the following terms:

(i) UMD's prior approval shall not be required for the appointment of the receiver or the selection of the Person to serve as receiver; and,

(ii) Whenever any Lender commences any proceeding for the appointment of a receiver, the Collateral Agent shall provide UMD not less than 5 days' prior notice of the hearing for appointment and the Lender's pleadings and briefs in the proceeding;

(iii) UMD may appear in any such proceeding to challenge the selection of the Person or entity to serve as receiver; and,

(iv) At any time, UMD may seek an order for replacement of the receiver by a different receiver.

11.0 SUBSTITUTION

11.1 SUBSTITUTE ACCESSION AGREEMENT.

(a) *FORM OF AGREEMENT.* Upon UMD's approval of a Substituted Entity pursuant to Section 10.4 hereof, such Substituted Entity shall execute a duly completed Substitute Accession Agreement substantially in the form attached hereto as Appendix A and submit it to UMD (with a copy to the other Parties).

(b) *EFFECTIVE DATE OF ASSIGNMENT.* The assignment set forth in the Substitute Accession Agreement shall become effective on the later of the following dates:

(i) The date on which the Collateral Agent or the Substituted Entity lawfully succeeds to all the Concessionaire Interest through exercise of foreclosure rights and actions on security interest or through transfer from Concessionaire in lieu of foreclosure; or,

(ii) the date of UMD's receipt of all payments described in Section 11.4.

(c) *PAYMENT BY SUBSTITUTED ENTITY.* Any payment to be made or action to be taken by the Collateral Agent as a prerequisite to keeping the Concession Agreement in effect shall be deemed to have been properly made or taken by the Collateral Agent if the Substituted Entity makes such payment or takes such action. UMD shall have no obligation to recognize any claim to the Concessionaire Interest by any Person that has acquired it by, through, or under any Security Document or whose acquisition shall have been derived immediately from any holder thereof, unless such Person is a Substituted Entity.

11.2 TRANSFER OF OBLIGATIONS. As of the Substitution Effective Date:

(a) *SUBSTITUTED ENTITY AS PARTY.* The Substituted Entity shall become a party to the Concession Agreement in place of Concessionaire;

(b) *TRANSFER OF OBLIGATIONS.* All of Concessionaire's obligations and liabilities under the Concession Agreement arising from and after the Substitution Effective Date shall be immediately and automatically transferred to the Substituted Entity, and Concessionaire shall be released from any such obligations and liabilities to UMD arising from and after the Substitution Effective Date, provided that the Substituted Entity and the Collateral Agent have complied with their obligations under this Agreement. The Parties' release of Concessionaire shall not preclude the exercise of subrogation rights or other remedies that the Collateral Agent or any Lender may have against Concessionaire.

(c) *CONCESSIONAIRE'S CONTINUED LIABILITY.* Notwithstanding the foreclosure or other enforcement of any security interest created or perfected by any Financing Agreement, and notwithstanding the occurrence of the Substitution Effective Date, subject to Sections 11.1 and 11.4, Concessionaire shall remain liable to UMD for the payment of all sums owing to UMD under the Concession Agreement and for the performance and observance of all Concessionaire's covenants and obligations under such agreement prior to the Substitution Effective Date.

(d) The Substituted Entity shall exercise and enjoy the rights and perform the obligations of Concessionaire under the Concession Agreement, including assuming liability for its acts and omissions under the Concession Agreement.

(e) UMD shall owe its obligations under the Concession Agreement to the Substituted Entity in place of Concessionaire, subject to UMD's right to offset any losses or damages it suffered or incurred as provided under the Concession Agreement. When UMD performs such obligations, UMD's performance shall be, and shall be deemed to be, a release by Concessionaire of its entitlement to perform those obligations.

11.3 TRANSFER FACILITATION. UMD shall use its reasonable efforts to facilitate the transfer of Concessionaire's obligations under the Concession Agreement to the Substituted Entity.

11.4 PAYMENT TO UMD. On the Substitution Effective Date, the Substituted Entity shall pay UMD all amounts due to UMD under the Concession Agreement.

11.5 OTHER CONCESSIONAIRE DEFAULTS.

(a) The occurrence of the Substitution Effective Date shall not extinguish prior Concessionaire Defaults that remain uncured. UMD shall continue to have all rights and remedies available under the Concession Agreement with regard to such Concessionaire Defaults, including any applicable termination rights, subject to:

(i) The limitations on UMD's exercise of such rights and remedies set forth in this Agreement during any applicable Cure Period that continues after the Substitution Effective Date;

(ii) The reduction of the number of failures of KPI compliance provided under Section 11.7; and,

(iii) The terms and conditions of New Agreements obtained pursuant to Section 13.

(b) Subject to the limitations in Section 11.5.1(a) and (b), following the Substitution Effective Date, the Substituted Entity shall be responsible for any prior Concessionaire Defaults that are capable of being cured by the Substituted Entity and UMD may seek recourse against the Substituted Entity for such Events. Concessionaire shall remain responsible to UMD for Concessionaire Default that are not capable of being cured by the Substituted Entity, and UMD may seek recourse for such Events against Concessionaire. UMD shall not seek recourse for such Events of Concessionaire Default against the Substituted Entity.

11.6 NEW DIRECT AGREEMENT. As of the Substitution Effective Date, UMD shall enter into an equivalent direct agreement on substantially the same terms as this Agreement except that Concessionaire shall be replaced as a Party by the Substituted Entity.

11.7 KEY PERFORMANCE INDICATORS; DEDUCTIONS. On the Substitution Effective Date, the number of events of KPI noncompliance during the then-current Contract Year shall be reduced to zero.

12.0 REVIVAL OF REMEDIES; INCURABLE EVENTS OF CONCESSIONAIRE DEFAULT

12.1 REVIVAL OF REMEDIES. If the following conditions have been satisfied, UMD may take any of the actions identified in Section 12.2:

(a) UMD delivered a UMD Notice to the Collateral Agent;

(b) The grounds for such UMD Notice are continuing and have not been remedied or waived; and,

(c) Subject to Section 11.5, the Step-in Period ends without cure of the Concessionaire Default identified in the UMD Notice.

12.2 REVIVED RIGHTS. Provided all conditions set forth in Section 12.1 have been satisfied, from and after the date on which the Step-in Period expires, UMD may take any of the following actions ("Revived Rights"):

(a) Act upon any and all grounds for termination or suspension available to it under the Concession Agreement with respect to Concessionaire Defaults not remedied or waived;

(b) Pursue any and all claims and exercise any and all remedies against Concessionaire; and,

(c) Take or support any action of the type referred to in Sections 9.12 and 19.5 of the Concession Agreement if and to the extent that it is then entitled to do so under the Concession Agreement.

12.3 UMD's Revived Rights pertain only to expiration of the Step-in Period without cure of the Concessionaire Default identified in the UMD Notice and do not pertain to permanent substitution by the Substituted Entity. The Revived Rights shall not become effective if the Substituted Entity cures the Concessionaire Default identified in the UMD Notice within the Cure Period.

13.0 NEW AGREEMENTS

13.1 APPLICABILITY. This Section applies in each of the following circumstances:

(a) An Incurable Concessionaire Default or an Unauthorized Transfer Concessionaire Default occurs.

(b) All of the following events occur:

(i) A Concessionaire Default occurs other than Incurable Concessionaire Default or an Unauthorized Transfer Concessionaire Default;

(ii) The Collateral Agent diligently pursues lawful processes to obtain the appointment of a court receiver to take possession, custody, and control of the Energy Systems;

(iii) Despite such efforts, the Collateral Agent cannot obtain such possession, custody, and control of the Energy Systems within the 180-day Cure Period set forth in the definition of "Cure Period"; and,

(iv) no Step-out Notice has been given.

(c) The Concession Agreement is terminated under its Section 19.1.9, provided that:

(i) Neither the Collateral Agent nor any Lender participated in, or had knowledge of, the event giving rise to the termination; and,

(ii) The Collateral Agent and each Lender certifies in writing to UMD that it did not participate in, or have knowledge of, such event.

13.2 PROCEDURE. If, under any of the circumstances identified in Section 13.1, UMD terminates the Concession Agreement or receives notice that the Concession Agreement is terminated, rejected, invalidated, or rendered null and void by order of a bankruptcy court, then UMD shall deliver a copy of such notice to the Collateral Agent. Upon receipt of such notice, the Collateral Agent or other Step-in Party may require UMD to enter into New Agreements to replace the Concession Agreement, and, to the extent necessary, any ancillary agreements under this Section 13.2.

(a) *DELIVERY OF NEW AGREEMENTS.* Within 90 days after UMD delivers the notice of termination, the Collateral Agent or other Step-in Party shall deliver to UMD the following documents:

(i) A request for New Agreements;

(ii) A written commitment that the Collateral Agent or Step-in Party will enter into the New Agreements and pay all amounts required under Sections 13.3(a) and (c); and,

(iii) Original New Agreements, duly executed and acknowledged by the Collateral Agent or Step-in Party.

(b) *CONTENTS; EFFECTIVE DATE*. The New Agreements shall contain the same covenants, term, and limitations as the Concession Agreement and ancillary agreements and documents that were binding on UMD and Concessionaire (except for any requirements that have been fulfilled by Concessionaire before termination). The New Agreements shall be effective as of the date of the Concession Agreement's termination and shall remain in effect for the remainder of the Operating Term.

(c) *EXPIRATION OF NEW AGREEMENT OPTION.* If the documents identified in Section 13.2(a) are not delivered to UMD within 90 days following UMD's delivery of the notice of termination, then the option to require UMD to enter into New Agreements pursuant to this Section 13.2 shall expire.

(d) *RELIANCE.* UMD shall have the unconditional right to rely upon any proposed New Agreements purported to be signed and delivered by or for the Collateral Agent or any other Step-in Party without any obligation or liability to ascertain or investigate their authenticity, truth, or accuracy.

(e) *EXECUTION OF NEW AGREEMENTS.* UMD shall execute the proposed New Agreements within 60 days after receipt of them, provided that:

(i) To the extent required, UMD has complied with Section 10A-202(e) of the P3 Statute and the State's Board of Public Works has approved the necessary change in ownership;

(ii) The System's Board of Regents and the State's Board of Public Works have authorized such execution; and,

(iii) The Collateral Agent or other Step-in Party has paid amounts and delivered documents to UMD in accordance with Section 13.3.

13.3 PAYMENTS DUE UMD. Prior to (or in the case of payments of money, contemporaneously with) UMD's execution of the New Agreements, the Collateral Agent or the other Step-in Party shall take the actions set forth in this Section 13.3.

(a) *PAYMENTS TO UMD.* The Collateral Agent or other Step-in Party shall pay UMD:

(i) Any and all amounts that would be due UMD under the Concession Agreement at the time of UMD's execution of the New Agreements but for the Concession Agreement's termination; and,

(ii) The amount of any Termination Payment previously paid by UMD under the Concession Agreement with interest thereon from the date the Termination Payment was paid to the date of reimbursement.

(b) *CURE OF CONCESSIONAIRE DEFAULTS*. Collateral Agent or other Step-in Party shall fully remedy any existing Concessionaire Default under the Concession Agreement except:

(i) Incurable Concessionaire Defaults; and,

(ii) Those Events of Concessionaire Default that cannot be cured until the Collateral Agent or other Step-in Party obtains possession, custody, and control of the Energy Systems, in which case such cure must be completed no later than 120 days after the Collateral Agent or other Step-in Part obtains possession, custody, and control of the Energy Systems.

(c) *COST REIMBURSEMENT.* The Collateral Agent or other Step-in Party shall reimburse UMD all reasonable costs and expenses, including Recoverable Costs, incurred by UMD in connection with:

(i) The Concessionaire Default and the termination of the Concession Agreement arising therefrom;

(ii) The assertion of rights, interests, and defenses in any bankruptcy or related proceeding;

(iii) The recovery of possession of the Energy Systems;

(iv) All activities undertaken by UMD during its period of possession of, and with regard to, the Energy Systems, including permitting, design, acquisition, construction, equipping, management, operation, and maintenance activities, minus the amount of the Availability Payments, if any, that would have been paid during such period had the Concession Agreement not been terminated and had there been no adjustments to such Availability Payment, provided that at no time shall the difference between the amount owed UMD and the amount of the Availability Payment be less than zero; and,

(v) The preparation, execution, and delivery of such New Agreements, including the UMD's Recoverable Costs of securing all approvals and authorizations required for such execution.

(d) *NEW PAYMENT BONDS AND PERFORMANCE SECURITY.* Collateral Agent or the other Step-in Party shall deliver to UMD new Payment Bonds and Performance Security and new letters of credit to the extent required by the New Agreements.

13.4 DELIVERY OF PROPERTY AND RECORDS. Upon execution of the New Agreements and payment of all sums due UMD, UMD shall assign and deliver to the Collateral Agent or other Step-in Party, without warranty or representation, all property, contracts, and Records that Concessionaire may have assigned or delivered to UMD upon termination of the Concession Agreement.

13.5 MULTIPLE LENDERS. If the holders of more than one Security Document make written requests upon UMD for New Agreements in accordance with Section 13.1, UMD will award the New Agreements to, as applicable, the holder whose Security Documents have the most senior priority of records. Priority shall be established as follows:

(a) UMD shall submit a written request to the Collateral Agent to designate the Security Documents having the most senior priority of record. UMD shall have the right to conclusively rely on the Collateral Agent's written designation, with the duty of further inquiry and without liability to any Lender;

(b) If UMD does not receive the Collateral Agent's written designation within 10 days after delivering the written request, then UMD may conclusively rely, without further inquiry and without liability to the Collateral Agent or any Lender, on the seniority indicated by a then-current title report that UMD obtains from one of the four largest title insurance companies doing business in the State (unless otherwise agreed in writing by the most senior holder so indicated);

(c) If the holders of more than one Security Document share senior lien priority on an equal basis and make written requests upon UMD for New Agreements in accordance with this Section 13, UMD shall award the New Agreement to such holders jointly (unless otherwise agreed in writing by such holders).

13.6 FORFEITURE OF NEW AGREEMENT OPTION. If the Concession Agreement is terminated as the result of Incurable Concessionaire Default or an Unauthorized Transfer Concessionaire Default and either the Collateral Agent or any Lender fails to comply with the conditions set forth in Section 13.1(c), then Collateral Agent shall have no right to obtain New Agreements from UMD.

14.0 OTHER LENDER RIGHTS

14.1 ACKNOWLEDGEMENT OF CERTAIN LENDER RIGHTS.

(a) In addition to all other rights under this Agreement, UMD acknowledges Collateral Agent's right on behalf of the Lender(s) to be subrogated to and perform any and all rights of Concessionaire under the Concession Agreement with respect to curing any Concessionaire Default.

(b) UMD shall grant the Collateral Agent and its Substituted Entity the same access to the Energy Systems and UMD Buildings as it granted Concessionaire under the Ground Lease and the Easement Agreement.

(c) UMD consents to Concessionaire constituting and appointing any Collateral Agent as Concessionaire's authorized agent and attorney-in-fact with full power, in Concessionaire's name and at its sole cost (unless such cost is borne by the Collateral Agent or Lender(s)), to enter the Energy Systems and the UMD Buildings and to perform all acts required to be performed under the Concession Agreement and other related documents and contracts, but only in the event of a Concessionaire Default. UMD will recognize Collateral Agent's performance as though it had been performed by Concessionaire.

14.2 SECURITY DOCUMENTS. The creating or granting of a Security Document in accordance with the Concession Agreement shall not be deemed to constitute an assignment or transfer of the Concession Agreement, Concessionaire's contractual right of entry, or the Concessionaire Interest, nor shall any Lender, as such, be deemed to be an assignee or transferee of the Concession Agreement, Concessionaire's contractual right of entry, or the Concessionaire Interest so as to require such Lender, as such, to assume the performance of any of the terms, covenants, or conditions on the part of Concessionaire to be performed under the Security Document or the Concession Agreement. No Lender, nor any owner of the Concessionaire Interest whose ownership shall have been acquired by, through, or under any Security Document or whose ownership shall have been derived immediately from any holder thereof, shall become personally liable under the provisions of this Agreement or the Concession Agreement unless and until the Lender or such owner becomes the owner of the Concessionaire Interest.

14.3 ASSUMPTION. Upon any permitted collateral assignment of the Concession Agreement, Concessionaire's contractual right of entry, and the Concessionaire Interest by a Lender or any owner of the Concessionaire Interest whose ownership shall have been acquired by, through, or under any Security Document, or whose ownership shall have been derived immediately from any holder thereof, the assignor shall be relieved of any further liability that may accrue under the Security Document or the Concession Agreement from and after the date of such assignment, provided that the assignee is a Substituted Entity and executes and delivers to UMD an instrument of assumption as required under Section 25.8 of the Concession Agreement.

14.4 LENDER REMEDIES. A Lender or the Collateral Agent may exercise its rights and remedies under its Security Documents with respect to all, but not less than all, of the Concessionaire Interest.

14.5 NO UMD CONSENT FOR LENDER RIGHTS. The exercise by a Lender of its rights with respect to the Concessionaire Interest under the Financing Agreements, Security Documents, this Agreement, or applicable Law, whether by judicial proceedings or by virtue of any power contained in the Security Documents or Financing Agreements, or by any conveyance from Concessionaire to the Lender instead of foreclosure under the Security Documents, or any subsequent transfer from the Lender to a Substituted Entity, shall not require UMD's consent or constitute a breach of any provision of, or a default under, the Concession Agreement and related agreements. The foregoing does not affect the obligation to obtain approval of Persons as Substituted Entities under Sections 10 and 11.

14.6 CONDEMNATION NOTICE. UMD or Concessionaire shall promptly notify each Lender whenever it obtains knowledge of any condemnation proceedings by a third party affecting the Energy Systems.

15.0 UMD'S RIGHT TO PURCHASE PROGRAM DEBT

15.1 RIGHT TO PURCHASE. If Concessionaire has defaulted on its obligations under a Financing Agreement and has not cured such default within the applicable cure period, or if any act, condition, or event has occurred that would permit the Collateral Agent or any Lender to declare all or any part of the indebtedness secured by its Financing Agreement to be immediately due and payable, UMD may purchase all outstanding Program Debt at a price determined under Section 15.4.

15.2 NOTICE OF CONCESSIONAIRE DEFAULT. Promptly after the conditions precedent identified in Section 15.1 give rise to UMD's right to purchase thereunder, the Collateral Agent or the affected Lender shall notify UMD of its intent to commence foreclosure proceedings. Such notice shall state a purchase price determined under 15.4 and shall specify the date by which UMD must exercise this option, which date shall be no earlier than 60 days following the date of the notice.

15.3 EXERCISE OF PURCHASE OPTION. UMD shall notify Concessionaire, the Collateral Agent, and all Lenders of its intent to exercise its option under this Section 15.3 within the 60-Day period identified in Section 15.2. UMD's notice shall state the approvals required to complete its purchase, a list of supporting documents it requires from each Lender, and a proposed schedule of approvals for, and closing of, the transaction. All parties shall cooperate to facilitate closing UMD's purchase at the earliest reasonable date. Closing shall take place at a mutually convenient time and place.

15.4 DETERMINATION OF PURCHASE PRICE. The purchase price payable by UMD under this Article 15 shall be equal to the aggregate Program Debt secured under all Financing Agreements that remains outstanding as of the closing date or the purchase (including principal, interest, fees, premiums, Lender Breakage Costs, and other transaction costs and expenses (including reasonable attorneys' fees)).

15.5 CLOSING.

(a) *PAYMENT.* UMD shall pay the full purchase price to the Collateral Agent in cash at closing by wire transfer or other immediately available funds. The Collateral Agent shall apply the amount it receives from UMD to the amounts owed to each Lender under its Financing Agreement, subject to the lien priorities under such agreement.

(b) *FINANCING AGREEMENT ASSIGNMENT.* Immediately upon confirmation at closing of each Lender's receipt of UMD's payment, each Lender shall assign its Financing Agreement to UMD, together with any security interest in the Concessionaire Interest, without recourse, representations, covenants, or warranties of any kind. Each Financing Agreement and security interest shall be deemed modified to secure the amount of the aggregate purchase price paid by UMD to the Collateral Agent (rather than the indebtedness theretofore secured thereby) payable on demand, with interest. Each such assignment shall be in a form for recordation or filing. UMD shall be responsible for paying any Taxes payable to any Governmental Authority upon such assignment. Such assignment shall be made subject to such state of title of the Energy Systems as of the date of UMD's exercise of its right to purchase under Section 15.1.

16.0 CONSENTS AND ESTOPPEL CERTIFICATES

16.1 REQUEST FOR UMD CONSENT. Within 15 Business Days after the Collateral Agent requests on behalf of any Lender or proposed lender entitled to the rights, benefits, and protections of this Agreement, UMD, without charge, shall consent to:

(a) The exercise by such Lender of its rights under and in accordance with this Agreement in the event of a Concessionaire Default;

(b) A pledge and hypothecation by Concessionaire of its interest to any Lender or proposed Lender, which pledge and hypothecation complies with the applicable provisions of the Concession Agreement.

16.2 CERTIFICATION OF FACTS. Upon the request, through the Collateral Agent, of any Lender or proposed Lender entitled to the rights, benefits, and protections of this Agreement, UMD, without charge, shall certify to any Lender or proposed Lender in a duly executed and acknowledged instrument the existence of the facts identified in this Section 16.2. UMD's certification shall be to its best knowledge and shall be accompanied by explanatory information and documents as required.

(a) Whether the Concession Agreement has been supplemented or amended. If so, then UMD shall include a summary of the substance and manner of such supplement or amendment and attach a copy of the supplement or amendment to its certificate.

(b) Whether the Concession Agreement constitutes the valid and legally binding obligation of UMD, enforceable against UMD in accordance with its terms except so far as enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforceability of creditors' rights.

(c) Whether a Concessionaire Default exists at the time of certification. If so, UMD shall explain the grounds therefor.

(d) Whether events or conditions exist that, by the passage of time or the giving of notice or both, would constitute a Concessionaire Default.

(e) Whether Concessionaire has failed to achieve one or more KPIs in the then-current Contract Year. If so, UMD shall identify each event of noncompliance in that Contract Year up to the date of the certification.

(f) Whether UMD has initiated any claims against Concessionaire at any point during the Operating Term. If so, UMD shall summarize the substance of each claim, including the amount (if any) in dispute and the disposition of the claim (if applicable).

(g) The Concession Agreement's Effective Date and the dates of the beginning and ending of the Operating Term.

(h) Whether a specified acceptance, approval, or consent of UMD required under the Concession Agreement has been granted.

(i) Whether the Lender and its Financing Agreements and Security Documents, or the proposed Lender and its proposed Financing Agreements and Security Documents meet the conditions and limitations set forth in Section 25.1 of the Concession Agreement;

(j) Whether any other specific facts within UMD's knowledge (as identified by a Lender) exist with regard to the Concession Agreement, Concessionaire, the Energy Systems, or the work required by the Concession Agreement; and,

(k) When requested in connection with the execution and delivery of any new Financing Agreement, confirmation that UMD's representations and warranties set forth in Section 2.1 remain true and correct.

16.3 CERTIFICATE DELIVERY. UMD shall deliver the certificate required by Section 16.2 to a Substituted Entity or proposed Substituted Entity within 15 Business Days after receiving the request, provided that the request is delivered to UMD either before the Substituted Entity or proposed Substituted Entity succeeds to the Concessionaire Interest or within 60 days after the Substituted Entity has succeeded to the Concessionaire Interest.

16.4 RELIANCE ON CERTIFICATE. Any certificate delivered by UMD pursuant to this Section 16.0 may be relied upon by, and only by the Lender, proposed Lender, Substituted Entity, or proposed Substituted Entity to whom it is delivered, and the contents of such certificate shall be binding on UMD.

17.0 ADDITIONAL REQUIREMENTS

17.1 NO CREDIT OBLIGATION. Neither Lender nor the Collateral Agent shall have any obligation hereunder to extend credit to UMD or any UMD contractor at any time and for any purpose.

17.2 ADDITIONAL CONCESSIONAIRE FINANCING. For so long as any amount under the Financing Agreements is outstanding and any Security Document is in effect, UMD shall not, without the prior written consent of the Collateral Agent, consent to any assignment, transfer, pledge, or hypothecation of the Concession Agreement or any interest therein by Concessionaire, other than as specified in the Concession Agreement or this Agreement.

17.3 UNAFFECTED UMD RIGHTS AND REMEDIES. No Financing Agreement or Security Document shall affect UMD in the enforcement of its rights and remedies as provided under the Concession Agreement. UMD may exercise such rights and remedies, subject only to the limitations set forth in this Agreement.

17.4 ASSIGNMENT OF FINANCING AGREEMENTS OR SECURITY DOCUMENTS. In the event of an assignment of any Financing Agreement or Security Document, such assignment shall not be binding on UMD unless and until UMD has received a certified copy of such document, which copy shall, if required to be recorded, bear the date and instrument number or book/liber and page/folio of recordation thereof, and UMD has received notice of the assignee thereof, to which notices under this Agreement may be sent.

17.5 COLLATERAL AGENT'S REPLACEMENT. If the Collateral Agent is replaced by another Collateral Agent, such change shall not be binding on UMD unless and until the replacement Collateral Agent notifies UMD of the change and provides the address to which notices under this Agreement may be sent.

17.6 SUBORDINATE DEBT HOLDERS EXCLUDED. No Lender holding any subordinate debt or subordinate security documents shall have any rights, benefits, or protections under this Agreement.

17.7 NO GREATER LENDER RIGHTS. Except for the rights or interests set forth in this Agreement, a Lender shall not, by virtue of its Financing Agreement or Security Document, acquire any greater rights to, or interests in, the Energy Systems than Concessionaire has under the Concession Agreement.

17.8 SECURITY INTERESTS' TERM. UMD acknowledges that each Lender's security interests in the Concessionaire Interest, and related rights with respect thereto, persist until the Project Debt is fully retired, at which time, Collateral Agent shall release, or cause to be released all security interests in the Concessionaire Interest.

17.9 UMD RIGHT TO EXERCISE REMEDIES. Nothing in this Agreement shall preclude or delay UMD from exercising any remedies other than termination of the Concession Agreement due to a Concessionaire Default, including UMD's right to cure each such Concessionaire Default at Concessionaire's expense, provided that UMD forebears the exercise of such right under Sections 5.1 through 5.4.

18.0 TERMINATION

18.1 TERMINATION EFFECTIVE DATE. This Agreement shall remain in effect until the earliest of the following dates:

(a) The Discharge Date;

(b) The date on which all of obligations and liabilities of Concessionaire and UMD have expired or been satisfied in accordance with the terms of the Concession Agreement and this Agreement; and,

(c) The date on which both an assignment to a Substituted Entity under Article 11.0 and an equivalent direct agreement with the Substituted Entity on substantially the same terms as this Agreement.

18.2 NO EFFECT ON CONCESSION AGREEMENT. Without prejudice to any rights a party may otherwise have, a breach of this Agreement shall not of itself give rise to a right to terminate the Concession Agreement.

18.3 AGREED TERMINATION OF CONCESSION AGREEMENT. Any mutual agreement to cancel or surrender the Concession Agreement shall not be effective without satisfaction of one of the following conditions:

(a) Concessionaire obtains the Collateral Agent's consent to the cancellation or surrender; or,

(b) The Project Debt has been retired and Concessionaire has met all its obligations under Section 9.12 of the Concession Agreement.

19.0 MISCELLANEOUS PROVISIONS

19.1 NO PARTNERSHIP. Nothing contained in this Agreement shall be deemed to constitute a partnership among the Parties.

19.2 WAIVER. No failure or delay by UMD, Lender, or the Collateral Agent (or their designee) in exercising any right or power under this Agreement shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such right or power, preclude any other or further exercise thereof or the exercise of any other right or power.

19.3 CUMULATIVE REMEDIES. The remedies provided herein are cumulative and not exclusive of any remedies provided by Law and may be exercised by a Lender, the Collateral Agent, or any designee, transferee, or permitted assignee thereof.

19.4 AMENDMENTS. This Agreement may be amended only by a written instrument duly executed by or on behalf of the Parties.

19.5 SUCCESSORS AND ASSIGNS.

(a) No Party may assign or transfer any part of its rights or obligations hereunder without the consent of the other Parties, provided that:

(i) The Collateral Agent may assign or transfer its rights and obligations hereunder to a successor Collateral Agent in accordance with the Financing Agreements; and,

(ii) UMD may assign or transfer its rights and obligations hereunder as provided in Section 3.7 of the Concession Agreement.

(b) This Agreement shall be binding upon, and shall inure to the benefit of, the Parties hereto (and each Lender, through the Collateral Agent) and their respective successors and permitted assigns.

(c) The provisions of this Agreement that are binding on UMD shall inure only to the benefit of the Lender(s) and Collateral Agent under Section 19.5(b) and do not, nor shall be deemed to, create any rights in favor of Concessionaire.

19.6 COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be identical and all of which, taken together, shall constitute one and the same instrument, and the Parties may execute this Agreement by signing any such counterpart. Transmission by facsimile or electronic mail of an executed counterpart of this Agreement shall be deemed to constitute due and sufficient delivery of such counterpart, provided that the sending Party promptly transmits an original hard copy of the signature page bearing its signature to the other Parties.

19.7 SEVERABILITY.

(a) Each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by applicable Law. The invalidity of any one or more phrases, sentences clauses, or sections, contained in this Agreement shall not affect the remaining portions of this Agreement or any part thereof or the validity or enforceability of the balance of this Agreement, which shall be construed and enforced as if the Agreement did not contain such invalid or unenforceable provision or part.

(b) If any paragraph, section, subdivision, sentence, clause, or phrase of this Agreement is for any reason held to be invalid, illegal, or unenforceable in any respect by a Governmental Authority having proper jurisdiction in a final, non-appealable decision, such decision shall not affect, or render void, the remaining portions of this Agreement. In such event, the Parties shall negotiate in good faith and agree to such amendments, modifications, or supplements as shall be necessary to give maximum effect under the circumstances to the Parties' intention in this Agreement.

19.8 NOTICES

(a) *RECIPIENTS.* All notices or other communications shall be given in writing to each Person identified in Appendix B hereto. At any time, a Party may change the identity of the Persons to whom notice must be sent by delivering written notice of such change to the other Parties.

(b) *METHOD OF NOTICE*.

(i) Any notice required to be given pursuant to this Agreement shall be in writing and personally delivered or sent by United States Postal Service, Next Business Day delivery postage pre-paid, or other overnight delivery service with Next Business Day delivery fees and charges pre-paid. If Concessionaire is notifying UMD during a UMD Break by means of an overnight delivery service, it shall send such notice with delivery fees and charges pre-paid for delivery on the next Business Day following the UMD Break.

(ii) In an Emergency, notice shall be given electronically or by voice provided that the notifier transmits a hard copy of the notice to the receiver(s) in accordance with Section 18.8(b)(i).

(c) *DATE OF NOTICE RECEIPT*. Notice shall be deemed received as follows:

(i) On the next Business Day after the date of mailing if the notice is deposited with the United States Postal Service or another carrier for next Business Day delivery;

(ii) On the date of communication if the notice is personally delivered or conveyed telephonically; or,

(iii) If notice is given during a UMD Break, notice to UMD shall be deemed received on the first Business Day following such UMD Break.

(c) *NOTICE BY ELECTRONIC MAIL*. A Party may give notice by electronic mail, provided that such Party retains proof of transmission and transmits a paper original of the notice to the other Party for delivery on the next Business Day. The date of the electronic mail shall be deemed to be the date of the notice's delivery, unless such electronic mail is sent to UMD during a UMD Break, in which case the notice is effective on the first Business Day following such UMD Break.

19.9 GOVERNING LAW; VENUE

(a) *GOVERNING LAW*. This Agreement shall be governed by and construed in accordance with the Law of the State applicable to contracts to be performed within the State (excluding any conflict of laws rule or principle that might refer such construction or interpretation to the Laws of another jurisdiction).

(b) *VENUE.* Any action or proceeding arising out of, relating to, or resulting from this Agreement shall be filed in the Circuit Court in and for Prince Georges County, Maryland, which court, and the courts with the jurisdiction to review the decisions of that court, shall be the only court with any authority to decide any such cause of action. Concessionaire, Collateral Agent, and UMD hereby irrevocably submit to the jurisdiction of such courts with regard to such action or proceeding and irrevocably waive, to the fullest extent permitted by applicable Law, any objection it may have now or hereafter to the laying of venue in such courts and any claim that an action or proceeding has been brought in an inconvenient forum.

(c) *SERVICE.* UMD, Concessionaire, and the Collateral Agent each irrevocably consents to service of process by personal delivery, certified mail (postage repaid), or overnight courier and waives any different statutory requirements for service of process. Nothing in this Agreement will affect the right of any Party to serve process in any other manner permitted by Law.

(d) *Waiver.* UMD, Concessionaire, and the Collateral Agent each hereby:

(i) Individually certifies that no representative, agent, or attorney of any Party has represented, expressly or otherwise, that the either of the other Parties, in the event of a proceeding, seek to attack the enforceability of the foregoing waiver; and,

(ii) Individually acknowledges that it has been induced to sign and to change its position in reliance upon the benefits of this Agreement by, among other things, the mutual waivers contained in this Section 19.9.

19.10 NO PERSONAL LIABILITY FOR PUBLIC EMPLOYEES. UMD personnel with the responsibility to implement this Agreement, or the authority to exercise any right granted UMD hereunder act solely as agents and representatives of the State and shall not be subject to liability, either personally or as State officials.

19.11 INTEGRATION. This Agreement constitutes the final agreement between the Parties and is the complete and exclusive expression of the Parties' agreement on the matters contained herein. All prior negotiations and drafts of this Agreement are expressly merged into and superseded by this Agreement. There are no representations, warranties, conditions, or other agreements, whether direct or collateral, express or implied, that form part of, or affect, this Agreement or that induced either Party to enter into this Agreement.

19.12 FURTHER ACTS.

(a) Each Party shall promptly execute and deliver to the other Party all such instruments and other documents and assurances as such other Party reasonably requests to further evidence its obligations under this Agreement.

(b) The Parties shall do or cause to be done all such further acts and things as may be reasonably necessary or desirable to give full effect to this Agreement. Without limiting the foregoing, each Party will, at any time and from time to time, execute and deliver or cause to be executed and delivered such further instruments and documents and take such further actions as may be reasonably requested by the other Party to cure any defect in the execution or delivery of this Agreement.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the Parties have executed this Agreement as of the date and year first above written.

UNIVERSITY OF MARYLAND, COLLEGE PARK

/s/ _____ By: _____
Witness Kimberly Watson Date
Assistant Vice President of Procurement and Strategic Sourcing

SUCCESSFUL PROPOSER LLC

/s/ _____ By: _____
Witness Name Date
Executive Director

COLLATERAL AGENT LLC

/s/ _____ By: _____
Witness Name Date
President

Approved as to form and legal sufficiency this ____ day of _____, 2023.

By: /s/ _____
Jeffrey C. Palkovitz
Assistant Attorney General

APPENDIX A

FORM OF SUBSTITUTE ACCESSION AGREEMENT

[Date]

To: University of Maryland, College Park
Department of Facilities Management
For the attention of the UMD Program Manager

[Lender(s) and other parties to the Financing Agreements]
For the attention of: _____

From [Substituted Entity]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM
SUBSTITUTE ACCESSION AGREEMENT

With regard to the Energy Services Concession Agreement, dated as of [Date] (as amended, supplemented, or otherwise modified) ("Concession Agreement") between the University of Maryland, College Park ("UMD"), [Successful Finalist] ("Concessionaire") and the Direct Agreement, dated as of [Date] (as amended, supplemented, or otherwise modified) ("Direct Agreement") among UMD, Concessionaire and [Name] as Collateral Agent. Terms defined in the Concession Agreement or the Direct Agreement and not otherwise defined herein have the same meaning as in those agreements.

1. The undersigned (referred to hereinafter as "We") hereby confirms that it is a Substituted Entity pursuant to Sections 10 and 11 of the Direct Agreement.

2. We acknowledge and agree that, upon and by reason of, our execution of this Substitute Accession Agreement, we will become a party to the Concession Agreement and the Direct Agreement as a Substituted Entity and, accordingly, shall have the rights, power, and obligations of Concessionaire under those agreements.

3. We hereby assume all dues, obligations, and liabilities of Concessionaire under the Concession Agreement and other Program Documents.

4. Our contact information for the purpose of receiving notices is:

[Contact details]

5. This Substitute Accession Agreement shall be governed by, and construed in accordance with, the Law of the State applicable to contracts to be performed within the State.

The terms set forth herein are hereby agreed:

SUBSTITUTED ENTITY LLC

/s/ _____ By: _____
Witness Name Date
President

UNIVERSITY OF MARYLAND, COLLEGE PARK

/s/ _____ By: _____
Witness Kimberly Watson Date
Assistant Vice President of Procurement and Strategic Sourcing

SUCCESSFUL PROPOSER LLC

/s/ _____ By: _____
Witness Name Date
President

Approved as to form and legal sufficiency this ____ day of _____, 2023.

By: /s/ _____
Jeffrey C. Palkovitz
Assistant Attorney General

APPENDIX B

CONTACT INFORMATION FOR NOTICES

Pursuant to Section 18.8(a) of the Direct Agreement, notices shall be given to the Persons identified below.

For Concessionaire:	For UMD
Henry Patel Program Executive [redacted]	Susan C. Corry, CEM Director, Engineering & Energy Facilities Management Department 7401 Baltimore Avenue, 4th Floor College Park, Maryland 20740 Tel: (301) 405-6997 Email: scorry@umd.edu
With copies to: Daniel W. Bandy Site/Plant Manager [redacted]	With copies to: Gregg Garbesi Assistant Director, Utilities & Energy Management Facilities Management 7401 Baltimore Avenue, 4th Floor College Park, Maryland 20740 Tel: (301) 405-6697 Email: vgarbesi@umd.edu
Plenary Americas Attn: Nigel Kirkwood (CFO) [redacted]	Daniel Leland Kaiser, Esq. Associate General Counsel Office of the General Counsel University of Maryland, College Park 2117 Seneca Building College Park, Maryland 20742-6070 Tel: (301) 405-0945 Email: dkaiser@umd.edu
For the Collateral Agent:	
ZZZZ Y XXXX Title Collateral Agency **** East ___rd Street New York, New York ***** Tel: Mobile Email:	

APPENDIX C

INITIAL FINANCING AGREEMENT

[NTD: To be provided by Concessionaire when financing is finalized]

APPENDIX D

INITIAL SECURITY DOCUMENTS

[NTD: To be provided by Concessionaire when financing is finalized.]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX G-2

FORM OF CONCESSIONAIRE BRING-DOWN CERTIFICATE

Certificate of an Officer of
MARYLAND ENERGY IMPACT PARTNERS LLC
(the "Concessionaire")

TO: UNIVERSITY OF MARYLAND, COLLEGE PARK ("UMD")

RE: Concessionaire Bring-Down Certificate – Initial Financial Closing

DATE: _____, 2024

All capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Energy Services Concession Agreement dated as of [■], 2024 (the "**Concession Agreement**") between UMD and the Concessionaire.

I, _____, the _____ of the Concessionaire, certify on behalf of the Concessionaire and not in my personal capacity and without personal liability, that as of the date hereof:

1. Concessionaire's representations and warranties set forth in Section 2.2 of the Concession Agreement remain true and correct in all material respects with the same force and effect as on the Effective Date, except for representations and warranties that by their terms speak only as of the Effective Date or another date;

2. Concessionaire is not in material breach of any material covenant on its part contained in the Concession Agreement that it must perform, or comply with, at or prior to Initial Financial Closing;

3. Concessionaire has delivered to UMD the fully executed Key Contracts, each of which comply with the requirements set forth in Section 7.3 of the Concession Agreement;

4. Concessionaire has delivered evidence that all Program Debt issued by Concessionaire on or before Initial Financial Closing has a credit rating of at least investment grade as determined by one or more of the Credit Rating Agencies;

5. Concessionaire confirms it has satisfied each of the conditions set forth in Section 4.3.4(b) of the Concession Agreement (except for any conditions waived by UMD);

6. Concessionaire has delivered to UMD the certificates that are required pursuant to Sections 2.2.2 and 2.2.8(b) of the Concession Agreement;

7. no preliminary or permanent injunction, temporary restraining order, or other order has been issued by a Governmental Authority of competent jurisdiction or other legal restraint or prohibition has been issued against the Concessionaire or, to the knowledge of the undersigned, against any other Person, that enjoins or prevents Initial Financial Closing; and

8. no Governmental Authority of competent jurisdiction has taken any action, or enacted, entered, enforced, or deemed applicable to the Concessionaire or, to the knowledge of the undersigned, to the Transaction, any Law that has resulted in, or has undertaken any review or proceeding that could reasonably be expected to result in, any Governmental Authority conditioning or restricting Initial Financial Closing, imposing a material impairment on the Transaction, or making the Transaction illegal.

[Remainder of page intentionally left blank; signature page follows]

DATED as of the date first written above.

[■]

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX G-3

FORM OF THE BRING-DOWN CERTIFICATE OF THE UNIVERSITY OF MARYLAND, COLLEGE PARK

The undersigned, acting on behalf of the University of Maryland, College Park ("UMD") and in his professional capacity, hereby certifies the following statements in connection with the issuance by the Maryland Economic Development Corporation ("Issuer"), a body corporate and politic and a public instrumentality of the State of Maryland, of its Energy Infrastructure Revenue Bonds (University of Maryland, College Park Project), 2024 Series. All capitalized terms not otherwise defined herein are defined in the Energy Services Concession Agreement, Appendix A.

1. UMD's representations and warranties set forth in Section 2.1 of the Base Concession Agreement remain true and correct in all material respects with the same force and effect as on the Effective Date, except for representations and warranties that by their terms speak only as of the Effective Date or another date.

2. UMD has delivered to Concessionaire a legal opinion of the Office of the State's Attorney General in substantially the form contained in Appendix G-4 of the Concession Agreement that meets the requirements of Section 4.3.4(b)(3) of the Base Concession Agreement.

2. UMD has delivered to Concessionaire the Ground Lease the and the Direct Agreement as approved, and fully executed by the State's Board of Public Works, along with the consents and estoppel certificates to facilitate financing contemplated by Section 4.2.4 of the Base Concession Agreement.

3. To UMD's Actual Knowledge, from the BAFO Date through and including Initial Financial Closing, no action or event has transpired that would have constituted a Change in Law had it followed Commencement.

4. All Governmental Authorizations set forth in Appendix M-1 are in full force and effect.

5. There are no outstanding bonds that are encumbered by, or are otherwise secured by, the revenues or other assets of any portion of the Energy Systems.

6. UMD and MEDCO have executed the Transition Agreement substantially in the form contained in Appendix O-1 of the Concession Agreement.

7. UMD has notified MEDCO of the termination of the Interim Operating Agreement, effective at Commencement.

8. UMD has delivered to Concessionaire MEDCO's certificate that it has notified the Interim Operator of its termination of the Interim Management Agreement effective at Commencement and that it has assigned to UMD its interests in the Purple Line Agreement and the Interconnection Agreement, effective at Commencement.

9. A material casualty loss, destruction of, damage to, or condemnation of, the Central Energy Plant Building, the Mowatt Substation, or the DTP-4 Building has not occurred that requires the adoption of a restoration plan pursuant to Section 5.10 of the Base Concession Agreement.

10. UMD has delivered to Concessionaire MEDCO's certificate that as of the date of the Initial Financial Closing, the Energy Systems are not subject to any Encumbrance that will not be satisfied before the Initial Financial Closing.

11. UMD has approved Concessionaire's Key Managers according to the procedures set forth in Section 9.3.1(d) of the Base Concession Agreement.

12. UMD has satisfied each of the conditions set forth in Section 4.3.4(a) of the Base Concession Agreement (except for any conditions waived by Concessionaire).

IN WITNESS WHEREOF, the University of Maryland, College Park has caused this certificate to be executed in its name and on its behalf by its duly authorized officer as of _____ ___, 202_.

UNIVERSITY OF MARYLAND, COLLEGE PARK

By: _____
Carlo Colella, Vice President for Administrative Affairs and Chief Administrative Officer

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

APPENDIX G-4
FORM OF OPINION OF THE OFFICE OF THE
MARYLAND ATTORNEY GENERAL

Name
Title
Address 1
Address 2
City, State Zip

Re: University of Maryland, College Park NextGen Energy Program:
[*Program Financing*]

Ladies and Gentlemen:

This opinion is being delivered to you with respect to the [*initial financing*] for the NextGen Energy Program ("NextGen Program") at the University of Maryland, College Park ("UMD").

This office serves as counsel to the University System of Maryland (the "System") and UMD, one of its constituent institutions, in connection with the approval of the NextGen Program's Ground and Equipment Lease, Easement Agreement, and the Energy Services Concession Agreement (together, the "Program Documents") by the System.

We have examined the following:

1. A copy of the resolution adopted by the Board of Regents of the System (the "Board") on February 16, 2024 approving the Program Documents ("Board Resolution");

2. A copy of the resolution adopted by the State of Maryland's Board of Public Works on [Month Day], 2023 approving the Ground and Equipment Lease, the Easement Agreement, the Energy Services Concession Agreement.

2. Such other laws, documents, certifications, and proceedings as we deemed necessary to render the opinions set forth in this letter, including, without limitation, the State's Public Private Partnership Statute, Annotated Code of Maryland, State Finance and Procurement Code, §§10A-101 – 10A-403 and the Board's Policy on Public Private Partnerships, Policy No. VIII-17.00.

In basing the opinions and other matters set forth herein on "our knowledge", the words "our knowledge" signify that, in the course of our representation of the System in matters with respect to which we have served the System as counsel, no information has come to our attention that would give us actual knowledge or actual notice that any such opinions or other matters are not accurate or that any of the foregoing documents, certificates, reports and information on which we have relied are not accurate and complete. Except as otherwise stated herein, we have

undertaken no independent investigation or verification of such matters. We intend to limit the term "our knowledge" and similar terms used in this letter to the knowledge of the Assistant Attorneys General in the Educational Affairs Division of this Office who worked on the transaction described in this opinion.

In reaching the opinions set forth below, we have assumed, and to our knowledge there are no facts inconsistent with, the following:

(a) each of the parties to the Program Documents (other than UMD or the System) has duly and validly executed and delivered each such Program Document to which it is a signatory, and such party's obligations set forth therein are its legal, valid and binding obligations, enforceable in accordance with their respective terms, except to the extent of limitations on enforceability set forth herein.

(b) each person executing any such instrument, document, or agreement on behalf of any such party is duly authorized to do so;

(c) each natural person executing any such instrument, document, or agreement is legally competent to do so;

(d) there are no oral or written modifications of, or amendments to, the Program Documents, except as noted herein, and there has been no waiver of any of the provisions of the instruments, documents, or agreements by actions or conduct of the parties or otherwise, except, in each case, those of which we have knowledge, and

(e) all Program Documents submitted to us as originals are authentic, all documents submitted to us as certified or photostatic copies conform to the original document, all signatures on all documents submitted to us for examination are genuine, and all public records reviewed are accurate and complete.

As to questions of fact material to our opinion, we have relied upon the representations and warranties of the System and UMD and in the certified proceedings and other certifications of public officials furnished to us, upon all of which we believe we are justified in relying. We have discussed the above certifications and documents with the appropriate officers and employees of the System and UMD, and we have no actual knowledge of any matters contrary to the substance thereof.

We are qualified to practice law only in the State of Maryland, and we do not purport to be experts on, or to express any opinion herein concerning, any law other than the law of the State of Maryland.

Based upon and subject to the foregoing, and subject to the assumptions and qualifications set forth herein, it is our opinion that, as of the date of this letter,

(a) The System is a body corporate and politic, an instrumentality of the State of Maryland, and an independent unit of the government of the State of Maryland that had the

necessary power, authority, and legal right to adopt the Board Resolution and to enter into the Ground and Equipment Lease and the Easement Agreement to UMD's behalf.

(b) UMD is a constituent institution of the System, duly organized and existing under the laws of the State of Maryland, that has the power, authority, and legal right to enter into the Energy Services Concession Agreement and perform each of its obligations thereunder and to perform the obligations of the Lessor under the Ground and Equipment and the Grantor under the Easement Agreement.

(c) The System duly adopted the Board Resolution.

(d) Based solely on the representations or certificates of UMD and our knowledge, no consent, approval, authorization or order of any court or governmental authority is required as a condition for the authorization, execution, issuance, sale, and delivery of the Program Documents as a condition to the enforceability against UMD of its obligations under the foregoing, other than such as have been obtained.

(e) The Program Documents constitute the valid and legally binding obligations of the System and UMD, enforceable against them in accordance with their terms, except so far as enforceability may be limited by general principles of equity and bankruptcy, insolvency, and similar Laws affecting the enforceability of creditors' rights.

(f) Neither we nor, to our knowledge, the System or UMD, has received notice of, been served with, or filed any litigation of the nature described in this paragraph, nor is there, to the best of our knowledge, any litigation threatened against the System or UMD which, in any way, would adversely affect the validity or enforceability of the Program Documents, or which would materially affect the ability of the System or UMD to perform their obligations thereunder.

(g) Based solely upon the representations of the System and UMD and our knowledge, the execution and delivery of the Program Documents, does not conflict with or will result in a material breach of any of the terms, conditions or provisions of any agreement, statute, regulation, court order or decree to which the System or UMD is a party or by which it is bound, or constitute a material default under any of the foregoing, or will result in the creation of any lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the property or assets of the System or UMD under the terms of any such agreement, instrument, statute, regulation or court order or decree.

(h) Based solely on the representations of the System and UMD and our knowledge, the State of Maryland has good and sufficient title to the Leased Property and certain Equipment, and facilities purchased, constructed, installed, and commissioned on or before August 31, 1999, and to all equipment located in the Self-Support DTPs, subject only to Permitted UMD Encumbrances. Subject to all such Encumbrances, the representations of the System and UMD and our knowledge , there is no recorded or unrecorded agreement, contract, option, commitment, right, privilege, or other right binding upon, or which at any time in the future may become binding upon, UMD to sell, transfer, convey, subject to lien, charge, grant a security interest in, or in any other way dispose of, or materially encumber the Leased Property.

In our capacity as counsel to the System and UMD, we reviewed and commented on drafts of the Program Documents, provided legal advice to the System and UMD, and participated in conference calls and correspondence related to the Program Documents. We have relied upon information provided by and statements, representations and certifications of officers and employees of the System and UMD, other professionals engaged by the System, UMD, and other public officials furnished to us. We did not, however, undertake any independent investigation of any such information, statements, representations, and certifications. We are not passing upon and do not assume any responsibility for the accuracy, completeness, or fairness of any of the statements or other information in the Program Documents and make no representation that we have independently verified the accuracy, completeness or fairness of any such statements.

In addition to the qualifications set forth above, the opinions set forth herein are also subject to the following qualification:

We express no opinion as to the laws of any jurisdiction other than the laws of the State of Maryland. The opinions expressed herein concern only the effect of the laws (excluding the principles of conflict of laws) of the State of Maryland as currently in effect.

We assume no obligation to supplement this letter or the opinions expressed in this letter if any applicable laws change after the date hereof or if we become aware of any facts that might change the opinions expressed herein after the date hereof.

We are furnishing this opinion to you, in your capacity as [Lender's Counsel], for the benefit of the [Lender]. These opinions may not be relied on by any other persons without our prior written approval. The opinions expressed in this letter are limited to the matters set forth in this letter, and no other opinions should be inferred beyond the matters expressly stated.

This letter is to be interpreted in accordance with the 2007 Report on Lawyers' Opinions in Business Transactions by the Special Joint Committee of the Section of Business Law and the Section of Real Property, Planning and Zoning of the Maryland State Bar Association, Inc., dated June 14, 2007, revised as of July 2, 2009.

Very truly yours,

Jeffrey C. Palkovitz

As

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX G-5

SCOPE OF OPINION LETTER FROM CONCESSIONAIRE COUNSEL

The opinion letter contemplated by Section 4.3.4(b)(3) of the Concession Agreement to be delivered by the Concessionaire's legal counsel, will be in form and substance satisfactory to UMD and its legal counsel, each acting reasonably, and will include the following opinions:

1. The corporate existence of the Concessionaire;

2. The corporate power of the Concessionaire;

3. Due authorization by the Concessionaire of the Concession Agreement;

4. Due execution and delivery by the Concessionaire of the Concession Agreement;

5. Enforceability of the Concession Agreement against the Concessionaire; and

6. No breach of constating documents.

The opinions above may be delivered by one or more different counsel and such opinions will be subject customary assumptions, qualifications and other limitations as may be agreed by UMD and its legal counsel, each acting reasonably.

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX G-6

FORM OF COMMERCIAL CLOSING CERTIFICATE OF THE UNIVERSITY OF MARYLAND, COLLEGE PARK

The undersigned, acting on behalf of the University of Maryland, College Park ("UMD") hereby certifies the following statements in connection with execution and delivery of the Energy Services Concession Agreement between UMD and Maryland Energy Impact Partners, LLC ("Concessionaire"), a limited liability company organized and existing under the laws of the State of Delaware and qualified to do business in the State of Maryland ("State"). All capitalized terms not otherwise defined herein are defined in the Energy Services Concession Agreement, Appendix A.

1. UMD is a constituent institution of the University System of Maryland ("System"), organized and existing under the Constitution and Laws of the State of Maryland, including Title 12 of the Education Article of the Annotated Code of Maryland.

2. The System and the State's Board of Public Works have duly authorized and approved UMD's execution and delivery of the following agreements ("Program Contracts") and have duly authorized and approved UMD's performance of its obligations thereunder. With these approvals and the authority granted by Md. Code, Education Title 12, UMD has full power and authority to enter into, execute, deliver, perform, and observe the covenants and agreements on UMD's part contained in, and to carry out and consummate all transactions contemplated under:

(a) The Ground and Equipment Lease by and between the State of Maryland, to the use of the System, on behalf of UMD as Landlord, and Concessionaire as named Tenant;

(b) The Easement Agreement by and between UMD as grantor and the Concessionaire as grantee ("Easement Agreement");

(c) The Energy Services Concession Agreement by and between UMD and the Concessionaire ("Concession Agreement"); and,

(d) The Direct Agreement by and among UMD, Concessionaire, and the Collateral Agent acting on behalf of the Lenders ("Direct Agreement").

3. Upon execution by the parties, the Program Contracts will be in full force and effect and are legally binding, valid, and enforceable obligation of UMD subject to the general principles of

equity and bankruptcy, insolvency, and similar Laws affecting the enforceability of creditors' rights.

4. The State has good and sufficient title to the Leased Property and certain Equipment and facilities purchased, constructed, installed, and commissioned on or before August 31, 1999, and to all Equipment located in the Self-Support DTPs, subject only to Permitted UMD Encumbrances and the Self-Support DTP Encumbrances. Subject to all such Encumbrances, there is no recorded or unrecorded agreement, contract, option, commitment, right, privilege or other right of another binding upon, or which at any time in the future may become binding upon, UMD to sell, transfer, convey, subject to lien, charge, grant a security interest in, or in any other way dispose of or materially encumber the Leased Property.

5. Based upon UMD's Actual Knowledge, MEDCO has good and sufficient title to the Energy Systems Equipment and facilities purchased, installed, and commissioned on or after September 1, 1999. There is no recorded or unrecorded agreement, contract, option, commitment, right, privilege, or other right of another binding upon, or which at any time in the future may become binding upon, MEDCO to sell, transfer, convey, subject to lien, charge, grant a security interest in, or in any other way dispose of or materially encumber the Energy Systems' Equipment and facilities.

6. Neither UMD's execution, delivery, and performance of this Agreement nor the Transaction's consummation, will contravene or violate, or result in breach or acceleration of, UMD's governing documents, any material obligation of UMD under any applicable Law, or any agreement, instrument, or document to which UMD is a party or by which it is bound.

7. Except for consents required to be obtained by UMD or the Parties jointly under this Agreement, no consent is required to authorize UMD's execution, delivery, and performance of this Agreement except as has been duly obtained or made.

8. To UMD's Actual Knowledge, it is not in violation of any Law the enforcement of which would have a Material Adverse Effect on either Party. To UMD's Actual Knowledge and to the extent Governmental Authorizations are necessary for operation of the Energy Systems as they are currently being operated:

(a) UMD is in compliance, in all material respects, with the terms and conditions of all Governmental Authorizations;

(b) No Governmental Authority has identified a Governmental Authorization necessary for the operation of the Energy Systems that UMD has not obtained; and,

(c) No additional Governmental Authorization is necessary.

9. There is no claim, litigation, investigation, or proceeding pending or threatened against, or affecting, UMD that would reasonably be expected to have a Material Adverse Effect on the Initial Financial Closing, the validity or enforceability of this Agreement, or UMD's performance of this Agreement.

10. No transaction or occurrence since the BAFO Date has had, or is reasonably likely to have, a Material Adverse Effect on UMD or the Energy Systems.

IN WITNESS WHEREOF, the University of Maryland, College Park has caused this certificate to be executed in its name and on its behalf by its duly authorized officer as of _____ ___, 202_.

UNIVERSITY OF MARYLAND, COLLEGE PARK

By: _____
Carlo Colella, Vice President for Administrative Affairs and Chief Administrative Officer

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX G-7

FORM OF CONCESSIONAIRE COMMERCIAL CLOSE CERTIFICATE

Certificate of an Officer of
MARYLAND ENERGY IMPACT PARTNERS LLC
(the "Concessionaire")

TO: UNIVERSITY OF MARYLAND, COLLEGE PARK ("UMD")

RE: Concessionaire Commercial Closing Certificate

DATE: _____, 2024

All capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Energy Services Concession Agreement dated as of the date hereof (the "**Concession Agreement**") between UMD and the Concessionaire.

I, _____, the _____ of the Concessionaire, certify on behalf of the Concessionaire and not in my personal capacity and without personal liability, that as of the date hereof:

1. to the Concessionaire's Actual Knowledge, each of the representations and warranties contained in Section 2.2 of the Concession Agreement are true and correct in all material respects;

2. the names of each of the members of the Concessionaire and a description of their respective equity interest in the Concessionaire (including any options, warrants and other rights to acquire any such equity interests) are set out on Schedule A hereto; and

3. no Key Contractor has been formed as a single purpose entity for purposes of the NextGen Program.

[Remainder of page intentionally left blank; signature page follows]

DATED as of the date first written above.

[■]

Schedule A
Concessionaire Ownership

[Note to Draft: To be updated.]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

APPENDIX G-8

FINANCIAL MODEL

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO MARYLAND CODE ANNOTATED, STATE FINANCE AND PROCUREMENT CODE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL COMMERCIAL INFORMATION, CONFIDENTIAL FINANCIAL INFORMATION, AND TRADE SECRETS.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX G-9

NEXTGEN FINANCIAL MODEL PROCEDURES

1.0 STORAGE OF FINANCIAL MODEL AND FINANCIAL MODELING DATA

1.1 UMD and Concessionaire shall jointly deposit the Initial Base Case Financial Model, Cost and Pricing Data, Financing Agreements and the Contract Documents into an escrow to be established with US Bank at their office located at Frederick DCS Office, 4257 Metropolitan Ct, Ste C, Frederick, Maryland 21704-9452 or another location approved by UMD, and on terms and conditions reasonably acceptable to both Parties.

1.2 The Parties shall deposit the Initial Base Case Financial Model into escrow within 10 days after the Effective Date. Financial Model Updates shall be deposited within 10 days after the Parties have executed and delivered, in accordance with Section 3, the amendment through which a revised Financial Model is deemed effective and a part of this Agreement. The Initial Base Case Financial Model and any Financial Model adopted by the Parties after the Effective Date shall be submitted in macro-enabled excel format by email, on electronic storage media, or by such other method and medium as the Parties may agree in writing, and shall be clearly marked with Concessionaire's name, date of submittal, contract number, identification number and the words, "Financial Model for Escrow".

1.3 The Parties shall deposit the Cost and Pricing Data submitted to UMD pursuant to Appendix L-7 of the RFP into escrow within 10 days after the Effective Date. The Cost and Pricing Data shall be submitted in the same format as the original submittal, with all materials clearly marked with Concessionaire's name, date of submittal, contract number, identification number and the words, "Cost and Pricing Data for Escrow." Concurrently with approval of each Change Order or other amendment to the NextGen Program Contract Documents, Concessionaire shall deposit one copy of all documentary information used by Concessionaire in connection with pricing for the Change Order or other amendment, including

quotations from Key Contractors.

1.4 Concessionaire represents and warrants that:

(a) the material initially delivered into escrow constitutes the Initial Base Case Financial Model and Cost and Pricing Data provided in connection with the BAFO Proposal and pursuant to Appendix L-7 of the RFP, an authorized officer of Concessionaire has personally examined the contents of the electronic file and/or electronic storage media, as applicable, and they are complete and meet the requirements of Appendix L-7 of the RFP; and

(b) the Cost and Pricing Data constitutes all of the information used by Concessionaire in determining the cost of the D&C Work and O&M Work in preparation of the BAFO Proposal and, unless UMD agrees or directs otherwise, Concessionaire shall not use any other BAFO Proposal preparation information in any request for a Change Order.

1.5 Whenever Concessionaire makes an additional deposit of any replacement Financial Models or Cost and Pricing Data into escrow, Concessionaire shall certify to UMD in writing at the time of deposit that: (a) the material deposited into escrow constitutes the true replacement Financial Models or Cost and Pricing Data, as applicable; (b) an authorized officer of Concessionaire has personally examined the contents of the deposit; and (c) the deposit is complete.

1.6 UMD may conduct a review of the Cost and Pricing Data in accordance with the procedure set forth in Section 1.10 to determine whether it is complete. In the event UMD determines that any Cost and Pricing Data is missing, UMD may request that Concessionaire submit the missing data and Concessionaire shall provide such Cost and Pricing Data within three Business Days of the request, and at that time it will be date stamped, labeled to identify it as supplementary information, and added to the escrowed Cost and Pricing Data. Concessionaire shall have no right to add documents to the Cost and Pricing Data except as otherwise provided in this Section 1.

1.7 If UMD elects not to be a signatory party to the escrow agreement establishing

the escrow, then UMD shall be a named, intended third-party beneficiary of the escrow agreement and the escrow with direct rights of enforcement against Concessionaire and the escrow agent. The escrow agreement shall provide that neither Concessionaire nor the escrow agent shall have any right to amend or supplement the escrow agreement, or waive any provision thereof, without UMD's prior written approval in its sole discretion. The escrow agreement shall include provision for resignation or termination of the escrow agent and appointment of a successor escrow agent. Provisions in the escrow agreement for access to the escrowed materials shall be consistent with this Section 1.

1.8 Each of UMD and Concessionaire shall have the right to examine, through one or more designated representatives, any and all components of the escrowed material at any time during the escrow agent's normal business hours. The Party undertaking an examination need not have or state a specific reason to examine such material. Without limiting the foregoing, the Parties recognize that examination of the escrowed material may assist in the negotiation or determination of Concessionaire Charge adjustments, compensation, damages, extensions of time, Change Orders, UMD Changes, and Refinancing Gain calculations, or may assist in the potential resolution or settlement of Claims or Disputes.

1.9 UMD will notify Developer in writing at least two Business Days in advance of UMD's examination of escrowed material and shall allow Concessionaire to be present at the examination. UMD may make or retain copies of escrowed material, subject to terms reasonably necessary to protect the confidentiality and proprietary nature of the contents, as may be agreed upon by the Parties and subject to applicable laws.

1.10 The escrowed material is, and shall remain, the property of Concessionaire or its Key Contractors.

1.11 Concessionaire agrees that the Financial Model and Cost and Pricing Data are not part of the NextGen Program Contract Documents and that nothing in the Financial Model or Cost and Pricing Data shall change or modify the NextGen Program Contract Documents.

1.12 Either Party may introduce escrowed material into evidence in accordance with

the Dispute Resolution Procedures. The Parties shall promptly abide by any request from the court, mediator, or arbitrator to receive, review and utilize the Financial Model and Cost and Pricing Data to assist the court, mediator, or arbitrator in its deliberations.

1.13 The escrow shall remain in effect throughout the Term and thereafter until final resolution of all Disputes, subject to any mutual agreement of the Parties to retrieve and/or discard materials therein from time to time.

1.14 Concessionaire shall be responsible for the escrow agent's fees and costs. Concessionaire shall not be entitled to any additional payment for compilation of materials to be deposited into escrow or any other Concessionaire expenses for complying with this Section 1.

2.0 FINANCIAL MODEL ACCESS

2.1 UMD may examine, through one or more designated representatives, any and all components of the Financial Materials at any time during normal business hours. UMD shall not be required to state a specific reason to examine such material.

2.2 Upon at least three Business Days' Notice to UMD, Concessionaire may examine, through one or more designated representatives, any and all components of the Financial Materials at any time during normal business hours. Concessionaire shall not be required to state a specific reason to examine such material.

2.2 If UMD determines that any Financial Materials are incomplete or missing, UMD may request that Concessionaire submit the supplementary information and Concessionaire shall provide such supplementary information within 10 days of the request. Such supplementary Financial Materials shall:

2.2.1 Be date stamped and labeled to identify it as supplementary information;

2.2.2 Added to the Financial Materials along with an updated index and catalogue; and

2.2.3 Include Concessionaire's certification in writing that:

(a) The supplementary information constitutes true and complete Financial Materials in accordance with this Appendix G-9; and,

(b) An authorized officer of Concessionaire has personally examined the contents of the supplementary information.

2.3 Neither Party may add to or change the Financial Materials except as otherwise provided in this Appendix or with prior written approval of the other Party.

2.4 The deposit and examination of any Key Contractors' or Subcontractors' documentation that forms part of the Financial Materials shall be accomplished in the same manner as for Concessionaire's documentation.

2.5 Either Party may introduce the Financial Materials into evidence in a Dispute Resolution Procedure, litigation, or other legal proceeding. The Parties shall promptly abide by any request from a Governmental Authority, mediator, or arbitrator or to assist in understanding the Financial Materials.

2.6 Subject to applicable Law, including the Maryland Public Information Act, the Financial Materials are, and shall remain, the property of Concessionaire or its Key Contractors.

3.0 UPDATES TO FINANCIAL MODEL

3.1 The Parties shall utilize the Financial Model to understand the financial effects of any of the following events (each, a "Model Variation Event") and update it as necessary in accordance with this Section:

3.1.1 The implementation of the Baseline Interest Rate fluctuation and Baseline Credit Spread fluctuation process under Section 4.3.6 of the Base Concession Agreement at the Initial Financial Closing;

3.1.2 A Relief Event for which UMD owes extra work costs, delay costs or financing delay costs, as applicable, which UMD has elected to pay as an adjustment to the Availability Payment over the Term;

3.1.3 A Refinancing resulting in a Refinancing Gain to which UMD is entitled to a

share; and,

3.1.4 Any amendments to this Agreement that the Parties agree have a material effect on the Financial Model, including any amendments agreed to by the Parties between the BAFO Deadline and the Initial Financial Closing that the Parties agree is a Model Variation Event.

3.2 The Concessionaire shall make any changes to the Financial Model to take account of a Model Variation Event as follows (with any such variation being a "Financial Model Update"):

3.2.1 Concessionaire shall propose the Financial Model Update by delivering to the UMD Program Manager an interim proposed revised Financial Model together with full and complete details regarding the revision and an explanation of the assumptions and calculations used to reflect the financial impacts of the Model Variation Event.

3.2.2 Concessionaire's proposed revision of the Financial Model shall be limited to changes in Concessionaire's cash revenues and expenses arising directly from the Model Variation Event and the following consequential changes and consequential changes to the Program Debt draw down schedule, funding and release of reserves, financing costs, debt service schedule and amounts, Equity Investment draw down schedule and Concessionaire's Distributions schedule and amounts.

3.2.3 A Financial Model Update may not incorporate other information or assumptions based on Concessionaire's actual performance of the Concession Agreement, except as permitted by Section 4.1.3 for a Financial Model Update related to a Refinancing or otherwise in connection with a Model Variation Event;

3.2.4 A Financial Model Update may not update projections through the end of the Term based on current market conditions; and,

3.2.5 Concessionaire may amend the logic or formulae incorporated in a Financial Model Update to the extent necessary to permit adjustments to the Financial Model in accordance with this Section 3. However, if any

amendment is to be made to the logic or formulae in a Financial Model Update, the Key Ratios in the Financial Model Update must be maintained at levels that are neither lower nor higher than the Key Ratios existing in the Financial Model then in effect, and the difference in the Equity IRR after and immediately before making such amendment may not be greater than one basis point (being 0.01%) or as may be agreed upon by the Parties.

3.2.6 Concessionaire shall provide UMD with access, on an Open Book basis, to all updated and revised assumptions and other data that comprise or are included in any Financial Model Update including reasonable access to any financial modeler with the ability to access that information, and relevant passwords or other access information.

3.2.7 Concessionaire shall provide (and shall ensure that each Concessionaire Party provides) UMD and any nominee of UMD with full access, on an Open Book basis, to electronic copies of the calculations required to vary the Financial Model for a Model Variation Event.

3.2.7 Concessionaire may address more than one Model Variation Event within a single Financial Model Update, provided that the UMD Program Manager may request interim versions of a proposed Financial Model Update.

3.3 Where the Concessionaire is entitled to adjustments to the payments between the Parties relating to mitigating actions under Section 3.3, the proposed adjustments shall be calculated by solving the Financial Model Update so that the Developer is left in a "no better and no worse" financial position under the Financial Model Update relative to its financial position under the Financial Model then in effect under this Agreement.

3.3.1 For the purposes of this Agreement, Concessionaire shall be deemed to be in a "no better and no worse" financial position based on the following:

(a) the Key Ratios set forth in the Financial Model Update are equal to the Key Ratios set forth in the Financial Model then in effect;

(b) the Equity IRR set forth in the Financial Model Update is substantially equal to the Equity IRR set forth in the Financial Model then in effect (*i.e.,* the difference, if any, is not greater than one basis point (being 0.01%); and

(c) the Model Variation Event does not result in a material adverse or beneficial effect on Concessionaire's ability to comply with and perform its obligations and exercise its rights under the NextGen Program Contract Documents and the Financing Documents.

3.4 Each Financial Model and Financial Model Update shall be assigned an exclusive identification number, using chronological sequencing.

3.5 After the Parties agree upon the Financial Model Update or such Update is otherwise determined in accordance with the Dispute Resolution Procedure, Concessionaire promptly shall deliver to the UMD Program Manager the following Records:

(a) The final version of the Financial Model Update and the related amended Financial Model and Financial Materials, in the same form as the versions delivered under Section 3.2 or in such other form as may be agreed upon by the Parties.

(b) An updated Financial Model audit report related to such Financial Model Update in accordance with Section 4.0 (unless the Financial Model Update is minor in nature and as such the Parties mutually agree that an updated Financial Model audit report is not required; and,

(c) A form of written amendment to the Concession Agreement that:

(i) Reflects the replacement of the Financial Model then in effect with a Financial Model Update; and,

(ii) Addresses all other amendments to the Concession Agreement that may be required as a result of the Financial Model Update.

3.6 UMD reserves the right to approve any changes in Baseline Interest Rates, Baseline Credit Spreads or changes in the debt structure (such as fixed or variable rate, bank financing or bond financing, call provisions) before the Initial Financial Closing that constitute a deviation from the assumptions in Concessionaire's BAFO.

4.0 FINANCIAL MODEL AUDITS

4.1 Any model audit report delivered to UMD shall be prepared by an independent audit firm with a nationally recognized reputation approved by UMD.

4.2 The cost of a model audit report shall be paid by UMD if it is prepared in connection with a Financial Model Update related to an event described in Section 3.0 of this Appendix G-9 or any amendment proposed solely by UMD. The cost of any other model audit report required under the Concession Agreement shall be paid by Concessionaire.

4.3 Concessionaire bears the risk of any errors or omissions contained in the Financial Model and shall not be entitled to any compensation or other relief from UMD in relation to any loss or damage that it suffers as a result of such error or omission.

5.0 FINANCIAL MODEL DISPUTES

5.1 In the event of a Dispute, the Financial Model or the immediately preceding Financial Model Update (as applicable) that is not being disputed (or, if there has been no undisputed Financial Model Update, the Financial Model) will remain in effect until such Dispute is resolved or a new Financial Model Update is issued and not disputed.

5.2 If a proposed Financial Model or Financial Model Update (as applicable) has not been disputed, or if any such Dispute has been so resolved, the proposed Financial Model or Financial Model Update (as applicable) will serve as the Financial Model or the current Financial Model Update (as applicable).

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CENTRAL ENERGY PLANT AND OIL STORAGE TANK AREA DRAWINGS

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS DRAWINGS OF CRITICAL ENERGY INFRASTRUCTURE.

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APPENDIX H-2

STEAM AND HOT WATER DISTRIBUTION SYSTEMS AND CONDENSATE RETURN SYSTEM DRAWINGS

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS DRAWINGS OF CRITICAL ENERGY INFRASTRUCTURE.

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APPENDIX H-4

ELECTRIC DISTRIBUTION SYSTEM DRAWING

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS DRAWINGS OF CRITICAL ENERGY INFRASTRUCTURE.

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DRAWINGS OF EACH DISTRICT THERMAL PLANT (INCLUDING EACH DTP'S CHILLED WATER DISTRIBUTION SYSTEM)

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS DRAWINGS OF CRITICAL ENERGY INFRASTRUCTURE.

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RESERVED FOR FUTURE USE

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LIST OF MAJOR ENERGY SYSTEM EQUIPMENT

This appendix includes the list of major equipment at the Central Energy Plant (CEP) and District Thermal Plant 4 (DTP-4) as of the Effective Date. The list is not intended to be inclusive of all balance of plant equipment.

Central Energy Plant

1. Combustion Turbine 1 (CT1)
2. Heat Recovery Steam Generator 1 (HRSG 1)
3. Combustion Turbine 2 (CT2)
4. Heat Recovery Steam Generator 2 (HRSG 2)
5. Backpressure Steam Turbine (BPST)
6. Boiler 2 (BLR2) and associated ID and FD Fans
7. Boiler 4 (BLR4) and associated ID and FD Fans
8. Mobile Boiler (MBLR)
9. Gas Compressor 1 (GC1)
10. Gas Compressor 2 (GC2)
11. Gas Accumulator Tank (GAT)
12. Boiler Feedwater Pump 1 (BFWP1)
13. Boiler Feedwater Pump 2 (BFWP2)
14. Boiler Feedwater Pump 3 (BFWP3)
15. Deaerator 1 (DA1)
16. Deaerator 2 (DA2)
17. Deaerator 3 (DA3)
18. Condensate Receiver (CR1)
19. Condensate Pump 1 (CDP1)
20. Condensate Pump 2 (CDP2)
21. Condensate Pump 3 (CDP3)
22. Water Treatment Components (RO System, Condensate Polishers, Water Softeners and Brine Generating System)
23. Compressed Air Equipment (Air Recievers, Air Compressors, Air Dryers)
24. Continuous Blowdown Flash Tank (CBDT1)
25. Bottom Blowoff Tank (BBT1) – Note this will be replaced prior to commencement of NEXTGEN
26. Fuel Oil Storage Tank 1 (FOT1)
27. Fuel Oil Storage Tank 2 (FOT2)
28. Fuel Oil Pumps

29. 4160V Switchgear 1A and 1B
30. 480V Switchgear 2A and 2B
31. Misc Motor Control Centers throughout the CUP

District Thermal Plant 4 (DTP4)

1. Chiller 1 (CH1) (steam turbine driven chiller)
2. Chiller 2 (CH2) (steam turbine driven chiller)
3. Chiller 3 (CH3) (electric centrifugal)
4. Cooling Tower 1 (CT-1)
5. Cooling Tower 2 (CT-2)
6. Cooling Tower 3 (CT-3)
7. Cooling Tower 4 (CT-4)
8. Cooling Tower 5 (CT-5)
9. Cooling Tower 6 (CT-6)
10. Cooling Tower 7 (CT-7)
11. Cooling Tower 8 (CT-8)
12. Chilled Water Pump 1 (CHWP1) (with VFD)
13. Chilled Water Pump 2 (CHWP2) (with VFD)
14. Chilled Water Pump 3 (CHWP3) (with VFD)
15. Chilled Water Pump 4 (CHWP4) (with VFD)
16. Condenser Water Pump 1 (CWP1)
17. Condenser Water Pump 2 (CWP2)
18. Condenser Water Pump 3 (CWP3)
19. Condenser Water Pump 4 (CWP4)
20. Transformer 1(T1)
21. Transformer 2 (T2)
22. Transformer 3 (T3)
23. 480V Switchgear 1
24. 480V Switchgear 2
25. 480V Switchgear 3
26. 480V Motor Control Center 1 (MCC1)
27. 480V Motor Control Center 2 (MCC2)
28. 480V Motor Control Center 3 (MCC3)

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ENERGY METERS

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS INFORMATION ABOUT THE LOCATION OF CRITICAL ENERGY INFRASTRUCTURE.

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STEAM AND HOT WATER DISTRIBUTION SYSTEMS DEMARCATION POINT DRAWINGS

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CONDENSATE RETURN SYSTEM DEMARCATION POINT DRAWING

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ELECTRIC DISTRIBUTION SYSTEM DEMARCATION POINT DRAWINGS

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CHILLED WATER DISTRIBUTION SYSTEMS DEMARCATION POINT DRAWING

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RESERVED FOR FUTURE USE

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ENERGY PROGRAM DESIGN CRITERIA AND FACILITIES STANDARDS

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS INFORMATION ABOUT THE DESIGN AND CONSTRUCTION OF CRITICAL ENERGY INFRASTRUCTURE.

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APPENDIX K-1

PURPLE LINE AGREEMENT

BASELINE UTILITY OWNER AGREEMENT
Relocation and Interface of
MEDCO's Energy Systems and MTA's Purple Line
at the University of Maryland College Park

This Baseline Utility Owner Agreement (this "Agreement") is made and entered into as of the 7th day of June, 2018, by and between the Maryland Transit Administration, a principal agency of the State of Maryland ("MTA"), and the Maryland Economic Development Corporation, a public instrumentality of the State of Maryland ("MEDCO").

Purpose

The purpose of this Agreement is (i) to ensure the timely and thorough coordination of (A) design review, construction and inspection, and (B) operation and maintenance of the adjustments to MEDCO's Energy Systems (defined hereinbelow) that are needed to accommodate the design, construction, inspection, operation, and maintenance of MTA's Purple Line light rail system on the University of Maryland College Park campus; and (ii) to document the relative rights and obligations of MTA, Concessionaire, MEDCO, and MEDCO Operator in connection with the interface of the Purple Line light rail system with the Energy Systems.

Project Description

The Purple Line is a 16.2-mile, 21-Station light rail transit (LRT) system that will extend from its western terminus in downtown Bethesda at Bethesda Metro Station in Montgomery County, to its eastern terminus at the New Carrollton Metro Station in Prince George's County. As planned, the system will be largely at grade with one short tunnel section, three sections elevated on structures, and several bridge structures. The system will operate mainly in dedicated or exclusive lanes, serving six major activity centers, including College Park/University of Maryland.

As it traverses the University of Maryland College Park campus at grade, the Purple Line interfaces with the Energy Systems in several areas on the University's campus including along Campus Drive, Presidential Drive, and Rossborough Lane as shown and depicted on Exhibit A attached hereto and incorporated herewith. At these points of interface, Energy Systems Adjustments, defined hereinbelow, including relocation or protection of the Energy Systems, will be required. In addition, the Purple Line requires reconstructing roadways, drainage systems, traffic control devices, street lighting, and other facilities owned and operated by the University.

Section 1. Stipulations as to Authority and Governing Documents of the Parties

1.1 Pursuant to Md. Transp. Code Ann. § 7-204 (2016), MTA is a unit of the Maryland Department of Transportation, a principal agency of the State of Maryland, and is authorized to design, construct, operate, and maintain transit projects, including the Purple Line.

1.2 The Purple Line will be designed, constructed, operated, and maintained under a Public-Private Partnership Agreement entered into by and between MDOT/MTA and Purple Line Transit Partners, LLC (the "Concessionaire") on April 6, 2016 (the "P3 Agreement"), pursuant to Md. State Fin. And Proc. Code Ann. § 10A-102, to develop and strengthen the State's public infrastructure assets; apportion risks between the public and private sectors; foster new job creation; and promote the socioeconomic development and competitiveness of the State.

1.3 MEDCO is established under the provisions of section 10-101 et seq. of the Economic Development Article of the Annotated Code of Maryland, to relieve unemployment in the State; encourage the increase of business activity and commerce and a balanced economy in the State; help retain and attract business activity and commerce in the State; promote economic development; and promote the health, safety, right of gainful employment and welfare of residents of the State.

1.4 The University System of Maryland ("USM") is a body corporate and politic, an instrumentality of the State, a public corporation, and an independent unit of State government, governed by a Board of Regents, which is responsible for the management of the USM and has all the powers, rights, and privileges that go with that responsibility, including the power to conduct or maintain any institutions, centers, schools, or departments in the USM at the locations the Board of Regents determines.

1.5 The University of Maryland College Park (the "University") is a constituent institution of the USM.

1.6 MTA and MEDCO shall be collectively known herein as the Parties.

1.7 MEDCO is the lessee, and the State of Maryland to the benefit of USM and on behalf of the University, is the lessor, of the Energy Systems and MEDCO is, or will become, the owner of certain improvements thereto,[1] including any additions to the Energy Systems, the terms of which are contained in a Ground and Equipment Lease dated August 31, 1999 (as amended,

[1] Energy Services Agreement by and between the University of Maryland, College Park and the Maryland Economic Development Corporation ("ESA"), August 31, 1999, page 1.

May 1, 2001) (the "G/EL"), and an Easement Agreement dated August 31, 1999 (the "Easement Agreement"), both the G/EL and the Easement Agreement being subject to further extension, amendment or replacement by the parties thereto at a future date to be made certain.

1.8 The G/EL from the University of certain real property and equipment comprising the Energy Systems currently is effective through June 30, 2029 and is expected to be extended or otherwise amended by MEDCO and the University in connection with the installation and financing of additional improvements to the Energy Systems.

1.9 MEDCO has entered into a Management, Operations and Maintenance Agreement (the "MOAMA") with the MEDCO Operator (as hereinafter defined), dated August 31, 1999, and subsequently modified or amended April 2, 2001, and December 19, 2006, to define the rights and obligations of MEDCO and the MEDCO Operator with respect to the management, operation, and maintenance of the Energy Systems, and with said MOAMA being subject to further extension, amendment or replacement by MEDCO and the University at a future date to be made certain.[2]

1.10 The P3 Agreement and the governing documents of the Energy Systems at the University will guide the standards and procedures for the relocation and interface described above, and these Governing Provisions will define and set forth the rights and responsibilities of each of the Parties to the other in connection with the installation, operation and maintenance of the Purple Line and the relocation and interface with the Energy Systems and its operation and maintenance.

1.11 MTA has designated MEDCO as a "Utility Owner" under Part 1, Section 9.6 of the Technical Provisions of the P3 Agreement and this Agreement shall be deemed an "Owner Utility Agreement" for purposes of the P3 Agreement.

Section 2. Purple Line as a "Permitted Encumbrance" upon University Campus and within Easement Area Appurtenant to MEDCO's Energy Systems.

2.1 By the Easement Agreement, the State granted MEDCO a twenty foot (20') wide, non-exclusive easement for the Energy Systems on the grounds of the University.[3]

2.2 Pursuant to the Easement Agreement, the University, on behalf of itself and its successors and assigns, has reserved the right to use certain Easement Areas[4] for any purposes

[2] MOAMA, Section 1.1.

[3] Easement Agreement, Section 2.1.1 – 2.1.4, page 3.
[4] Ibid., Section 1.2, page 2.

which are not inconsistent with and which do not materially interfere with, the use of the Easement Areas by MEDCO or the MEDCO Operator (a "Permitted Encumbrance").[5]

2.3 On March 9, 2016, the University entered into a Memorandum of Agreement with MTA regarding the design, construction, operations, and maintenance of the Purple Line light rail project across the University campus, including the grant of certain easements which have been or will be recorded among the Land Records of Prince George's County (the "Purple Line MOA").

2.4 The University has determined that, subject to the parties' performance of its respective obligations under this Agreement, the Purple Line shall constitute a Permitted Encumbrance[6]. The University has directed MTA to enter into an agreement with MEDCO to ensure that the construction and operation of the Purple Line will not impair MEDCO's rights under the Easement Agreement and MEDCO's obligations to operate and maintain the Energy Systems under the ESA or the MEDCO Operator's obligations to operate and maintain the Energy Systems under the MOAMA.

2.5 Article XIV.A. of the Purple Line MOA provides for the establishment of a Campus Utilities Management Plan to identify, plan, and arrange for all utility relocations, including the Energy Systems, as applicable, and to develop contingency plans for future emergency and adjacent construction standards for foreseeable future utility repairs that could adversely affect the Purple Line.

2.6 MEDCO agrees to certain relocations of and improvements to the Energy Systems subject to the agreements of the Parties under this Agreement, and subject to procedures relating to the construction, operation and maintenance of the Purple Line within the Easement Areas.

Section 3. Definitions[7]

Any capitalized term used in this document but not otherwise defined below shall have the meaning prescribed in the MOAMA, the G/EL, the Easement Agreement, or the ESA, as applicable.

3.1 "Additional Cost" means the incremental cost (including without limitation delay damages, increases to insurance premiums, insurance deductibles) incurred by MEDCO or

[5] G/EL, page 2 and Easement Agreement, Section 2.7.1, page 6.
[6] G/EL, page 11.

[7] Any capitalized term used in this document but not otherwise defined below shall have the meaning set forth in the MOAMA, the G/LE, or the ESA, as applicable.

MEDCO Operator in connection with the operation, maintenance repair or replacement of the Energy System to the extent attributable, whether directly or indirectly, to the construction of the Purple Line. For purposes of this Agreement, Performance Guaranty Liquidated Damages (as defined in the MOAMA) payable by MEDCO or MEDCO Operator for failure to meet the performance guarantees and warranties under Article 17 of the MOAMA, to the extent attributable to the construction of the Purple Line, is included as an Additional Cost. Additional Cost shall be retroactively reduced by the amount, if any, of insurance proceeds actually received by MEDCO or MEDCO Operator. Accordingly, to the extent insurance proceeds are paid that compensate MEDCO or MEDCO Operator for amounts that MTA or the Concessionaire have reimbursed MEDCO or MEDCO Operator, MEDCO and MEDCO Operator, as the case may be, shall promptly remit such amounts to MTA or the Concessionaire, as applicable. For purposes of this definition, Additional Cost may not exceed, in the aggregate, during the term of this Agreement, Six Hundred Seventy Thousand Dollars ($670,000.00).

3.2 "Betterment" means the design, construction, installation and/or upgrading of any additions and/or improvements to the Energy Systems located within the right-of-way limits of the Purple Line, when such additions and/or improvements are not necessitated by the Purple Line project, but rather, are performed at MEDCO's written request, solely for MEDCO's benefit, and at MEDCO's sole cost. For purposes of this definition, improvements to be constructed by or on behalf of MTA as described in Section 4.1 shall not constitute a "Betterment" and MTA agrees that neither it nor the Concessionaire shall be entitled to seek reimbursement from MEDCO therefor.

3.3 "Campus Utilities Management Plan" means the plan to be developed pursuant to Article XIV.A of the Purple Line MOA for the purpose of relocating, and coordinating the construction and operation of the Purple Line with, the utilities located on or serving the University's campus.

3.4 "Emergency" means (i) an unexpected outage of any portion of the Energy Systems or (ii) other event or act that, in either case, imminently threatens to harm persons and/or damage, destroy or cause a loss of all or a portion of the Energy Systems or University Facilities.[8] It is the intent of the Parties that an "Emergency" under this Agreement is characterized and treated as an Emergency under the P3 Agreement.

3.5 "Energy Systems" means, collectively, the Central Plant, Steam Distribution System, Condensate Return System, Cooling Utility System, Electric Distribution System, all

[8] MOAMA, page 13.

Appurtenances and Equipment operated and maintained by the MEDCO Operator on behalf of MEDCO, which are shown on Exhibit A attached hereto.[9]

3.6 "Energy System Adjustments" means any work needed by or to relocate or protect the Energy Systems from material interference by the Purple Line.

3.7 "Forced Maintenance" means all maintenance and repairs to any of the Energy Systems not reasonably anticipated by MEDCO Operator which are neither Ordinary Maintenance nor Scheduled Maintenance, and which must be performed by MEDCO Operator to maintain compliance with its obligations under the MOAMA, including the Performance Guarantees, and MEDCO's obligations under the ESA. Forced Maintenance includes without limitation, all maintenance and repairs that are required to respond to, or are necessitated by, an Emergency.[10]

3.8 "Maintenance Services" means Ordinary Maintenance, Scheduled Maintenance, and Forced Maintenance and all engineering, professional expertise, labor, materials, supplies, Equipment [*sic*], utilities, day-to-day replacement parts, inventory, personnel, training, supervision, and other goods and services associated therewith required to be provided by MEDCO Operator in accordance with the MOAMA.[11]

3.9 "MEDCO Operator" means College Park Energy, LLC, its successors or assigns, and any replacement operator of the Energy Systems, under an agreement with MEDCO, its successors or assigns.

3.10 "MEDCO Utilities" means the utilities transmitted by the Energy Systems.

3.11 "Ordinary Maintenance" means the routine and reasonably anticipated day-to-day repair, maintenance, and upkeep of the Energy Systems that can be accomplished without requiring an outage of all or any portion of the Energy Systems.[12]

3.12 "Permitted Encumbrance" is defined in Section 2 above.[13]

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[9] G/E Lease, page 6.
[10] MOAMA, page 16
[11] MOAMA, page 19.
[12] MOAMA, page 22.
[13] G/EL, page 11.

3.13 "Scheduled Maintenance" means maintenance services which require an outage of all or any part of the Energy Systems and which, as a result, must be scheduled so that the University's requirements for energy conversion and delivery services are met.[14] Scheduled Maintenance shall include, but not be limited to, the following: (a) Scheduled outages of any material portion of the Energy Systems; (b) Scheduled inspections of all or any portion of the Energy Systems in accordance with the ESA or MOAMA; and (c) Scheduled replacement and/or repair of the Equipment in accordance with this Agreement, the ESA or MOAMA.[15]

3.14 "Uncontrollable Circumstance" means any event or circumstance not within the control of a party to the ESA or the MOAMA, MTA or the Concessionaire, or not reasonably preventable by such parties with reasonable foresight including, but not limited to, acts of God, acts of the public enemy, fire, and damage to or failure of facilities necessary to transport the MEDCO Utilities to the University's campus.[16] A circumstance shall not be deemed to be an Uncontrollable Circumstance if it is due to the action or inaction of such parties to the ESA or MOAMA, MTA or the Concessionaire, or a subcontractor, supplier, or an affiliate of such parties whose acts or omissions are the basis for the claim of Uncontrollable Circumstance.

Section 4. Construction of Purple Line and Design, Construction, Inspection and Acceptance of Energy System Adjustments

4.1 MTA shall cause the Concessionaire, on behalf of MTA, and MEDCO shall cause the MEDCO Operator, on behalf of the University and MEDCO, to collaborate on and coordinate the design and construction by Concessionaire necessary to construct the Purple Line and, as may be necessary, to relocate and protect the Energy Systems, subject to the University's design and approval rights set forth in Article VII of the Purple Line MOA with the University. MTA acknowledges that MEDCO and MEDCO Operator are bound by the terms of the MOAMA, including Section 16.1.2, regarding the design and construction, together with any associated inspection, and acceptance of the Energy System Adjustments, insofar as this Section may apply, and MEDCO shall take reasonable efforts in connection therewith. MEDCO shall direct MEDCO Operator to perform promptly any "tie-in" connections between the Energy System and the Energy System Adjustments, at MEDCO's sole cost and expense. The Concessionaire, acting on behalf of MTA, shall be considered a Non-Company Contractor as defined and

[14] MOAMA, page 24.
[15] MOAMA, page 38 (5.1.3.2 (a)-(c).
[16] ESA, page 11 (abridged).

provided therein. MTA shall cause the Concessionaire to coordinate with MEDCO Operator as may be reasonably required for Concessionaire to perform the Energy System Adjustments.

4.2 MTA shall pay all non-Betterment costs of any relocation of the Energy Systems necessitated by the construction of the Purple Line. MTA, at its sole cost, shall provide updated surveys and legal descriptions for the locations of the relocated Energy Systems to enable MEDCO to request revisions to the Easement from the University to document the relocation of the Easement for such relocated Energy Systems.

4.3 MTA will hire, at MTA's expense, a qualified engineering firm to design all necessary Energy System Adjustments. MEDCO hereby agrees that in connection with any design submittal provided to MEDCO by Concessionaire, MEDCO shall endeavor to approve or request revisions to such submittal within ten (10) days. In addition, within sixty (60) days after request therefor, MTA shall reimburse MEDCO upon presentation by MEDCO to MTA of invoices for the third party costs incurred by MEDCO and MEDCO Operator in connection with the review of engineering plans for the Energy System Adjustments by MEDCO or the MEDCO Operator, which reimbursement amount shall not exceed $50,000.00.[17]

4.4 MTA will provide routine construction inspection and will certify compliance with any applicable established construction standards. MEDCO and the MEDCO Operator shall have the right to inspect construction activities at all times and shall receive promptly copies of all applicable documents, including but not limited to, Purple Line quality program records, redline revisions, and as-built drawings so that MEDCO and the MEDCO Operator can review whether the installation of the Energy System Adjustments and the construction activities of the Purple Line may be accepted by MEDCO Operator under the MOAMA; provided, however, such inspection by MEDCO or the MEDCO Operator shall not relieve MTA or the Concessionaire from any of their obligations under this Agreement. Within sixty (60) days after request therefor, MTA shall reimburse MEDCO upon presentation by MEDCO to MTA of invoices for the third party costs incurred by MEDCO and MEDCO Operator in connection with construction inspection performed by or on behalf of MEDCO or the MEDCO Operator for the Energy System Adjustments and construction activities of the Purple Line within the Easement, which reimbursement amount shall not exceed $109,500.00.[18]

4.5 MEDCO shall direct the MEDCO Operator to coordinate its management, operation, and maintenance of the Energy Systems with the work involved in the construction of the Purple Line in good faith and in a commercially reasonable manner under the circumstances[19], provided that the parties acknowledged that (i) MEDCO shall have no obligation to incur

[17] MOAMA Page 92, Section 16.1.2.1(c).
[18] Ibid.
[19] MOAMA Page 72, Section 12.8.[20] MOAMA Pages 132-133, Section 20.2.4.

additional expense to require such coordination, and MEDCO Operator's obligation to coordinate is governed by the terms of the MOAMA; and (ii) it shall not be commercially reasonable if the result of which is reasonably expected to adversely affect the operation of the Energy Systems. Minor service interruptions for such events as scheduled service connections or disconnections, shall occur at times mutually agreed upon by the Concessionaire, the University, and the MEDCO Operator.

4.6 If during construction of the Purple Line there is damage to the Energy Systems, then MTA shall be responsible for the cost of any required repairs of or replacements to the Energy Systems to restore the same to a condition at least equal to that which existed immediately prior to such damage and any Additional Cost to MEDCO or MEDCO Operator, to the extent not covered by any casualty insurance policy proceeds received by MEDCO or MEDCO Operator, and reimburse MEDCO and MEDCO Operator for the amount of any deductible. If during construction of the Purple Line there is an interruption to the MEDCO Utilities caused by the construction activities of the MTA or the Concessionaire, MTA shall be responsible for reimbursing MEDCO for any damages incurred by MEDCO under the ESA or the MOAMA as an Additional Cost, to the extent not covered by any business interruption insurance policy proceeds received by MEDCO, and reimbursing MEDCO for the amount of any deductible.

Section 5. Coordination of Operating and Maintenance Activities of the Energy Systems during Purple Line Operations

5.1 Once the Purple Line commences revenue operations, MTA shall cause the Concessionaire (on behalf of MTA) and MEDCO shall cause the MEDCO Operator (on behalf of MEDCO) to collaborate on and coordinate operations and maintenance activities relating to the Energy Systems and the Purple Line.

5.2 The MEDCO Operator (on behalf of itself and MEDCO) has both the right and the responsibility to participate in all relevant utility coordination activities on campus, including formation and implementation of the Campus Utilities Management Plan. Meetings shall be scheduled in coordination with MEDCO, the MEDCO Operator, the University, MTA, and the Concessionaire.

5.3 With regard to the Energy Systems, the Campus Utilities Management Plan shall include at least the following provisions:

5.3.1 MEDCO shall perform Ordinary and Scheduled Maintenance operations and construction in accordance with the MTA track access procedures afforded to all other utilities and third parties. MTA shall provide such track access procedures to MEDCO, when available.

Notwithstanding the foregoing, MTA shall cause Concessionaire, on behalf of MTA, and MEDCO shall cause MEDCO Operator, on behalf of MEDCO to reasonably cooperate to coordinate Ordinary and Scheduled Maintenance operations and construction with the University's planned outages under the ESA and the MOAMA to minimize interference with the University's operations at the Campus.

5.3.2 In the event of an Emergency requiring Forced Maintenance that cannot be performed without access to the Purple Line tracks, MTA shall immediately provide the MEDCO Operator and its subcontractors with such reasonable access to the Purple Line tracks, including any necessary interruption to Purple Line service, so as to permit MEDCO to expeditiously perform the Forced Maintenance.

5.3.3 If MTA asserts an Uncontrollable Circumstance that impacts Energy Systems operations and thereafter estimates that the duration of such Uncontrollable Circumstance will extend more than one (1) day, MTA shall, no later than 24 hours after such occurrence, prepare a plan [1] for restoring full performance of the Energy Systems, or [2] providing an alternative means to enable MEDCO to meet its performance requirements under the ESA, together with MTA's best estimate of the date on which the Uncontrollable Circumstance will be abated. Upon MEDCO's and the University's approval of such plan, which approval shall not be unreasonably withheld, MTA shall diligently implement the plan in coordination with MEDCO and MEDCO Operator. MEDCO shall and shall cause MEDCO Operator to provide all cooperation and assistance that is reasonably necessary to support such implementation.[20]

5.3.4 If MEDCO asserts an Emergency causing Forced Maintenance that impacts Purple Line operations and thereafter estimates that the duration of the occurrence is expected to be one (1) day or more, MEDCO shall, no later than twenty-four hours after such occurrence, prepare and provide MTA a plan for repair of the Energy Systems so that Purple Line regular service can be restored as soon as practicable. After affording MTA a reasonable opportunity to review and comment upon the plan, MEDCO shall diligently implement the plan. MTA shall provide all cooperation and assistance that is reasonably necessary to support such implementation. MEDCO shall not be required to provide alternative transportation service during any disruption of the Purple Line operations.

Section 6. Insurance, Indemnification and Limitation of Liability

6.1 The Parties acknowledge and agree that the P3 Agreement provides for and specifies bonds, warranties, insurance coverage, and indemnification that is well in excess of that

[20] MOAMA Pages 132-133, Section 20.2.4.

required by MOAMA Sections 16.1.2 and 18.2.1, and that said instruments shall inure to the benefit of the MEDCO as the owner of the Energy Systems, and its successors and assigns, as appropriate. (See Exhibit 7A of the P3 Agreement attached hereto as Exhibit B.) The Parties further acknowledge and agree that the Concessionaire shall maintain the following insurance: (i) Workers' Compensation insurance per statute, including Employer's Liability insurance with a limit of $2,000,000; (ii) Auto Liability insurance with a limit of $2,000,000 per occurrence; and (iii) Commercial General Liability insurance with a limit of $5,000,000. MEDCO and MEDCO Operator shall be an additional insured under the Auto Liability and Commercial General Liability insurance. The Concessionaire's insurance listed in (ii) and (iii) above shall provide for a waiver of subrogation to MEDCO and MEDCO Operator. Within ten (10) business days after request by MEDCO, which request may be made from time to time during the term of this Agreement, MTA shall provide certificates of insurance from the insurance companies providing coverage listed in (ii) and (iii) above, evidencing MEDCO and MEDCO Operator as an additional insured.

6.2 To the extent that MTA is eligible to participate in the State's Self-Insured Retention program for its departments and agencies, MTA may provide coverage under such program, including, but not limited to, any combination of self-insurance and blanket policies, as the same may be in effect from time to time. MTA shall provide MEDCO with an annual certificate as to the Self-Insured Retention and blanket policies provided by MTA.

6.3 Pursuant to applicable law and subject to the availability of appropriations, MTA shall indemnify and hold harmless MEDCO and the MEDCO Operator from all losses, claims, suits, injuries to persons or property, judgments, legal costs, including reasonable attorneys' fees, arising from the negligence or unintentional act or omission of MTA, its employees, agents, officials, representatives, and consultants not covered by the Concessionaire's indemnification provided for hereinbelow.

6.4 MTA furthermore shall require any Concessionaire-related entity to indemnify, defend, and hold harmless MEDCO from and against any and all claims, causes of action, suits, legal or administrative proceedings, damages, losses, liabilities, response costs, costs and expenses, including any injury to or death of persons or damage to or loss of property, including damage to utility facilities, and including attorneys' and expert witness fees and costs, arising out of, relating to or resulting from (each a "Claim"):

6.4.1 Any act, omission, neglect or misconduct by any Concessionaire-related entity in the manner or method of executing the Energy System Adjustments and the construction of the Purple Line satisfactorily or due to failure to perform the Energy System Adjustments;

6.4.2 The failure or alleged failure by any Concessionaire-related entity to comply with applicable approvals or laws relating to performance of the Energy System Adjustments;

6.4.3 The performance of, or failure to perform, the obligations under this Agreement (including the payment of Additional Cost), or any applicable utility agreement by any Concessionaire-related entity;

6.4.4 Any Concessionaire-related entity's breach of or failure to perform any obligation owed by MTA to MEDCO, where performance of the obligation is delegated to the Concessionaire under the P3 Agreement;

6.4.5 Any Concessionaire release of hazardous materials and any liabilities resulting therefrom;

6.4.6 Trespass, nuisance, or similar harm to the Energy Systems by reason of the intentional misconduct or negligence of any Concessionaire-related entity in connection with the performance of the Energy System Adjustments and the construction of the Purple Line; and

6.4.7 Trespass, nuisance, or similar harm to the Energy Systems by reason of unauthorized physical entry onto or encroachment upon another's property by any Concessionaire-related entity in connection with the performance of the Energy System Adjustments and the construction of the Purple Line.

The indemnification obligations hereunder shall survive the performance of the parties' obligations hereunder for any applicable statute of limitations periods.

6.5 Notwithstanding the foregoing limitations of MTA under this Section, MTA shall promptly commence and diligently pursue any such Claim against Concessionaire for which Concessionaire or any Concessionaire-Related Entity (as defined in the P3 Agreement) may have liability under its indemnification obligations pursuant to the P3 Agreement. MTA shall disclose the terms and agreements of this Agreement to Concessionaire and provide sufficient notice to Concessionaire to invoke Concessionaire's obligations under the P3 Agreement with respect to MEDCO as a "Utility Owner."

6.6 The parties acknowledge and agree that the obligations of MEDCO and its liability hereunder shall be limited to MEDCO's ownership interest in the Energy System (including any

assets, interest and revenues therefrom) and subject to the agreements entered into in connection therewith. In no event shall MEDCO have personal pecuniary liability for any obligation or liability to pay any sums of monies to any other party or to perform any obligations that cannot be performed without the payment of monies, except to the extent of MEDCO's interests in the Energy System and subject to the agreements entered into in connection therewith. In no event shall any member, officer, director, employee, agent, or representative of MEDCO have any personal or individual liability for any obligations, liability or other matter hereunder by reason of their execution hereof or any actions hereunder or in furtherance hereof. The provisions of this section shall be a limitation of all of MEDCO's obligations set forth in this Agreement and shall be deemed incorporated into each section of this Agreement that provides for MEDCO to make payment of any type or to carry out any obligations and shall supersede any provisions to the contrary set forth herein. The provisions of this section shall survive any termination of this Agreement. The parties hereby acknowledge and agree that the obligations of the MEDCO Operator and its liability hereunder shall be limited to the obligations and liabilities the MEDCO Operator has agreed upon pursuant to the MOAMA.

Section 7. Remedies

In the event of a breach of any party of its obligations hereunder, the non-breaching party shall be entitled to relief under Maryland law, including, if statutorily available, the ability to bring an action for specific performance or injunctive relief, as may be applicable, the parties hereby acknowledging that damages may not be a sufficient remedy under the circumstances. Nothing in the foregoing shall limit any other remedy at law or in equity to enforce the parties' obligations under this Agreement.

Section 8. General Provisions

8.1 All terms and conditions of this Agreement are subject to available appropriations. Nothing herein shall be construed to require MTA, MEDCO or the State of Maryland to obligate or expend funds for the performance of any work pursuant to this Agreement in violation of federal or state laws, or shall give rise to a claim for compensation by or against MTA, MEDCO, or the State of Maryland for services performed to further this Agreement. In the event of a lack of availability of funding as stated herein, MTA shall give MEDCO notice as soon as possible of such lack of funding and shall be obligated to afford like treatment to MEDCO and other similarly situated or affected parties.

8.2 Each party agrees that in connection with any approval or consent required hereunder, that it shall not unreasonably withhold, condition or delay such approval or consent. Resolution of any matter in dispute that may arise under this Agreement shall be effected by the MTA Administrator, or the Administrator's designee, and the MEDCO Executive or such Executive's designee, who shall meet, confer and work cooperatively to resolve any such dispute. If the dispute remains unresolved for a period of more than thirty (30) days, it shall be submitted to the Maryland State Board of Contract Appeals and if applicable, to a Maryland court of competent jurisdiction. The "MEDCO Executive" is Robert C. Brennan, 410-625-0051 (o).

8.3 This Agreement shall inure to and be binding upon the Parties hereto, their respective agents, successors and assigns; however, neither party may assigns its interests in this Agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld, delayed or conditioned; provided, however, that MTA may, in its sole discretion but with prior notice to MEDCO, assign all or any portion of its right, title and interest in this Agreement to any other entity of the State of Maryland that succeeds to the governmental powers and authority of the MTA by operation of law; and provided, further, that MEDCO may, in its sole discretion but with prior notice to MTA, assign all or a portion of its right, title and interest in this Agreement to any subsequent owner of the Energy Systems, including but not limited to the University, which shall be deemed a third party beneficiary of this Agreement. Notwithstanding the foregoing, no assignment by MEDCO is permitted to any such entity if such purported assignee is disqualified, suspended, debarred, or otherwise excluded from bidding, proposing or contracting with a federal or Maryland state department or agency. Any assignee of MEDCO, whether through itself or through its operator, shall assume all of MEDCO's obligations under this Agreement arising from and after the date of such assignment. Notwithstanding the foregoing, MEDCO understands and agrees that the terms and conditions of this Agreement shall be understood to allow the MTA to assign or delegate to Concessionaire, as may be necessary, those rights, titles, non-real property interests and obligations enjoyed or held by the MTA under this Agreement.

8.4 This Agreement and the rights and liabilities of the Parties shall be governed in accordance with the laws of the State of Maryland, without regard to conflicts of law principles, and any action or proceeding arising hereunder shall be brought in a Maryland court of competent jurisdiction.

Section 9. Future Agreements

9.1 The terms and conditions set forth in this Agreement shall extend to any extension, renewal, modification or replacement of the ESA and the MOAMA.

9.2 MEDCO shall require that any additional improvement to the Energy Systems that crosses the Purple Line or lies within any of the Purple Line easements on University of Maryland College Park campus, shall meet at least the minimum requirements defined in the Purple Line Design Criteria Manual of the P3 Agreement.

[*signature page follows*]

IN WITNESS WHEREOF, the Parties hereto have caused for this Agreement to be executed by their proper and duly authorized officers, as of the day and year first above written.

MARYLAND ECONOMIC DEVELOPMENT CORPORATION

By: _____

NAME: Robert Brennan

TITLE: Executive Director

MARYLAND TRANSIT ADMINISTRATION

By: _____

Charles E. Lattuca
Executive Director
Transit Development and Delivery

Approved as to form and and legal sufficiency

_____

Damon A. Brown
Assistant Attorney General

Source of funds verified and monies appropriated for the purposes provided herein, and accordingly recommended for approval

_____

Anita Rodgers
Project Controls Officer
Transit Development and Delivery

521 **EXHIBIT A**

522 **ENERGY SYSTEM**

523

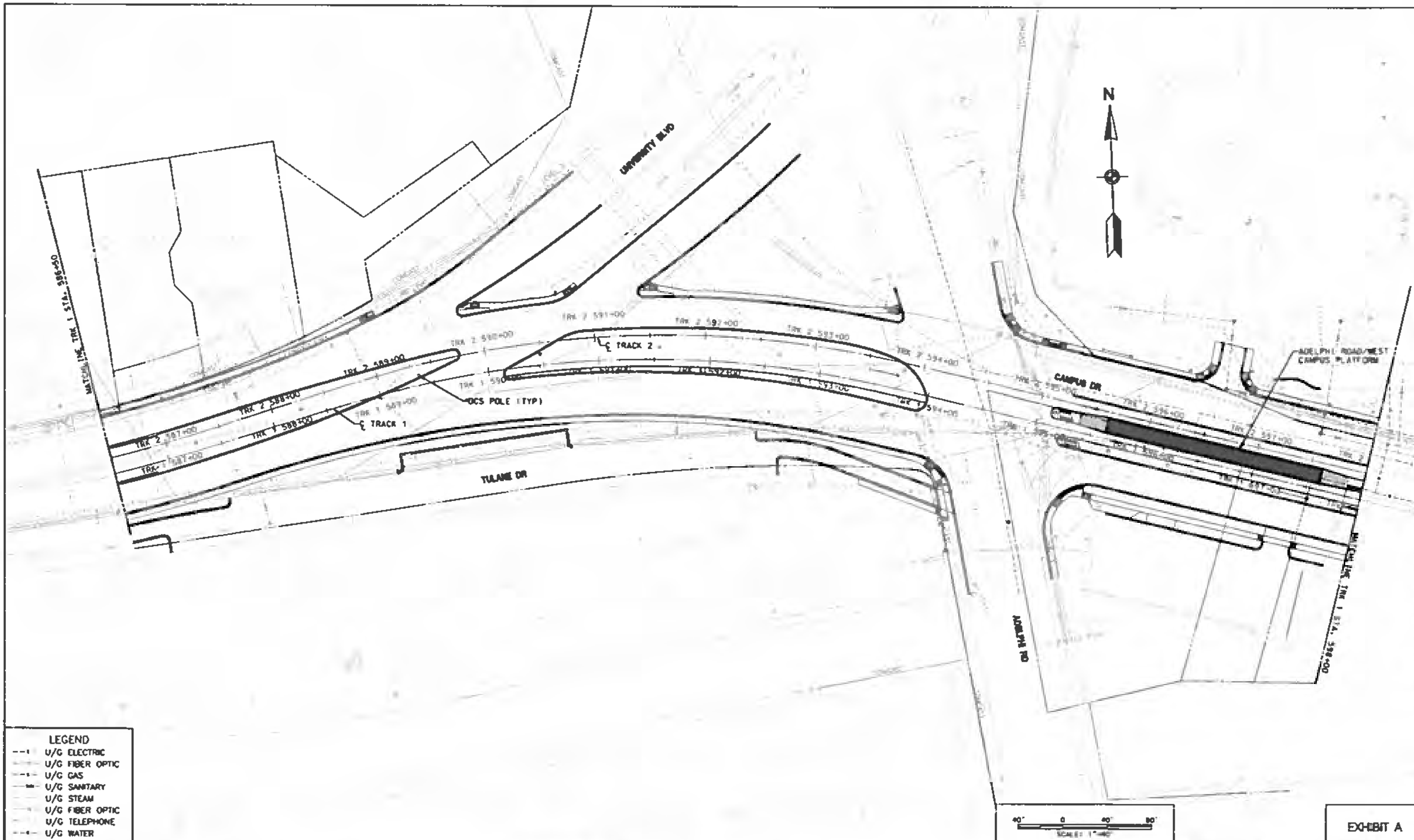


EXHIBIT A

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION — MTA Maryland

Gannett Fleming — WR&A

PROFESSIONAL CERTIFICATION

License No. Expiration Date

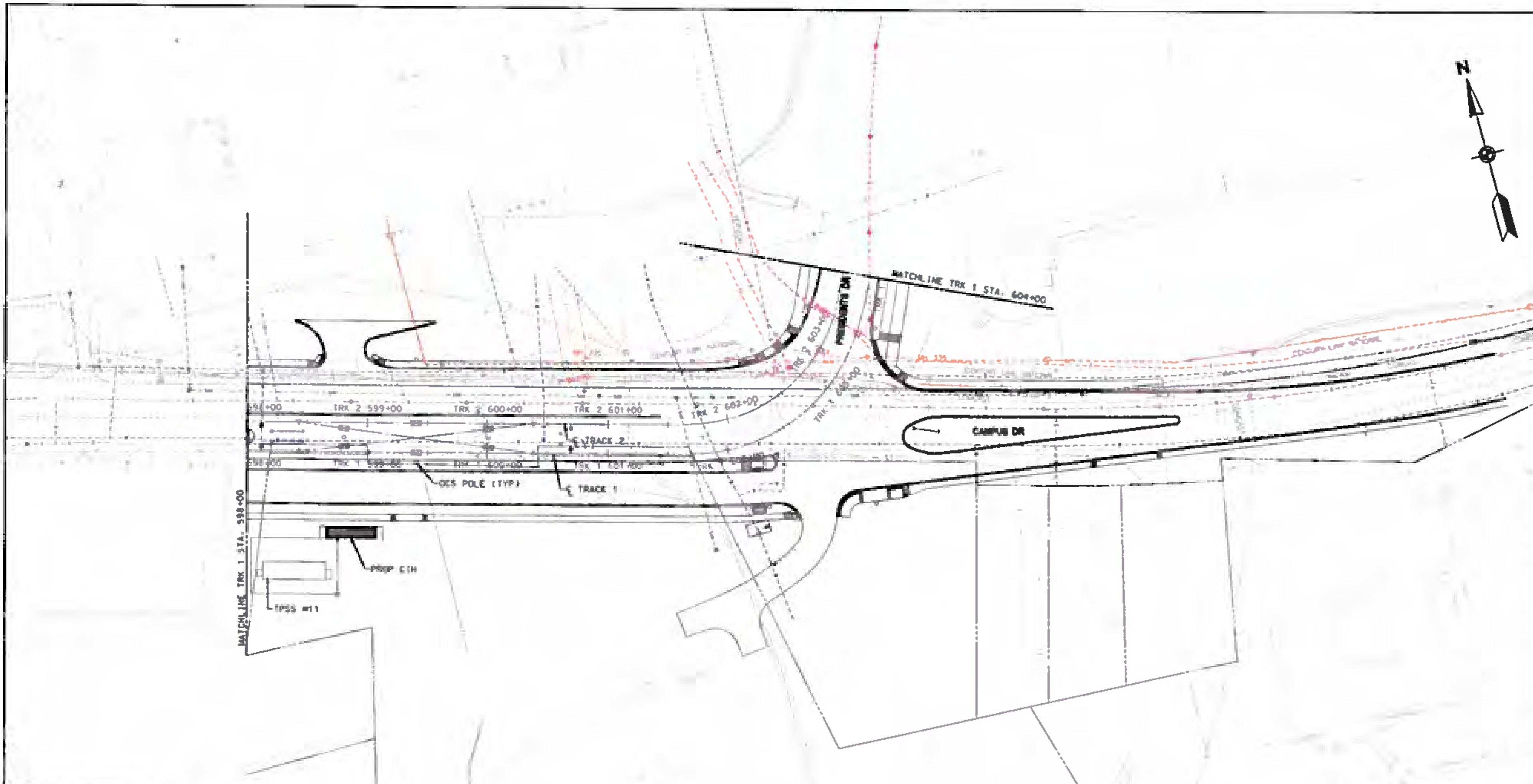
DRAFT: Information shown is based on 30 percent preliminary engineering plans and may be subject to further revision pending refinements to the plans during the completion of the design phase. Any reliance upon any of these plans is made with full understanding of its draft status.

PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL

EXISTING UTILITIES – UMD
STA TRK 1 586+50 TO STA TRK 1 598+00

DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-46
SHEET NO. 46 OF 84



LEGEND
U/G ELECTRIC
U/G FIBER OPTIC
U/G GAS
U/G SANITARY
U/G STEAM
U/G FIBER OPTIC
U/G TELEPHONE
U/G WATER

EXHIBIT A

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

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WR&A

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PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL
EXISTING UTILITIES - UMD
STA TRK 1 598+00 TO STA TRK 1 604+00
DATE: JULY 2014
SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-47
SHEET NO. 47 OF 84

11/25/2014

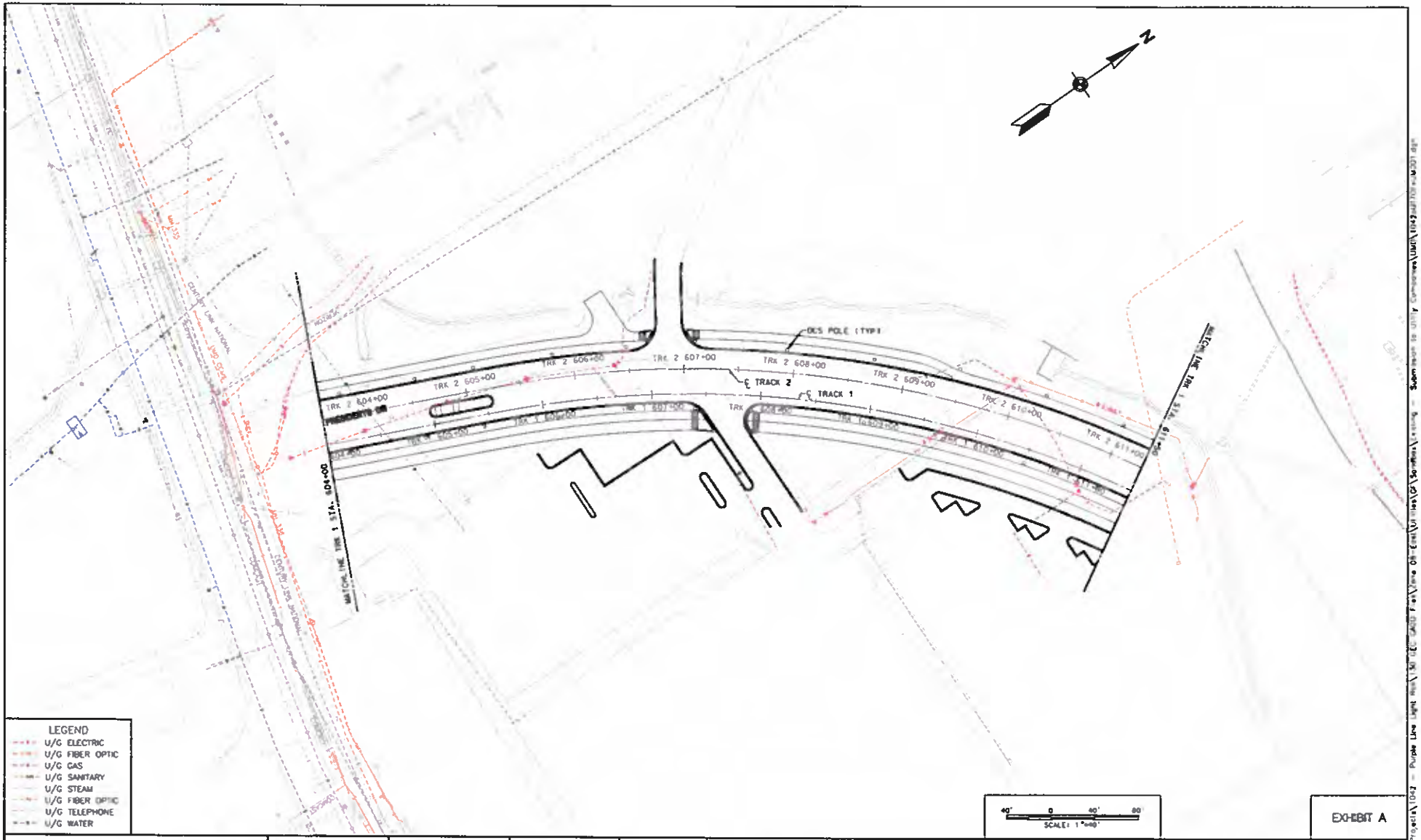

EXHIBIT A

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION — MTA Maryland

Gannett Fleming

WR&A

PROFESSIONAL CERTIFICATION

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PRELIMINARY ENGINEERING

PURPLE LINE LIGHT RAIL

EXISTING UTILITIES – UMD

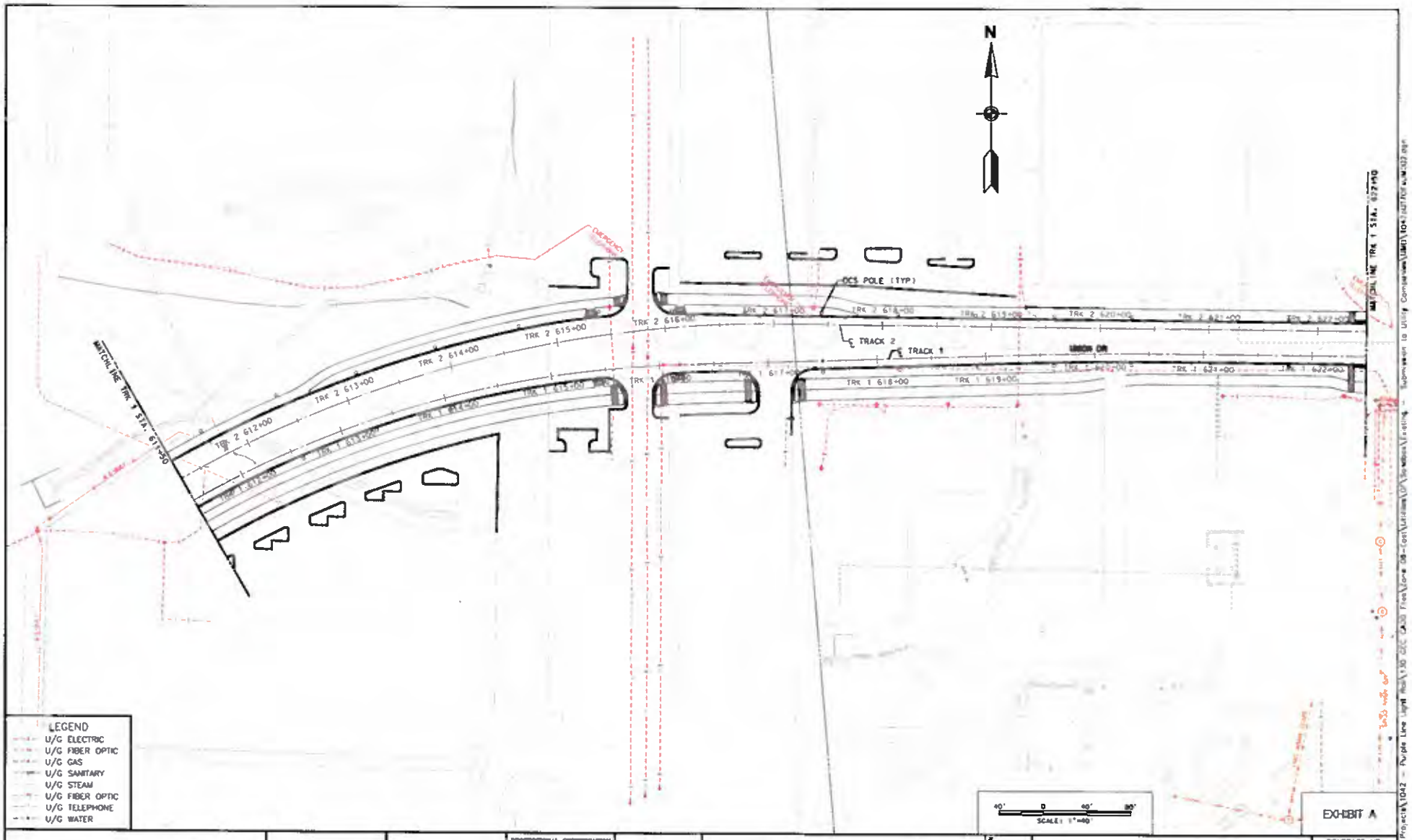
STA TRK 1 604+00 TO STA TRK 1 611+50

DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T 1042-0220

DRAWING NO. UMD-48

SHEET NO. 48 OF 84



MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

Gannett Fleming
WRA

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DESIGN
DRAWN
CHECK
APP

PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL

EXISTING UTILITIES - UMD
STA TRK 1 611+50 TO STA TRK 1 622+50

DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-49
SHEET NO. 49 OF 84

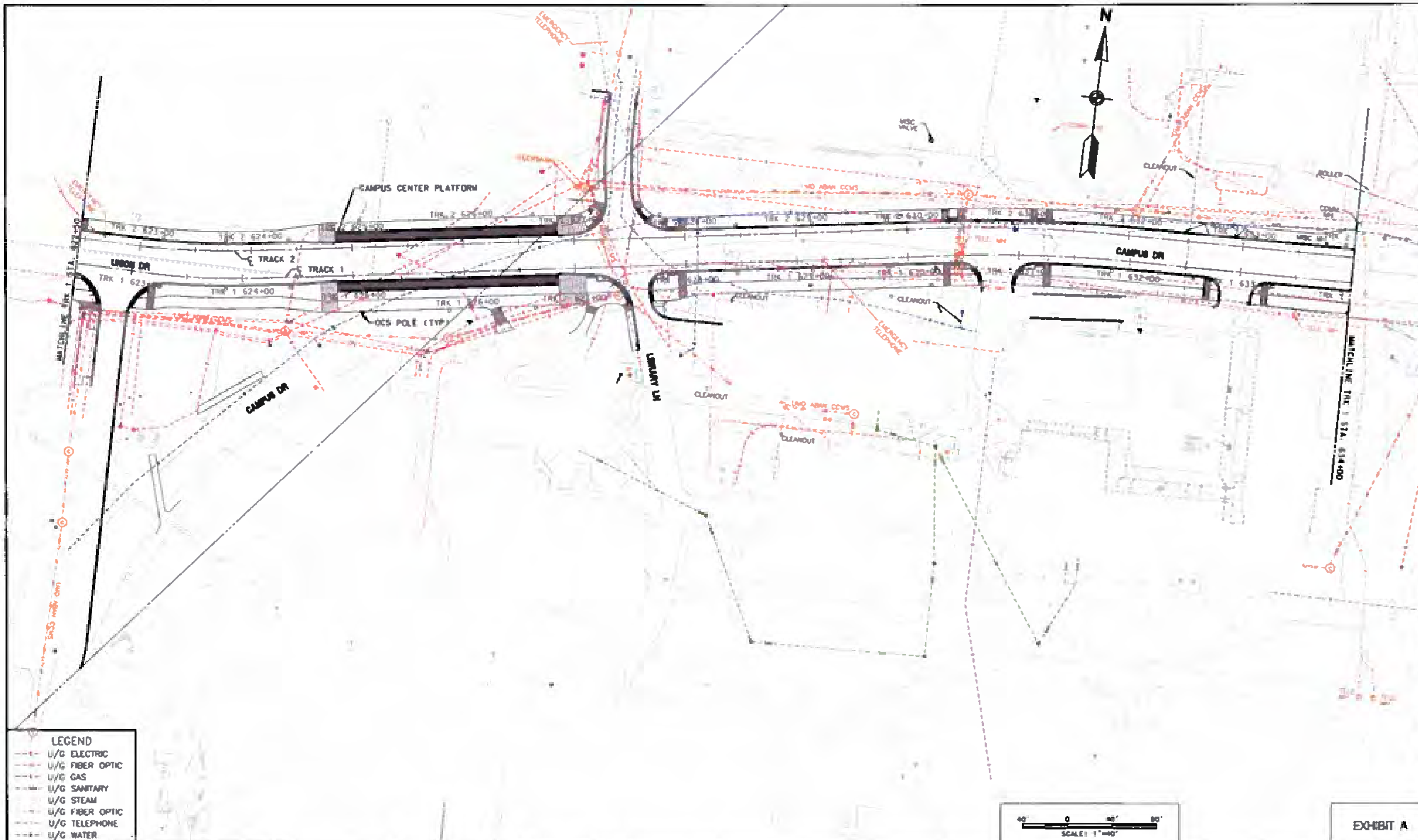

EXHIBIT A

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

Gannett Fleming
WR&A

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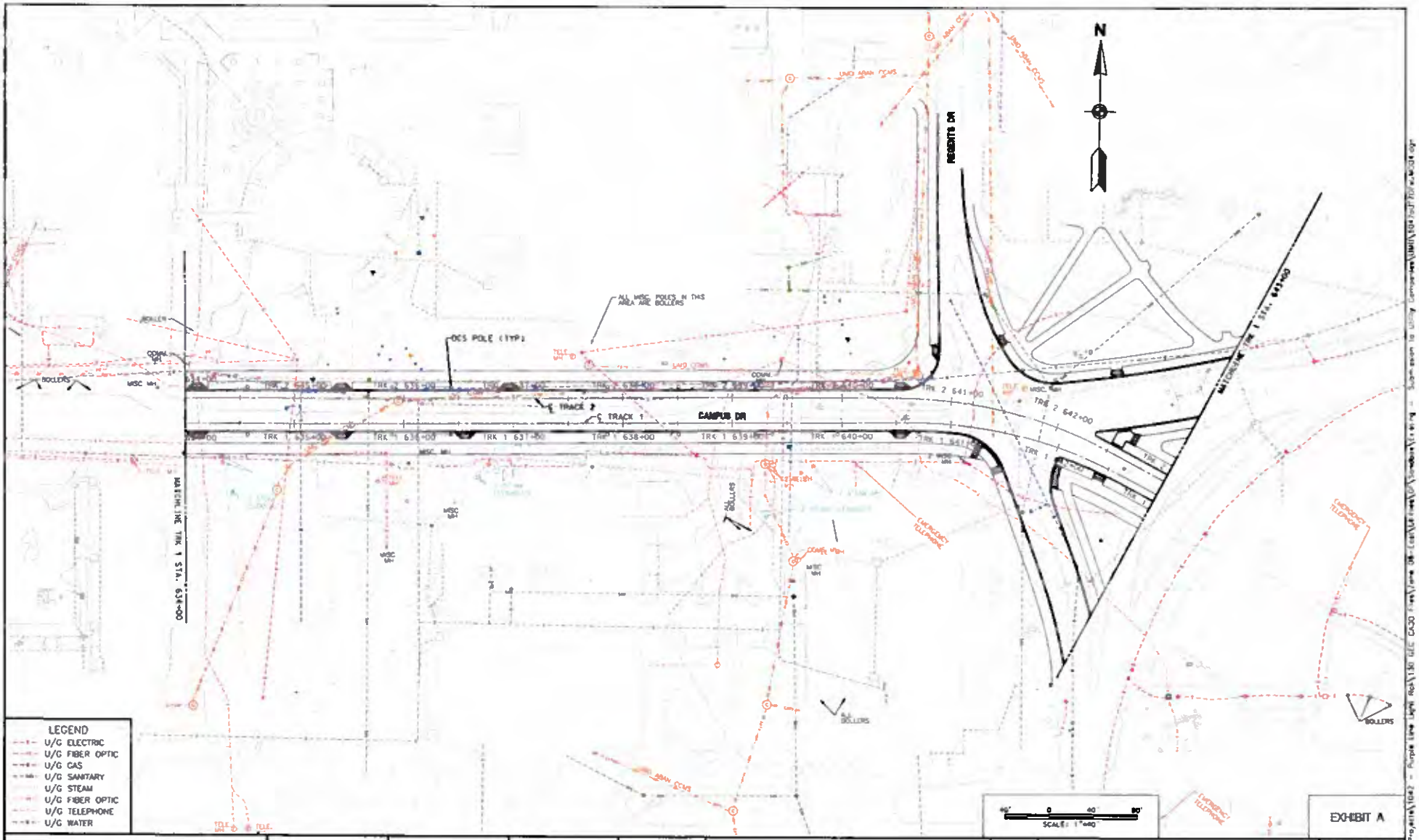
PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL

EXISTING UTILITIES – UMD
STA TRK 1 622+50 TO STA TRK 1 634+00
DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-50
SHEET NO. 50 OF 84



MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION — MTA Maryland

Gannett Fleming — WRA

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PRELIMINARY ENGINEERING

PURPLE LINE LIGHT RAIL

EXISTING UTILITIES - UMD

STA TRK 1 634+00 TO STA TRK 1 643+00

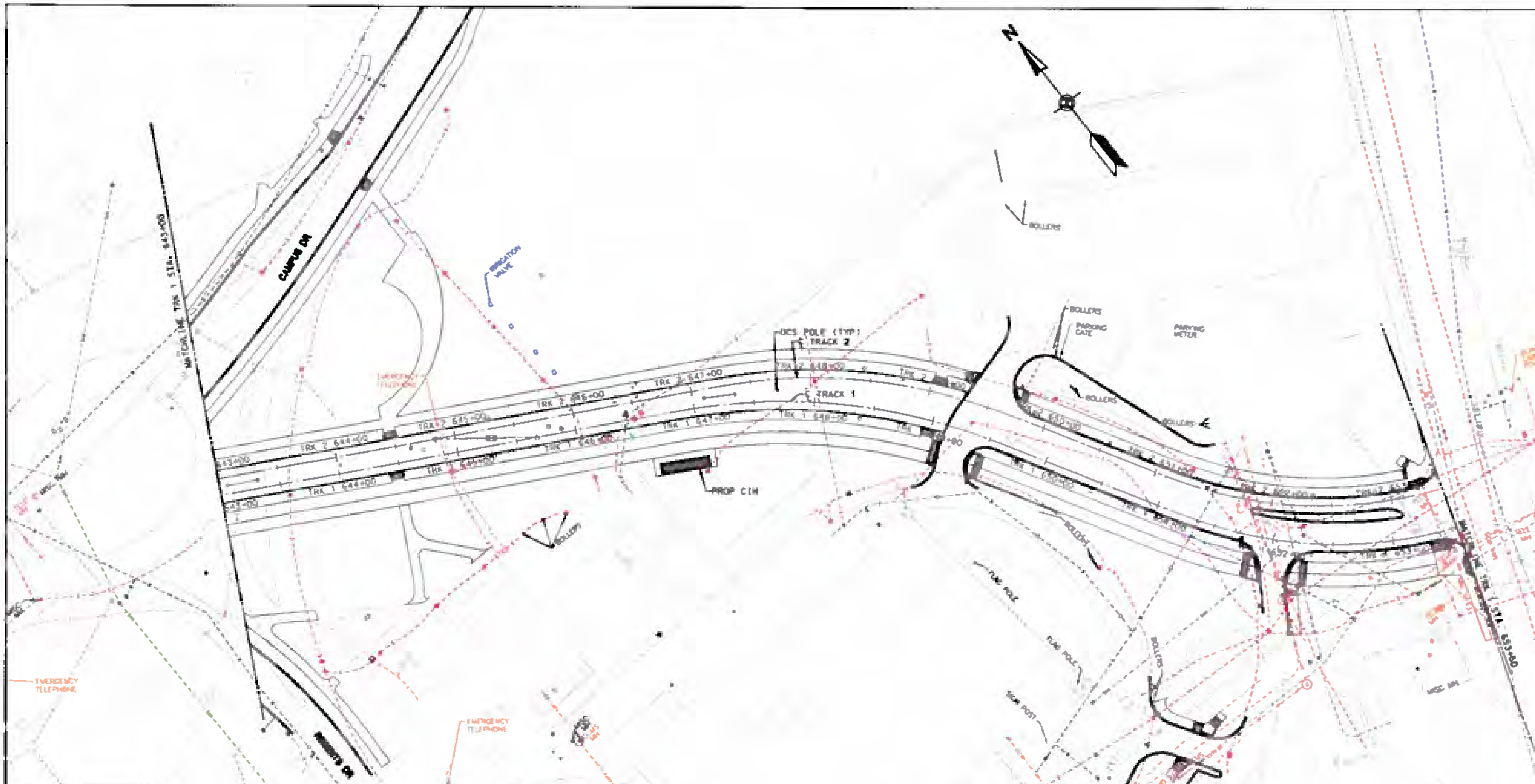
DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T 1042-0220

DRAWING NO. UMD-51

SHEET NO. 51 OF 84

11/25/2014



LEGEND
U/G ELECTRIC
U/G FIBER OPTIC
U/G GAS
U/G SANITARY
U/G STEAM
U/G FIBER OPTIC
U/G TELEPHONE
U/G WATER

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION
MTA Maryland

Gannett Fleming
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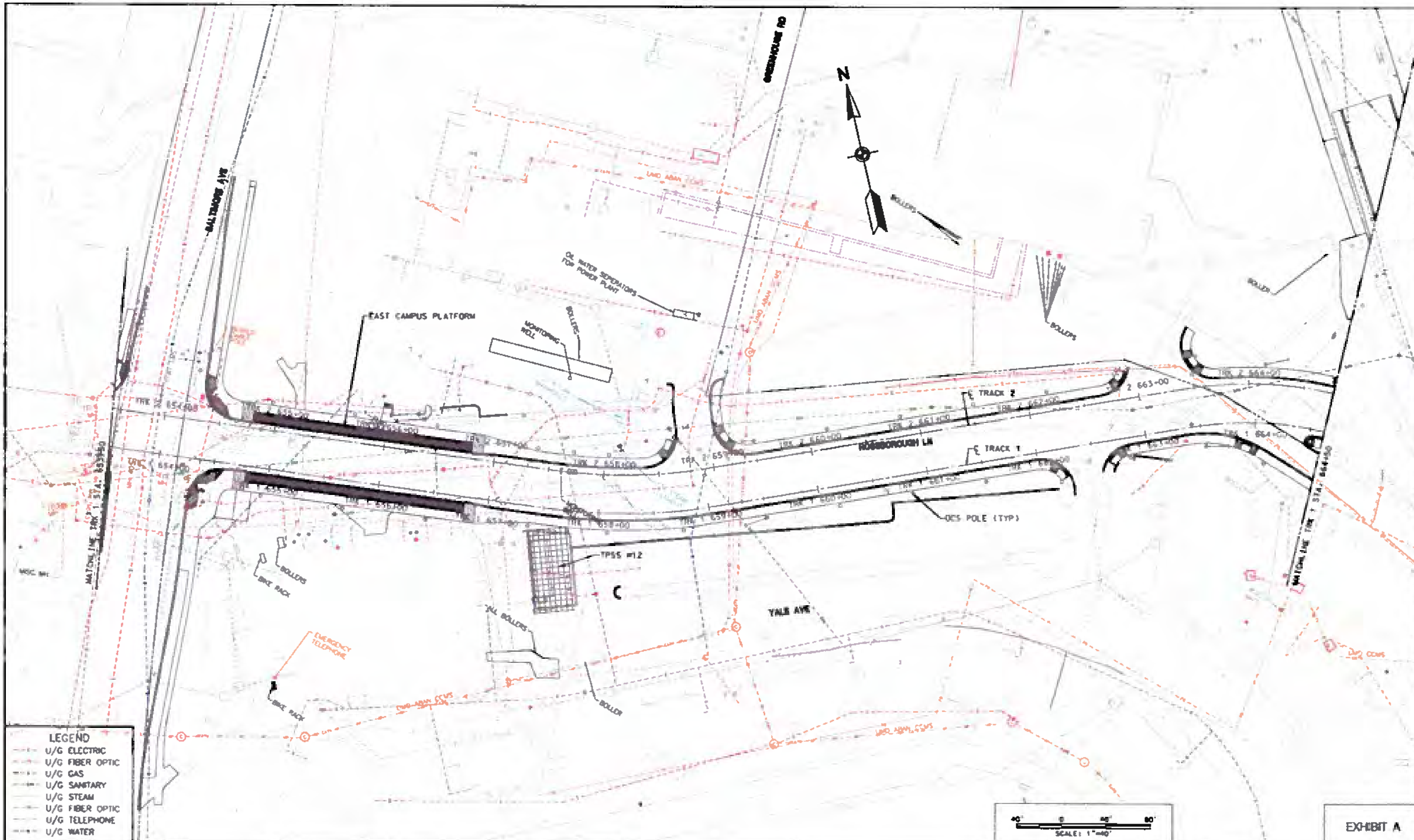
DESIGN
DRAWN
CHECK
APPR

PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL
EXISTING UTILITIES – UMD
STA TRK 1 643+00 TO STA TRK 1 653+50
DATE: JULY 2014
SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-52
SHEET NO. 52 OF 84



MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION — MTA Maryland

Gannett Fleming — WR&A

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PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL

EXISTING UTILITIES - UMD
STA TRK 1 653+50 TO STA TRK 1 664+50
DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T-1042-0220
DRAWING NO. UMD-53
SHEET NO. 53 OF 84

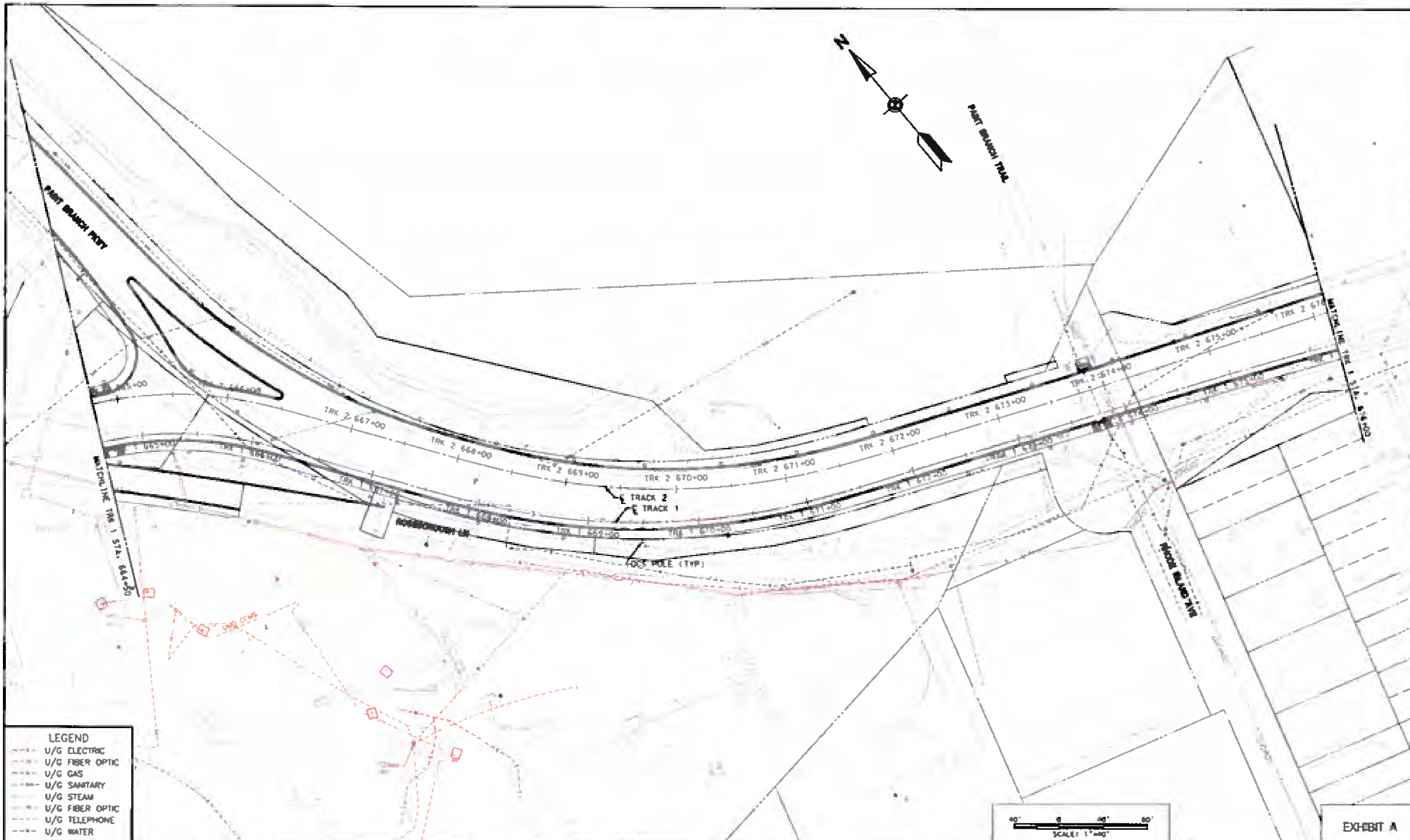

EXHIBIT A

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION

MTA Maryland

Gannett Fleming

WR&A

PROFESSIONAL CERTIFICATION

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License No. Expiration Date

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PRELIMINARY ENGINEERING
PURPLE LINE LIGHT RAIL

EXISTING UTILITIES – UMD
STA TRK 1 664+50 TO STA TRK 1 676+00

DATE: JULY 2014 SCALE: AS SHOWN

CONTRACT NO. T-1042-0220

DRAWING NO. UMD-54

SHEET NO. 54 OF 54

11/25/2014

524 EXHIBIT B

525 EXHIBIT 7A TO P3 AGREEMENT

526

EXHIBIT 7A

REQUIRED INSURANCE

GENERAL INSURANCE COVERAGE COMMENTS

- Except as expressly provided otherwise in this Exhibit 7A (*Required Insurance*), no exclusion shall be included in any Insurance Policy furnished under this Exhibit 7A for losses resulting from a Certified or Non-Certified Terrorism Event, except that no such coverage is required for a Certified or Non-Certified Terrorism Event involving the release of pollutants, radiation, or other regulated substances. If any Insurance Policy includes such an exclusion, Concessionaire must provide a "stand-alone" Terrorism Insurance Policy/ies with no less than $150,000,000 per occurrence and aggregate in limits, including coverage from any Certified or Non-Certified Terrorism Event covering first- or third-party Losses, except that no such coverage is required for a Certified or Non-Certified Terrorism Event involving the release of pollutants, radiation or other regulated substances. A combination of one or more policies specified herein and one or more "stand-alone" Terrorism Insurance Policies meeting all of the foregoing requirements is acceptable to satisfy this obligation. Insurance Policies that do not contain exclusions for a terrorism event shall comply with this paragraph.

- All limits, deductibles and payments under Insurance Policies and other amounts described herein are in United States Dollars ($), and all payments under these policies shall be made in United States Dollars ($).

- All limits (and durations, if limits are denominated in time) for Insurance Policies shall meet the minimum requirements provided in this Exhibit 7A unless Owner approves a reduced limit (or duration, if limits are denominated in time). Owner will consider lower limits based on a maximum probable loss analysis conducted by an independent third-party acceptable to Owner following the Effective Date, subject to Owner's review and approval of such analysis, if such analysis demonstrates to Owner's satisfaction, determined in Owner's sole discretion, that the maximum probable loss is less than the insurance limits otherwise set forth in this Exhibit 7A. If Owner approves, the parties will execute a Change Order to account for the reduced premium based upon such reduced policy limit under Section 14.6.2 of the Agreement.

- Any Insurance Policy or Insurance Policy limits specified in this Exhibit 7A shall not limit the liability of Concessionaire and are minimum insurance limits only. They do not cap or otherwise impact Concessionaire's liability to Owner in any form or manner.

- Under all Insurance Policies, unless explicitly stated otherwise below, Concessionaire shall be solely and fully responsible for all deductibles, self-insured retentions ("SIRs"), co-insurance or similar payments of any nature. However, all Insurance Policies shall provide that any deductible or SIR may be paid by any insured thereunder and shall be deemed to fully satisfy the deductible or SIR for all insureds.

- All Insurance Policies specified in this Exhibit 7A shall insure and cover, and may not preclude, exclude, limit or restrict coverage with respect to, in whole or in part, or contain

a sub-limit of liability with respect to, losses, costs, claims or expenses caused by or associated with any or all of the following: mayhem, civil unrest, civil strife, sabotage, commotion, riots, protests or vandalism.

PART A – INSURANCES FOR D&C WORK

PART A (I): CONCESSIONAIRE INSURANCES FOR D&C WORK

Except as set forth in Section 1.3 of this Part A, the suite of insurances for the D&C Work must have multi-year term (with the exceptions of Worker's Compensation and Commercial Automobile Liability Insurance Policies), with an effective date at or before Financial Close and ending at the O&M Commencement Date, subject to any tail or completed operations coverage required under the Agreement. However, if the foregoing term is not commercially available, the initial term shall be the longest commercially-available term and be effective at or before Financial Close. Thereafter, equivalent coverage shall be maintained continuously and without interruption through renewals or policy replacements until and through the O&M Commencement Date, subject to any "tail" or "completed operations" coverage required under the Agreement. Concessionaire shall provide pro forma or exemplar "specimen" copies of Insurance Policies and all endorsements thereto that conform to all the terms specified herein to Owner with bindable proposals from insurers at least 15 business days prior to the date the insurance is required to be in force and effect. Thereafter, binders, with copies of all actual policy forms and endorsements attached, shall be provided on or within three Business Days after binding and in all cases prior to the date the insurance is required to be in force and effect under the terms of the Contract Documents, and prior to renewal (if the insurance is a renewal). Thereafter, Concessionaire shall provide true and certified signed copies of all Insurance Policies and all endorsements, as placed, to Owner as soon as reasonably possible and, in any case, no later than 60 days after the insurance is required to be in full force and effect.

1. CONTROLLED INSURANCE PROGRAM (CIP)

1.1. Eligibility and Enrollment

(a) Concessionaire shall procure, or cause to be procured, a Controlled Insurance Program (the "CIP"), which shall provide the insurance coverages described in Section 1.2 ("CIP Insurance Coverages") of this Part A(I) to the Enrolled Parties in connection with the Eligible Work. The Insured Parties shall be named insureds under the CIP's Additional Excess Liability, Excess Liability, and Commercial General Liability Insurance Policies.

(b) Participation in the CIP is mandatory for all eligible Contractors that are providing direct labor on the Covered Site including Project-Specific Locations in the vicinity of the Project ROW. Temporary labor services and employee leasing companies are to be treated as eligible contractors. Concessionaire may add additional Contractors to the CIP, with Owner's approval, at no additional cost to Owner. Concessionaire may elect not to include covered Contractors in the CIP but only with Owner's advance written approval.

(c) Concessionaire shall provide evidence of insurance coverage for any Contractors not enrolled in the CIP as specified in Section 1.3 ("Non-enrolled Contractors - Contractor Furnished Insurance") of this Part A(I).

(d) A $1,000,000 per occurrence deductible is the maximum permitted deductible under the CIP and Owner requires and reserves the right to approve, subject to security review, an aggregate deductible cap over the CIP.

(e) Reserved

(f) The Commercial General Liability and Excess Liability Insurance Policies in the CIP shall provide coverage on an occurrence basis resulting from an occurrence during D&C Work, including "Ongoing Operations" or "Completed Operations," as defined by ISO. Any third-party liability (including liability to Owner) arising from a product defect that contributes or causes loss shall be included under the Commercial General Liability and Excess Liability coverages.

(g) For insurance placed during the Design-Build Period, the application of coverage provided by the policy shall be in accordance with the broadest commercially-available interpretation of an "occurrence," as acceptable to Owner and must be stated and confirmed by endorsement for the life of the policy including the 10-year extended reporting period (tail).

(h) Refer to Exhibit 1 to the Agreement for definitions of capitalized terms used but not defined herein. The following terms used in this Exhibit 7A (*Required Insurance*) shall have the meanings set forth below:

Additional Excess Liability has the meaning given to it in Section 1.2(c) of this Part A(I).

Certified Terrorism Event means a terrorist act that is eligible for coverage under the Terrorism Risk Insurance Act (TRIA). Such acts are certified by the Secretary of the Treasury, applying criteria spelled out in TRIA. A certified event is as defined under TRIA, as it may be amended or replaced. Insurers paying claims in response to certified acts of terrorism qualify for federal reimbursement.

CIP has the meaning given to it in Section 1.1(a) of this Part A(I).

CIP Administrator means the third party representative providing CIP services including contractor enrollment, program administration, claims management, and program close-out activities.

CIP Manual means the Controlled Insurance Program Manual Purple Line Project.

Consequential Loss means a loss that arises as a result of direct damage to property—for example, loss of rent. Some types of consequential loss are insurable under standard direct damage or time element coverage forms; others are not.

Covered Site means the Site (excluding Project-Specific Locations that are not in the vicinity of the Project ROW) and any other locations that Concessionaire, with Owner's approval, adds to the CIP. The term "Covered Site" shall not include a location at which LRVs are assembled, if that location is not proximate to or in the vicinity of the Project ROW.

Eligible Work means all D&C Work performed by eligible Contractors (with exceptions for asbestos, lead and other hazardous materials remediation work and work performed by demolition contractors), subject to exclusions specified in the Owner-approved CIP Manual.

Enrolled Parties means (i) Concessionaire, (ii) the Design-Build Contractor, (iii) the O&M Contractor and (iv) any other Contractors of any tier or level that are performing Eligible Work, and, in each case, to the extent such Person is enrolled in the CIP in accordance with the requirements of the CIP Manual. Enrolled Parties are named insureds with full separation of insureds provisions and severability of interests with no cross liability restrictions in the CIP.

Excluded Activities means any activities which are not Eligible Work. All Excluded Activities must be specifically approved by Owner in writing.

Highly-Sensitive Personal Information means an (i) individual's government-issued identification number (including social security number, driver's license number or state-issued identified number); (ii) financial account number, credit card number, debit card number, with or without any required security code, access code, personal identification number or password, that would permit access to an individual's financial account.

LRV Equipment means all parts, spares or related equipment required for operation and maintenance of the LRVs.

Non-Certified Terrorism Event means a terrorist act that does not meet the criteria for a certified act of terrorism and does not trigger the federal reimbursement provisions of the Terrorism Risk Insurance Act (TRIA), as it may be amended or replaced.

Personal Information means information provided to Concessionaire by or at the direction of a customer, or to which access was provided to Concessionaire by or at the direction of a customer, in the course of Concessionaire's performance under the Agreement that: (i) identifies or can be used to identify an individual (including, without limitation, names, signatures, addresses, telephone numbers, e-mail addresses and other unique identifiers); or (ii) can be used to authenticate an individual (including, without limitation, employee identification numbers, government-issued identification numbers, passwords or PINs, financial account numbers, credit report information, biometric or health data, answers to security questions and other personal identifiers), in case of both subclauses (i) and (ii), including, without limitation, all Highly-Sensitive Personal Information.

Security Breach means any privacy violation, informational theft, damage to or destruction of electronic information, intentional and/or unintentional release of private information, alteration of electronic information, extortion and network security, including: (i) any act or omission that compromises either the security, confidentiality or integrity of Personal Information or the physical, technical, administrative or organizational safeguards put in place by Concessionaire or its authorized personnel that relate to the protection of the security, confidentiality or integrity of personal information, or (ii) receipt of a complaint in relation to the privacy practices of Concessionaire or a breach or alleged breach of the Agreement relating to such privacy practices.

1.2. CIP Insurance Coverages

Concessionaire shall procure, or cause to be procured, the following insurance coverage for the benefit of each Enrolled Party pursuant to the CIP:

(a) **Worker's Compensation/Employer's Liability**

(i) Coverage A: Worker's Compensation coverage providing statutory coverage in the State of Maryland and comprehensive All Other States coverage

(ii) Employer's Liability coverage with the following limits:

(A) $1,000,000 Bodily Injury by Accident, Each Accident;

(B) $1,000,000 Bodily Injury by Disease, Policy Limit; and

(C) $1,000,000 Bodily Injury by Disease, Each Employee.

(iii) An individual Worker's Compensation policy in the name of the Enrolled Party shall be issued to each Enrolled Party.

(iv) Federal Employers' Liability Act (FELA) coverage shall be provided, as required.

(v) Notwithstanding anything to the contrary in this Exhibit 7A (*Required Insurance*), the CIP Worker's Compensation policy need not cover the LRV Supplier, the Lead Design Firm or Subcontractors of the LRV Supplier and Lead Design Firm that are not performing Construction Work, so long as compliant worker's compensation insurance coverage for each is otherwise in place and fully in effect for all such Contractors.

(b) **Commercial General Liability**

(i) Commercial General Liability coverage on ISO form CG 00 01 or equivalent on an occurrence basis with defense outside of the limits provided. Concessionaire will maintain Commercial General Liability insurance covering the Insured Parties and all Enrolled Parties as named insureds. Such insurance shall be written on an occurrence basis, against claims for liability arising from bodily injury and property damage. This Commercial General Liability coverage shall list CSX Transportation, Inc. as an additional insured and waive subrogation against CSX Transportation, Inc. Coverage shall at a minimum contain provisions for the following:

- Premises/Operations.
- Limited design exclusions for the lead contractor including means and methods of construction – ISO form CG 2280 shall be attached to the coverage. Should CG 2280 be unavailable, ISO form CG 2279 is acceptable.
- Annual or reinstated renewable aggregates are required for the $4,000,000 general aggregate limit (as described in Section 1.2(b)(ii)) and the first

$25,000,000 of the excess liability limits (as described in Section 1.2(c)) during the period from Financial Close to the O&M Commencement Date (for a total annual renewable aggregate limit of $29,000,000). If there are claims or reserves in excess of the first $25,000,000 of Excess Liability coverage in any annual period, Concessionaire shall purchase additional excess liability limits to preserve the required excess liability limits of $150,000,000 in the following annual period. The reinstatement requirement need not extend to the "Completed Operations" period.

- Products and Completed Operations for a period of no less than ten years following the O&M Commencement Date. This coverage shall be purchased in conjunction with the multi-year Commercial General Liability and Excess Liability Insurance Policies in Sections 1.2(b) and (c) of this Part A, if commercially available. If not commercially available, by purchasing the longest coverage commercially available and then extending such coverage in the future as necessary, such that the coverage in total is in place for no less than ten years following the O&M Commencement Date.

- To the broadest extent commercially available, Contractual Liability in support of those risks specified in the indemnity provisions of the Agreement. The policies may not contain any exclusions for contractual and for indemnification obligations, and Concessionaire shall seek the broadest coverage commercially available for indemnity obligations.

- Personal Injury Liability with employee and contractual exclusions removed.

- Advertising Injury Liability.

- There shall be no exclusions related to rail operations, terrorism, collapse, explosion and underground property damage hazards, or any other aspect of the work or services in the Contract Documents.

(ii) Such Commercial General Liability coverage in accordance with the following limits:

(A) $2,000,000 Each Occurrence Limit;

(B) $4,000,000 General Aggregate* Limit;

(C) $4,000,000 Products/Completed Operations Aggregate; and

(D) $2,000,000 Personal and Advertising Injury Limit.

*Any aggregate noted must be reinstated annually. This requirement need not extend to the "Completed Operations" period.

(iii) Commercial General Liability limits are shared. The Insured Parties and all Enrolled Parties shall be named insureds on the Commercial General Liability

policies described above and will therefore share the limits specified above.

(iv) The CIP shall provide coverage for any call-back or warranty work performed by Enrolled Parties for a period of two years. This coverage extension must be clearly confirmed in the policy to be provided.

(v) Operations of an Enrolled Party off of the Covered Site, including product manufacturing or product assembly, shall be covered only if Concessionaire and Owner both agree to coverage, and only if all such operations are: (1) solely dedicated to the performance of the Work; (2) approved in writing by Owner; and, (3) coverage thereof has been approved by the Insurer. It is the sole responsibility of Concessionaire to secure coverage for specified operations off of the Covered Site.

(c) **Excess Liability**

Concessionaire shall procure, or cause to be procured, the following Excess Liability insurance coverage for the benefit of each Enrolled Party and the Insured Parties pursuant to the CIP:

(i) Excess Liability coverage with limits of not less than:

(A) $150,000,000 per occurrence and in the aggregate; and

(B) $150,000,000 Products/Completed Operations in the aggregate.

(ii) Excess Liability coverage shall be provided with respect to the coverages described in Sections 1.2(a) and 1.2(b) of this Part A(I). The total limit of liability is per occurrence and in the aggregate regardless of the number of insureds under the policy.

(iii) Completed Operations coverage for ten years from the O&M Commencement Date.

(iv) The first $25,000,000 must be annual renewable aggregates, with additional coverage purchased as described above to allow for an unimpaired limit of the remainder of the Excess Liability coverage.

(v) This Excess Liability coverage shall list CSX Transportation, Inc. as an additional insured and waive subrogation against CSX Transportation, Inc.

In addition to procuring the Commercial General Liability and Excess Liability Insurance Policies required by the Contract Documents, Concessionaire shall procure, or cause to be procured additional Excess Liability insurance coverage, from an Eligible Insurer, insuring Owner, naming Owner as the sole insured and otherwise not insuring any other Person ("Additional Excess Liability"). Limits of $350,000,000 per occurrence and in the aggregate and $350,000,000 Products/Completed Operations in the aggregate shall apply to the Additional Excess Liability policy. The Additional Excess Liability policy shall be excess coverage to the CIP insurance coverages and the $150,000,000 CIP Excess Liability coverage. In all other respects, the Additional Excess Liability policy shall comply with the requirements in the Contract Documents

applicable to the Excess Liability insurance referenced in paragraphs (ii) through (iv) of this Section 1.2(c). Permission is granted for quota share limits in the placement of the Additional Excess Liability limits in order to afford Owner the most efficient cost structure for these limits, so long as participants are Eligible Insurers and all shared policy terms otherwise conform to the requirements specified in the immediately preceding sentence. Notwithstanding the foregoing or anything to the contrary herein, Owner reserves the right, in its sole and exclusive discretion, to elect at any time to place such Additional Excess Liability coverage and, in the event Owner elects to do so, Concessionaire shall not place the Additional Excess Liability coverage nor receive any payment or reimbursement of any kind for or in relation to any Additional Excess Liability coverage not already finally and irrevocably placed, and not subject to cancellation, at the time of Owner's election.

1.3. Contractor Furnished Insurance - Non-Enrolled Contractors; Insurance Prior to Financial Close

If Owner authorizes Concessionaire to proceed with elements of the D&C Work during the period after Commercial Close and prior to Financial Close by limited NTP under Section 7.4.3 of the Agreement, then with respect to any such D&C Work authorized during such period and in addition to any insurance required by other property owners as a condition to entry onto their property, the Design-Build Contractor or another Person selected by Concessionaire and acceptable to Owner shall provide worker's compensation, employer's liability and commercial general liability insurance in an amount not less than $25,000,000 each occurrence or in the aggregate in excess of any additional valid and collectible insurance, if any, placed by Contractors performing Construction Work and not enrolled in the CIP. These limits must be project-specific and may be established through coverages afforded through the CIP or through a combination of umbrella or excess policies that may be used to achieve the required policy limit. This requirement is extended only to provide coverage for non-CIP-enrolled Contractors performing Construction Work. The obligation to place worker's compensation insurance under this Section 1.3 excludes an obligation to place, or cause to be placed, worker's compensation insurance for, or covering, the Lead Design Firm, if applicable.

The terms of such coverage must be as broad as the coverage specified in Sections 1.2(a) and 1.2(b) of this Part A(I) and must name the Insured Parties and all Concessionaire parties as an additional insured with coverage at least as broad as ISO forms CG 2010 and CG 2037. If any blanket additional insured endorsement is used it must be ISO form CG 2038.

Notwithstanding the foregoing, if Owner authorizes Concessionaire to proceed with elements of the D&C Work during the period after Commercial Close and prior to Financial Close by limited NTP under Section 7.4.3 of the Agreement, for field activities but excluding Construction Work, , then in addition to any insurance required by other property owners as a condition to entry onto their property, Concessionaire shall maintain, or cause to be maintained, and shall ensure that all Contractors performing Work involving entry onto the Project ROW or other property owned by Owner maintain, whether by separate insurance policies or under existing corporate insurance programs or practice policies (with dedicated limits for the Project):

(a) worker's compensation insurance meeting statutory requirements,

(b) automobile liability insurance with minimum limits of $2,000,000 combined single limit per accident for Bodily Injury and Property Damage,

(c) commercial general liability insurance with limits of $2,000,000 Each Occurrence; $2,000,000 General Aggregate; and $2,000,000 Products/Completed Operations Aggregate, and

(d) excess liability insurance with a minimum occurrence and aggregate limit of $5,000,000.

In addition, if any Design Work will be performed during said period, evidence of professional liability coverage (whether by separate insurance policies or under existing corporate insurance programs or practice policies (with dedicated limits for the Project) with limits of at least $5 million per claim and aggregate shall be provided for the prime Design Contractor. Owner may prescribe additional coverage based upon the scope of work under any limited release/notice to proceed or otherwise. Concessionaire shall provide evidence of insurance and endorsements with respect to such coverages as reasonably requested by Owner. The foregoing limits and policies must otherwise comply substantively with the requirements for the corresponding policies required to be in place at and after Financial Close (including ensuring the Insured Parties' status as named insureds).

The foregoing insurance shall waive subrogation against CSX Transportation, Inc.

2. Additional Concessionaire Procured Insurance for D&C Work

In addition to the CIP, Concessionaire shall procure, or cause to be procured, insurance coverage for the D&C Work as described below:

2.1. Professional Liability Insurance

Concessionaire shall provide or, from and after Financial Close, cause the Lead Design Firm to provide, Project Professional Insurance coverage that covers all architects, engineers and other professionals performing Design Work or other professional services, with a per claim limit of $50,000,000 per claim/$50,000,000 aggregate. When placed, to the extent commercially available, the policy shall have a term, including an extended reporting period, equal to the greater of (a) the Maryland statute of repose applicable to services by design professionals or (b) 10 years following the O&M Commencement Date. If the foregoing term is not commercially available when the Insurance Policy is placed, the initial term shall be the longest commercially available term, in no case less than 10 years. Thereafter, before expiration of the Insurance Policy, Concessionaire shall extend coverage such that a project-specific policy continues in effect, equivalent to the protection provided by the initial policy, or may instead require design professionals performing Design Work or other professional services to include the Project in their practice policies, ensuring that coverage is in effect for all such professionals for no less than the greater of (a) 10 years following the O&M Commencement Date and (b) the Maryland statute of repose applicable to services by design professionals. If practice policies are used to satisfy the extended reporting period described in the previous sentence, the policies covering professional liability for prime design Contractors (that is, Contractors with a direct contract either with Concessionaire or the Design-Build Contractor) must have limits of no less than $10,000,000 per claim/$10,000,000 aggregate, or otherwise as agreed, in writing and in advance, by Owner. With respect to Subcontractors to any prime design Contractor, Concessionaire shall have sole responsibility for determining the limits of coverage required to

be provided, which determination shall be made in accordance with reasonable and prudent business practices.

With respect to each policy provided under this Section 2.1, insurance responsive to these requirements shall have a continuity date (that is, retroactive date) no later than the date of Commercial Close with no exclusion for prior acts applying to any pre-award professional services provided by any insured, retroactive to the first date any such work was performed.

With respect to each policy provided under this Section 2.1, the policy shall not have deductibles/SIRs in excess of $5,000,000 per claim.

This Section 2.1 does not require Concessionaire to obtain Project Professional Insurance coverage insuring the LRV Supplier or manufacturer of the LRVs for professional errors or omissions.

2.2. Contractor Pollution Liability (CPL) Insurance

Contractor Pollution Liability Insurance for claims arising out of pollution conditions released by, transported by, disposed of by, or resulting from or exacerbated by the operations of Concessionaire (including the exacerbation of conditions already present), Design-Build Contractor and Contractors performing Construction Work or Design Work, naming the Insured Parties, Concessionaire, the Design-Build Contractor and the Contractors performing Construction Work or Design Work as named insureds with limits of not less than U.S. $50,000,000 per claim and in the aggregate.

Contractor's Pollution Liability Insurance shall cover pollutants, on or off-site, including during transportation and disposal at non-owned locations, and covering cleanup-costs, natural resource damages, bodily injury and property damage that arise in the course of construction during the Design-Build Period.

The term of the policy (including any renewals thereof) shall be no less than ten years and shall be primary for any claim that arises from the exacerbation of conditions already present.

2.3. Builder's Risk Insurance

(a) Builder's Risk Insurance on an "All-Risk" completed value basis including permanent and temporary works, track and roadbed, overhead infrastructure and the cost of any tunnel, Station, signaling including excavation to repair the Work with a direct damage limit amount not less than the $250,000,000 any one occurrence (no aggregate except as noted below). This is in addition to a $100,000,000 soft cost per occurrence loss limit, unless Owner approves a reduced limit based on a maximum probable loss study as described on page 1 of this Exhibit 7A. Builder's Risk Insurance need not cover risk with respect to Rolling Stock, to the extent that this risk is covered under the insurance prescriptions under Section 2.6 of this Part A.

(b) The general definition of Covered Property must include any element of the Project and/or the Work within 2,500 feet of the Covered Site including property that is in Concessionaire's care, custody and control and used in or in connection with or otherwise incidental to the Work

- Buildings and other structures being constructed.
- All fixtures, materials, supplies, machinery, and equipment that are intended to become part of the Project while on or adjacent to the Covered Site.
- Temporary structures and temporary buildings.
- Cost of excavation, site works, site preparation, grading and filling.
- Underground pipes, flues or drains and other underground work; All permanent, temporary works, preliminary works and demolition works constructed or in the course of construction, including materials, goods, parts, excavations, spare parts, inventory, consumables and all other things, equipment of whatsoever nature used for or intended to be used in the project.
- Any paved surfaces including foundations, pilings and retaining walls.

(c) The Builder's Risk Policy must name the Insured Parties and Concessionaire as named insureds and include all Contractors performing Construction Work as named insureds.

(i) The policy must contain affirmative waivers of subrogation against any insured party and contain a separation of insureds clause.

(ii) There can be no Lender endorsements that would encumber or direct any Insurance proceeds for any other purpose other than reinstatement of the Assets insured and/or to indemnify Concessionaire or Owner for any soft costs or Consequential Loss sustained due to a direct property loss.

(iii) Any policy provided must be in a form acceptable to Owner and provide endorsements and limits that include, at a minimum, the extensions noted below.

(d) Terms of the Builder's Risk must include: in accordance with the terms of the relevant policy, which policy shall include a LEG 3/06 Defects Exclusion. The policy shall provide full limits for mechanical breakdown.

(e) There can be no restriction of limits for any "unintentional errors or omissions" (as such term is commonly used in the insurance industry) and any coverage-dependent warranties must be specifically noted and approved, in advance, by Owner.

(f) The policy must expressly allow for a 6 month term extension at a pre-determined rate that the insured party/ies can exercise if the Project is delayed for any reason and an automatic 6 month extension if there is a single loss under the policy in excess of $25,000,000 or combination of losses that total $50,000,000. Except where specific relief is otherwise afforded under the Agreement (for Relief Events, Force Majeure Events or otherwise), Concessionaire shall bear all price changes caused by a delay.

(g) The following sublimits are the minimum acceptable to Owner:

- $100,000,000 Earthquake per Occurrence and Annual Aggregate Limit with deductibles of not greater than $1,000,000;
- $100,000,000 Flood per Occurrence and Annual Aggregate Limit including excess coverage for any High Hazard zones with deductibles of not greater than $1,000,000;
- Policy shall permit both hot and cold testing;
- $25,000,000 for any material in transit or in temporary storage (off the Covered Site);
- $25,000,000 debris removal on an occurrence basis;
- $25,000,000 expediting expense on an occurrence basis;
- $2,500,000 Inventory, Appraisal & Loss Adjustment Expenses per Occurrence Limit;
- $25,000,000 Ordinance or Law per Occurrence Limit;
- $1,000,000 Pollutant Clean-up/Removal per Occurrence Limit; and
- $2,500,000 Valuable Papers & Records per Occurrence Limit.
- Owner may allow sublimits (whether by monetary value or percentage of construction value) with respect to Work relating to tunneling, in Owner's discretion.

(h) The policy must expressly cover losses and costs associated with operation of Laws with respect to the construction or repair of buildings or replacement of equipment which are in force at the time of loss and necessitate the demolition or removal of any portion of the insured property not damaged by insured perils.

(i) The policy must expressly cover losses and costs associated with professional fees including legal and accounting (including bookkeeping) services to facilitate the expeditious repair or replacement of covered property from a covered loss or to assist the Insured in preparing records or evidence to substantiate the loss claimed.

(j) The policy must expressly cover the broadest, commercially-available definitions of "losses," "costs" "charges" and "fees" (including "soft costs") incurred by the Insured for any Delay in Start Up (DSU) resulting from a covered cause of loss.

(k) Soft costs included under the Builder's Risk Insurance shall be in an amount not less than the yearly soft cost on a per occurrence Limit. The definition of soft costs in the policy must include the following:

- Fees for any additional financing or refinancing, and costs to obtain additional bonds, letters of credit that may be required;
- Design fees including additional fees for architects, engineers, consultants and other technical advisors, and engineers, including construction management fees;

- Permit fees arising out of a covered loss that the insured party incurs to renew or replace permits or other licenses necessary to continue construction;

- Additional commissions, professional fees, general fees and administrative expenses incurred as a result of a necessary negotiation or renegotiation of a loan, lease or leases;

- Additional interest expenses on any loans that are applicable to the Project including construction loans, loan orientation fees or points, or any other money borrowed in the course of construction; and

- All additional insurance premiums including surety bonds in excess of what was incurred or purchased and any premiums, costs, charges or fees incurred by the insured due to a necessary extension to the Casualty Insurance Program resulting from a covered loss before a covered loss.

Alternatively, any of the items listed above as "soft costs" may be covered under the Builder's Risk direct damage limit.

(l) Delay In Startup (DSU) under the Builder's Risk Insurance Soft Costs extension, with a minimum, separate limit of no less than 12 months, in an amount to be included in the Soft Costs Loss Limit on a per occurrence limit for the benefit of Concessionaire.

(m) The policy may not exclude or restrict coverage with respect to terrorism. Concessionaire may, however, place a separate terrorism risk Insurance Policy with Owner's prior, written consent, given in its sole discretion; if approved, Concessionaire's Builder's Risk Insurance Policy may exclude or restrict terrorism risk, so long as such terrorism risk Insurance Policy is placed and in effect.

2.4. Flood Insurance

If applicable, to comply with Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area (A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AO, AR/AH, AR/A, VO, V1-30, VE, V, Shaded X) to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more. Flood coverage meeting these specifications may be provided under the Builder's Risk policy.

2.5. Railroad Protective Liability Insurance

Concessionaire shall procure, or cause to be procured, and maintain policies of Railroad Protective Liability coverage, which shall be for the sole benefit of CSX Transportation, Inc.. The Railroad Protective Liability coverage shall be (i) primary to the Commercial General Liability (and Excess Liability) policies placed in accordance with Sections 1.2(b) and (c) of this Part A and (ii) in an amount of not less than $5,000,000 per occurrence combined single limit and $10,000,000 annual aggregate. The Railroad Protective Liability coverage shall insure losses arising out of injury to or death of persons and physical loss of, damage to or destruction of property, including loss of use thereof. Coverage shall be provided in accordance with standard Railroad Protective policies (CG 0035). All insurers shall be authorized to do business

in the State. Railroad Protective Liability coverage satisfying all of the requirements of this Section 2.5 (including those set forth below) need not satisfy any other requirements for insurance under the Contract Documents.

The Railroad Protective Liability insurance shall satisfy each and all of the following requirements:

(a) The Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.

(b) CSX Transportation, Inc. must be the named insured on the Railroad Protective Liability Insurance Policy. The named insured should be listed as:

CSX Transportation, Inc. ("CSXT")
500 Water Street, C-907
Jacksonville, FL 32202

(c) The name and address of Concessionaire and of Owner must be shown on the Declarations page.

(d) A description of operations and location must appear on the Declarations page.

(e) Notwithstanding anything herein to the contrary, Terrorism Risk Insurance Act (TRIA) coverage must be included in the Railroad Protective Liability coverage.

(f) Authorized endorsements must include:

(1) Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.

(g) Authorized endorsements may include:

(1) Broad Form Nuclear Exclusion - IL 00 21

(2) Notice of Non-renewal or cancellation

(3) Required State Cancellation Endorsement

(4) Quick Reference or Index - CL/IL 240

(h) Endorsements may not include any of the following:

(1) A Pollution Exclusion Endorsement except CG 28 31

(2) An endorsement that excludes TRIA coverage

(3) An endorsement that limits or excludes Professional Liability coverage

(4) A Non-Cumulation of Liability or Pyramiding of Limits Endorsement

(5) A Known Injury Endorsement

(6) A Sole Agent Endorsement

(7) A Punitive or Exemplary Damages Exclusion

(8) "Common Policy Conditions" Endorsement

(9) Policies that contain any type of deductible

(i) All insurance companies providing this insurance must be A. M. Best rated A- and Class VII or better.

(j) Concessionaire shall submit the complete Railroad Protective Liability policy, certificates of insurance and all notices and correspondence regarding the insurance policies in an electronic format to Owner, under the notice provisions of the Agreement, and to CSX Transportation, Inc. at: insurancedocuments@csx.com.

Concessionaire may not begin work on or about CSX Transportation, Inc. property until written approval of the required insurance has been received from CSX Transportation, Inc. or its insurance compliance vendor, Ebix.

2.6. Marine Cargo/Insurance for LRVs and LRV Equipment

Concessionaire shall procure or cause to be procured full replacement cost coverage for the LRVs and LRV Equipment, from the time the risk of loss for that LRV or item of LRV Equipment attaches or passes, whether in whole or in part, to Owner, Concessionaire or any other Insured Party (regardless of whether this occurs prior to delivery to any Covered Site or at Project-Specific Locations) until the O&M Commencement Date. Coverage shall be continuous and uninterrupted for each LRV or item of LRV Equipment from the time the risk of loss attaches or passes, whether in whole or in part, to Owner, Concessionaire or any other Insured Party (regardless of whether this occurs prior to delivery to any Covered Site or at Project-Specific Locations) until the O&M Commencement Date.

Such coverage shall be under an acceptable property or marine policy that provides all-risk insurance including coverage for systems performance demonstration, testing, run-up or other similar operations at the Covered Site, in transit or at locations other than the Covered Site including Project-Specific Locations. There shall be no geographical limitation of scope other than provided under OFAC regulations of the United States.

Such coverage shall afford all extensions of coverage that are commercially available, including Flood, Earthquake, Law and Ordinance and other coverage extensions specified under this Section 2.6. Concessionaire's insurance shall allow for a minimum of 12 months of Delay in Start Up coverage due to a covered cause of loss interrupting the delivery of any LRVs or LRV Equipment from the time the risk of loss attaches or passes, whether in whole or in part, to Owner, Concessionaire or any other Insured Party.

All Insurance Policies specified under this Part A shall insure as named insureds (and not additional insureds): the Insured Parties, Concessionaire, the Design-Build Contractor and

Subcontractors under the Design-Build Contract, the LRV Supplier and its Subcontractors, any other Enrolled Parties, the Lenders and, subject to Owner's prior written approval, others nominated by Concessionaire. The policy shall contain waiver of subrogation and separation of insureds clause in the event of a breach in policy terms by an insured. No acts or omissions of an insured shall cancel or diminish coverage of any other insureds.

(a) Such policy shall provide the following minimum limits:

- Any Storage Endorsement shall include coverage on a "All-Risk" value basis for all LRVs and LRV Equipment in an amount not less than the $100,000,000 any one occurrence (no aggregate except as noted below); such limit may be met with a combination of primary and excess limits;
- $25,000,000 sublimit for any property in transit, expediting expenses; and
- $50,000,000 sublimit for flood and earthquake (aggregate permitted).

(b) Developer may place insurance under both Section 2.3 and this Section 2.6 for coverages relating to testing and off-site locations, with Owner's prior, written approval.

2.7. Commercial Automobile Liability Insurance

Commercial Automobile Liability Insurance for bodily injury (including death) and property damage with limits of liability of not less than (i) $20,000,000 combined (Primary Auto and Umbrella) single limit per occurrence applicable for all owned, non-owned and hired vehicles and (ii) $10,000,000 per occurrence of Transport of Hazardous Materials including Hazardous Waste coverage applicable for all owned, non-owned and hired vehicles engaged in activities that may customarily be covered by such a policy. This coverage requirement shall apply to Concessionaire and the Design-Build Contractor. The $20,000,000 of Automobile Liability can be met with a combination of Primary and Excess policies. This coverage shall list CSX Transportation, Inc. as an additional insured and waive subrogation against CSX Transportation, Inc.

3. General Requirements

(a) All insurances secured per this Exhibit 7A (*Required Insurance*) shall be primary and non-contributing with any other insurance, as required. The insurance limits may be provided through a combination of primary and excess policies. Other than the CIP requirement, and subject to review and written approval by Owner, the remainder of the insurance required herein may be provided in any combination of policies that provides the requested coverage, limits and otherwise satisfies the specified requirements.

(b) Any excess policies must contain specific "broad as primary" or "follow-form" wording or specifically reference the terms, conditions and exclusions of the primary policy. Alternatively, if it is not possible to comply with the foregoing requirements, Concessionaire shall provide information to Owner allowing it to verify that the forms in the excess policies are not materially different from the forms in the corresponding primary policy. Any policy where multiple insurers share in the limits afforded must do so in a subscription policy format; multiple Insurance Policies covering a part of the

same limit (commonly referred to as quota share) is not permitted.

(c) All Insurance Policies in Sections 1 and 2 (except Sections 2.4, 2.6 and 2.7) are to be written on a Project-specific basis. All Insurance Policies in Sections 1 and 2 (except Section 1.2(a), 2.4, 2.6, 2.7 and those insurances procured prior to Financial Close under Section 1.3 of this Part A) shall be written with non-cancellable endorsements, as described in Section 11.1.2.8 of the Agreement.

(d) All insurances must be taken out with Eligible Insurers, Surplus Lines Insurers or with Insurers approved in writing by Owner.

(e) All policies covering more than one insured (except Worker's Compensation/Employer's Liability and Professional Liability) must contain a separation of insureds clause, unless all of the insureds are directly affiliated with each other through common ownership and management.

(f) All policies must contain affirmative waivers of subrogation, where applicable, against any Insured Party and, except as otherwise provided in Section 11.1.2.7 of the Agreement and in clause (e) just above, if there is more than one insured under the Insurance Policy in question, must contain a separation of insureds clause; no named insured can void or impair coverage for any other named insured.

(g) All policies must provide that coverage will not be delayed or denied for allegedly late notice or reporting unless the insurance company proves that it is actually and materially prejudiced by the late notice, and in such case coverage may only be delayed or denied to the extent of such actual and material prejudice.

(h) All Insurance Policies shall acknowledge Owner's, and certain Governmental Entities', rights with respect to its defense counsel under Section 11.1.2.8(d) of the Agreement,

(i) All Insurance Policies shall be governed or authorized by Maryland law and any coverage or other disputes shall be subject to exclusive jurisdiction in the federal or state courts of the State of Maryland.

(j) As a contract matter between Owner and Concessionaire (and not as a requirement within Insurance Policies), no changes to any policy shall be permitted without the approval of Owner, which it may grant, deny or condition in its discretion. Notices of enrollment of insureds are not considered "changes to any policy" for purposes of this paragraph.

(k) Insurers shall provide all information reasonably requested by Owner, including at a minimum annual loss runs and loss reports.

(l) All insurance prescribed under this Exhibit 7A (*Required Insurance*) shall be endorsed to affirm that (i) it is primary and no insurance or self-insurance of Owner, its officers, representatives, agents or employees will be called upon to contribute to a loss and (ii) project-specific coverage is primary to any other coverage available to any insured in the Project's insurance program.

PART B – INSURANCES FOR O&M WORK

1. Required Insurances

Throughout the O&M Period, Concessionaire shall procure and maintain, and/or shall ensure that all Contractors performing O&M Work procure and maintain, the insurances specified in this Section 1. This obligation includes placements required for any Construction Work conducted after commencement of the O&M Period.

Concessionaire shall provide copies of specimen Insurance Policies and all endorsements thereto that conform to all the terms specified herein to Owner at least 25 business days prior to the date the insurance is required to be in force and effect for review by Owner. Thereafter, binders, with copies of all Insurance Policy forms and endorsements attached, shall be provided on or within 10 calendar days prior to binding and in all cases prior to the date the insurance is required to be in force and effect and prior to renewal (if the insurance is a renewal). Thereafter, Concessionaire shall provide true and certified signed copies of all Insurance Policies and all endorsements, as placed, to Owner as soon as reasonably possible and, in any case, no later than 60 days after the insurance is required to be in full force and effect.

Concessionaire shall be a named insured on all Insurance Policies procured in accordance with this Section 1 (with the exceptions of Worker's Compensation, Commercial Automobile Liability, Professional Liability and Railroad Protective Liability Insurance Policies), without any insured versus insured or cross-liability exclusion, and the Insured Parties shall be named as an additional insureds for any ongoing or completed operations under such policies. Concessionaire shall be added as an additional insured on the Commercial Automobile Liability Policy.

All Insurance Policies procured in accordance with this Part B shall include a waiver of subrogation in favor of Owner and Concessionaire, including each of their directors, officers, representatives and agents.

1.1. General Liability Insurance

(a) General Liability Insurance to cover operations under the Agreement with limits not less than $150,000,000 (or such other limit as may be established by applicable Law. Any deductible or self-insured retention may not exceed $5,000,000 per claim/incident and $20,000,000 in the aggregate.

(b) Policy form or endorsements shall include coverages for (i) Pollution Liability (unless provided in the stand-alone policy at the policy limits required under this Section 1.1 pursuant to the policy placement obligation under Section 1.6 below); (ii) Incidental Medical Malpractice Liability; (iii) Terrorism coverage for a Certified or a Non-Certified Terrorism Event covering Losses resulting from third-party claims, except that no such coverage is required for a Certified or Non-Certified Terrorism Event involving the release of pollutants, radiation or other regulated substances. A combination of one or more policies specified herein and one or more "stand-alone" Terrorism Insurance Policies is acceptable to satisfy this obligation.

1.2. Worker's Compensation and Employer's Liability Insurance

Statutory Worker's Compensation and Employer's Liability Insurance with limits of not less than $150,000,000 combinable with Primary and Excess insurance per incident for all employees engaged in services or operations under the Agreement. The policy shall include Broad Form All States/Other States coverage. FELA coverage shall be provided as applicable and coordinated with requirements in the General Liability Insurance coverage above.

1.3. Commercial Automobile Liability Insurance

Commercial Automobile Liability Insurance for bodily injury (including death) and property damage with limits of liability of not less than $20,000,000 combinable with Primary and Excess insurance combined single limit per occurrence applicable for all owned, non-owned and hired vehicles.

1.4. Property Insurance

All Risk Property Insurance (or Marine/Cargo on an all risk basis) for all Project assets including Stations, track and roadbed, LRVs, LRV Equipment, overhead rail infrastructure, signaling and related property of Owner or Concessionaire that is part of the Project. The coverage shall insure the full replacement costs of the Project elements and have a minimum loss limit of $250,000,000 for any one occurrence (no aggregates except as noted below) unless Owner approves a reduced limit based on a maximum probable loss study as described on page 1 of this Exhibit 7A. If Owner approves, the parties will execute a Change Order to account for the reduced premium based upon such reduced policy limit as a reduction in the costs of the Work under Section 14.6.2 of the Agreement. The coverage shall afford all extensions of coverage including Flood, Earthquake, Law and Ordinance, etc.

Concessionaire's insurance shall allow for at least 12 months of Business Interruption and extra expense with a minimum loss limit of $120,000,000 for any one occurrence, unless Owner approves by Change Order a reduced limit or shorter period based on a maximum probable loss study as described on page 1 of this Exhibit 7A. If Owner approves, the parties will execute a Change Order to account for the reduced premium based upon such reduced policy limit under Section 14.6.2 of the Agreement. This policy shall be subject to a deductible not to exceed $1,000,000 applicable to each and every occurrence for which coverage applies unless otherwise approved by Owner. The intent of the parties with respect to the Business Interruption coverage is, to the extent any claim is made due to a Relief Event, Concessionaire looks first to the Business Interruption Insurance Policy and then to Owner for relief, if any, under the terms of the Agreement.

(a) The general definition of "Covered Property" under the policy must include any property of the insured within 2,500 feet of the Covered Site including property that is in Concessionaire's care, custody and control and used in or in connection with or otherwise incidental to the Work

(b) Flood and Earthquake minimum sublimit acceptable $100,000,000 per claim and in the aggregate applying separately.

(c) The policy shall not have any other sublimits of insurance less than those specified for

the Builder's Risk Insurance Policy in Part A, Section 2.3 above, without notification to and approval of Owner. Owner may allow sublimits with respect to any tunnel, in Owner's discretion.

(d) The All Risk Property Insurance Policy (or Marine/Cargo on an all risk basis) must name the Insured Parties and Concessionaire as named insureds.

(i) The policy must contain affirmative waivers of subrogation against any Owner and contain a separation of insureds clause. No acts or omissions of an insured shall cancel or diminish coverage of any other insureds.

(ii) There can be no Lender endorsements that would encumber or direct any insurance proceeds for any other purpose other than reinstatement of the assets insured and/or to indemnify Concessionaire or Owner for any Business Income/Extra Expense or Consequential Loss sustained due to a direct property loss. This clause does not prohibit standard Lenders Loss Payable Endorsements that reflect Lender's interest in the covered property and do not restrict any rights to reinstate the covered property or divert or encumber insurance proceeds in violation of the preceding sentence.

(iii) Any policy provided must be in a form acceptable to Owner and provide endorsements and limits that are approved by Owner.

1.5. Professional Liability Insurance

Any design professionals performing Design Work during the O&M Period must provide professional liability insurance coverage with limits of $10,000,000 or otherwise as agreed by Owner.

1.6. Operators Pollution Liability Insurance

Concessionaire shall procure or cause to be procured Operators Pollution Liability Insurance for claims arising out of the operations of Concessionaire and any related parties during the O&M Period naming the Insured Parties as named insureds, subject to policy provisions and with limits of not less than $50,000,000 per claim and in the aggregate.

Such coverage shall apply to any unknown or new pollutants, on or off-site, including during transportation and disposal, and covering cleanup-costs, natural resource damages, bodily injury and property damage) during the O&M Period with deductible limited to $500,000 per claim maximum. Such coverage shall not include pre-existing conditions, unless exacerbated by any Concessionaire-Related Entity.

1.7. Crime Insurance

Concessionaire shall procure or cause to be procured crime insurance with an annual limit of a minimum of $5,000,000. The management of the fare collection, including the handling of ticket media, cash and credit, shall include but not be limited to: employee dishonesty coverage; forgery or alteration coverage; computer fraud coverage; funds transfer fraud coverage; money and securities coverage; and money orders and counterfeit money coverage.

Such cover shall contain endorsements applying to any loss to third parties and include each director, officer, employee or agent of Concessionaire, the O&M Contractor-and each other Contractor involved with fare collection. The maximum permissible deductible shall be $25,000.

1.8. Cyber Insurance

Concessionaire shall procure or cause to be procured insurance with a minimum annual limit of $25,000,000 for any Security Breach, including privacy violations, information theft, damage to or destruction of electronic information, intentional and/or unintentional release of private information, alteration of electronic information, extortion and network security, including any act or omission that compromises either the security, confidentiality or integrity of personal information in Concessionaire's care, custody or control, or for which Concessionaire is responsible under this Agreement, or the physical, technical, administrative or organizational safeguards put in place by Concessionaire or its authorized personnel that relate to the protection of the security, confidentiality or integrity of Personal Information.

Such coverage shall apply for each director, officer, employee or agent of Concessionaire, the O&M Contractor and each other Contractor involved with fare collection as required under the Agreement. The maximum permissible deductible shall be $1,000,000.

1.9. Railroad Protective Liability Insurance

Concessionaire shall procure, or cause to be procured, and maintain policies of Railroad Protective Liability coverage, which shall be for the sole benefit of CSX Transportation, Inc. The Railroad Protective Liability coverage shall be (i) primary to the Commercial General Liability policy placed in accordance with Section 1.1 of this Part B and (ii) in an amount of not less than $5,000,000 per occurrence combined single limit and $10,000,000 annual aggregate. The Railroad Protective Liability coverage shall insure losses arising out of injury to or death of persons and from physical loss of, damage to or destruction of property, including loss of use thereof. Coverage shall be provided in accordance with standard Railroad Protective policies (CG 0035). In addition to the foregoing, this Railroad Protective Liability coverage shall meet and satisfy each and all of the other requirements contained in Part A, Section 2.5, which are incorporated by reference into this Section 1.9, as though set forth in full herein. All insurers issuing this coverage shall be authorized to do business in the State. Railroad Protective Liability coverage satisfying all of the requirements of this Section 1.9 and of Section 2.5 of Part A hereof need not satisfy any other requirements for insurance in the Contract Documents.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX K-2

INTERCONNECTION AND PARALLEL OPERATION AGREEMENT

PORTIONS THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352 BECAUSE IT CONTAINS DRAWINGS AND OTHER INFORMATION REGARDING THE LOCATION AND OPERATION OF CRITICAL ENERGY INFRASTRUCTURE.

FIRST AMENDMENT TO INTERCONNECTION AGREEMENT

This FIRST AMENDMENT TO THE INTERCONNECTION AND PARALLEL OPERATION AGREEMENT ("First Amendment"), dated as of May 19, 2009, is by and between Potomac Electric Power Company, a District of Columbia corporation ("Pepco"), and Maryland Economic Development Corporation ("MEDCO"). Pepco and MEDCO may each be referred to herein individually as a "Party," and together as the "Parties."

WITNESSETH

WHEREAS, Pepco and MEDCO entered into an interconnection agreement dated July 30, 2003 ("Interconnection Agreement"), attached hereto as Attachment A, with regard to the physical interconnection of MEDCO's generating facilities to the electrical system owned and operated by Pepco ("Pepco System"); and

WHEREAS, MEDCO does hereby desire to incorporate nine generating units to interconnect with the Pepco System at MEDCO's Mowatt Substation, thereby increasing maximum net output winter capacity to 33.7 MW; and

WHEREAS, MEDCO and Pepco agree to amend the Interconnection Agreement to accommodate the physical interconnection of the additional generating units; and

WHEREAS, Pepco and MEDCO wish to amend the Interconnection Agreement by execution of this First Amendment, as further described below.

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants, representations, warranties and agreements set forth herein, and intending to be legally bound hereby, the Parties hereby agree as follows:

1. FIRST AMENDMENT. This First Amendment hereby strikes Exhibits A, B, C, D, E and F of the Interconnection Agreement in their entirety and replaces them with the revised Exhibits A, B, C, D, E and F, as collectively appended to this First Amendment hereto as Attachment B.

2. Except as expressly provided for in this First Amendment, the Interconnection Agreement will remain unchanged and in full force and effect. The term "Agreement," as used in the Interconnection Agreement and all other instruments and agreements executed thereunder, shall for all purposes refer to the Interconnection Agreement as amended by this First Amendment.

3. Each Party represents to the other that it has the legal authority to enter into this First Amendment. This First Amendment may be executed in any number of counterparts, each of which shall be deemed to be an original, and such counterparts together shall constitute one instrument.

IN WITNESS WHEREOF, Potomac Electric Power Company and Maryland Economic Development Corporation have caused this First Amendment to be duly executed and delivered by their respective duly authorized officers as of the date first above written.

POTOMAC ELECTRIC POWER COMPANY

By: _____

Name: Tsion M. Messick

Title: Vice President, Transmission

MARYLAND ECONOMIC DEVELOPMENT CORPORATION

By: _____

Name: Bland Brennan

Title: Executive Director

ATTACHMENT A

EXECUTED INTERCONNECTION AGREEMENT

STANDARD AGREEMENT FOR INTERCONNECTION
AND
PARALLEL OPERATION OF GENERATION FACILITIES
BETWEEN
POTOMAC ELECTRIC POWER COMPANY
AND
MARYLAND ECONOMIC DEVELOPMENT CORPORATION

STANDARD AGREEMENT FOR INTERCONNECTION AND PARALLEL OPERATION OF GENERATION FACILITIES

This Interconnection and Parallel Operation Agreement ("Agreement") is made and entered into by Potomac Electric Power Company ("Pepco" or "Company") and Maryland Economic Development Corporation ("MEDCO" or "Interconnection Customer"). Pepco and Interconnection Customer may hereinafter be referred to individually as "Party" or both referred to collectively as the "Parties."

W I T N E S S E T H:

WHEREAS, Interconnection Customer proposes to own a generating facility which will operate in parallel with, and be interconnected to the Pepco Electric System;

NOW, THEREFORE, in consideration of the premises and mutual covenants set forth herein, and other good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, the Parties covenant and agree as follows:

SECTION 1
DEFINITIONS

1.1 **Definitions.** Unless otherwise defined herein, capitalized terms used in this Agreement have the meanings set out in Appendix 1.

SECTION 2
SCOPE AND LIMITATIONS OF AGREEMENT

2.1 **Establishment of Point of Interconnection.** Pepco and Interconnection Customer agree to interconnect the Facility, at the location described in Exhibits B and C to this Agreement, in accordance with this Agreement.

2.2 **Scope and Limitations of Agreement.** This Agreement governs the facilities required to interconnect the Facility to Pepco's Electric System and contains the terms and conditions under which Interconnection Customer may interconnect its Facility, as described in Exhibits B and C to this Agreement, to, and operate in parallel with, Pepco's Electric System. This Agreement does not authorize Interconnection Customer to export power or constitute an agreement by Pepco to purchase or wheel Interconnection Customer's power. Other services that the Interconnection Customer may require from Pepco will be covered under separate agreements and nothing in this Agreement is intended to affect any other agreement between Pepco and Interconnection Customer. Where applicable, Interconnection Customer will be

responsible for separately making all necessary arrangements (including scheduling) for transmission or distribution system delivery service with PJM or Pepco (as applicable) and for stand-by service.

2.3 **Responsibilities of the Parties.**

2.3.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.

2.3.2 Interconnection Customer shall construct, operate and maintain the Facility in accordance with the applicable manufacturer's recommended maintenance schedule, in compliance with all aspects of the rules and procedures of PJM applicable to generation within the PJM Control Area, Pepco's electric distribution tariff, and in accordance with this Agreement.

2.3.3 Pepco shall conduct operations on Pepco's Electric System in compliance with all aspects of the applicable rules and procedures of PJM and Pepco's electric distribution tariff and in accordance with this Agreement.

2.3.4 Interconnection Customer agrees to cause its facilities or systems to be designed and constructed in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory and Operating Requirements in effect at the time of the design and construction and other applicable national and state codes and standards. Interconnection Customer covenants and agrees to design, install, maintain, and operate, or cause the design, installation, maintenance, and operation of its Facility so as to reasonably minimize the likelihood of a disturbance, originating on the system or equipment, affecting or impairing the system or equipment of Pepco, or other Affected Systems.

2.3.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for, the facility or facilities which it now or hereafter may own unless otherwise specified in Exhibits A and C to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Interconnection. Pepco and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Facility, Pepco's Electric System and personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of the Interconnection Facilities shall be delineated in Exhibits A and C to this Agreement.

2.3.6 Interconnection Customer shall be responsible for Pepco's reasonable and necessary costs for the purchase, installation, operation, maintenance, testing, repair and replacement of metering and data acquisition equipment specified in

Exhibit C. Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable Operating Requirements.

2.4 **Parallel Operations Obligations.** Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Facility set forth in Operating Requirements. Interconnection Customer shall not commence operation in parallel with Pepco's Electric System until it has met the Operating Requirements for parallel operation set forth in Exhibit D and the requirements of Section 3.2 of this Agreement.

SECTION 3
CONSTRUCTION, AUTHORIZATION TO OPERATE IN PARALLEL AND RIGHT OF ACCESS

3.1 **Review of Specifications.** Interconnection Customer shall submit specifications and one-line diagrams for the Facility and related equipment to Pepco for review at least sixty calendar days prior to interconnection of such Facility and related equipment to the Pepco Electric System in order that Pepco may determine that such interconnection meets the reliability and safety requirements of Pepco. The Interconnection Customer shall provide Pepco with Facility design drawings and data including equipment technical data and characteristics, metering diagrams, metering cubicle design drawings, one-line diagrams, three line elementary control diagrams, DC control diagrams, operating sequence descriptions, protective relaying diagrams, relay settings, site plans and electric room layouts, switchgear manufacturer drawings and any other drawings or data requested by Pepco. Pepco's review will be conducted in a timely manner recognizing the Interconnection Customer's Facility schedule for interconnecting with the Pepco Electric System. Pepco's review of and acceptance of Interconnection Customer's specifications and one-line diagram shall not be construed as either confirming or endorsing the design, nor as any warranty as to the fitness, safety, durability or reliability of Interconnection Customer's Facilities and related equipment. Interconnection Customer shall be responsible, at its own cost, for making changes to its Facilities and related equipment as may be reasonably required to meet the reliability and safety requirements of Pepco.

3.2 **Pre-Parallel Operational Testing and Inspection.**

3.2.1 Interconnection Customer is required by the Operating Requirements to perform pre-parallel operational testing and inspection, including brief parallel operation of the Facility for testing and inspection purposes, prior to the commencement of Interconnection Service. No fewer than seven calendar days (or as may be mutually agreed to by the Parties) prior to each such event of testing and inspection, Interconnection Customer shall provide notice to Pepco of such testing and inspection. Testing shall occur on a business day. Pepco may send a qualified and necessary person(s) to the Facility site to inspect the interconnection and observe the Facility's functional testing. Interconnection Customer shall notify Pepco in writing and

provide a written test report when such pre-parallel operational testing and inspection is completed. Interconnection Customer shall be responsible for all of Pepco's costs for inspection of initial operational testing.

3.2.2 Upon completion of such pre-parallel operational testing and inspection and receipt of the written report, Pepco shall provide to Interconnection Customer written acknowledgement that it has received Interconnection Customer's written report; provided, however, any such written acknowledgement shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by Pepco of the safety, durability, suitability, or reliability of the Facility or any associated control, protective, and safety devices owned or controlled by Interconnection Customer or the quality of power produced by the Facility.

3.2.3 If retesting is necessary, Interconnection Customer shall be responsible only for Pepco's reasonable and necessary additional costs incurred directly as the result of any necessary observation of retesting and reinspection.

3.3 **Authorization Required Prior To Parallel Operation.** For the mutual protection of the Interconnection Customer and Pepco, Interconnection Customer shall not operate its generating facilities in parallel with Pepco's Electric System, except as permitted in Section 3.2, without prior written authorization of Pepco in the form of a letter as set forth in Exhibit F to this Agreement, which authorization shall not be unreasonably withheld, conditioned or delayed.

3.4 **Right of Access.** Upon prior reasonable notice and with supervision by the Interconnection Customer or its representative identified in Section 9.7 hereof, except in instances of emergency (including restoration of service), and subject to any required or necessary regulatory approvals, an Interconnection Customer shall furnish at no cost to Pepco any rights of use, licenses, rights of way or easements with respect to lands owned or controlled by the Interconnection Customer and its agents that are necessary to enable Pepco to obtain ingress and egress to perform its responsibilities under this Agreement, including but not limited to, disconnection of Pepco's Electric System. In exercising such licenses, rights of way and easements, Pepco shall not unreasonably disrupt or interfere with normal operation of the Interconnection Customer's property and shall adhere to all applicable safety rules and procedures. In the event of emergency or hazardous conditions, Pepco shall exercise all reasonable efforts to comply with this provision.

SECTION 4
TERM, TERMINATION AND DISCONNECTION

4.1 **Term.** This Agreement shall be effective on the Effective Date and shall terminate on a date mutually agreed upon by the Parties, unless terminated earlier in accordance with Section 4.2 of this Agreement.

4.2 **Termination.** This Agreement may be terminated for any of the following reasons:

4.2.1 Interconnection Customer may terminate this Agreement at any time, by giving Pepco sixty calendar days' written notice;

4.2.2 Pepco may terminate upon failure of the Facility to generate energy in parallel with Pepco's Electric System within twelve months of the in-service date as specified in Exhibit C;

4.2.3 Either Party may terminate by giving the other Party at least thirty calendar days' prior written notice that the other Party is in default in performance of any of the material terms and conditions of the Agreement, so long as the notice specifies the basis for termination and the Party fails to cure the default on or before the end of the thirty-day period or, if the failure cannot reasonably be cured within such period, within a reasonable period provided the Party undertakes and continues to proceed with the cure on an expeditious basis; or

4.2.4 In the event that there is a change in Applicable Laws and Regulations, which has a material, adverse impact on either i) Pepco's ability to meet its obligations under this Agreement, or ii) Pepco's cost associated with providing Interconnection Service, the Parties shall discuss the matter at the Operating Committee established pursuant to Section 9.13 and shall negotiate in good faith to address any adverse impact of the change. If such negotiations are unsuccessful, Pepco may terminate by giving Interconnection Customer at least thirty calendar days' prior written notice. Either Party may commence a proceeding before an appropriate Governmental Authority to decide the dispute under Applicable Laws and Regulations.

4.2.5 Pepco may terminate this Agreement upon thirty calendar days' prior written notice if the Interconnection Customer fails to operate the Facility in parallel with Pepco's Electric System for two consecutive years.

4.2.6 Upon the expiration or termination of this Agreement, any monies, penalties or other charges due and owing shall be paid, any corrections or adjustments to payments previously made shall be determined, and any refunds due and owing shall be made, as soon as practicable. To the extent necessary to enforce or resolve matters or claims hereunder, the rights and obligations of the Parties shall survive the termination or expiration of this Agreement.

4.3 **Permanent Disconnection.** Upon the effective date of any termination under Sections 4.1 or 4.2, the Parties shall disconnect the Facility from Pepco's Electric System.

4.4 **Temporary Disconnection.**

4.4.1 **Emergency Conditions.** Pepco shall have the right to immediately suspend Interconnection Service and temporarily disconnect its system from the Facility in cases where, in the reasonable judgment of Pepco, continuance of such service to Interconnection Customer is imminently likely to (i) endanger persons or property or (ii) cause a material adverse effect on the integrity or security of, or damage to, Pepco's Electric System or to any Affected Systems. Pepco shall notify Interconnection Customer promptly when it becomes aware of an emergency condition that affects the Facility or Pepco's Electric System that may reasonably be expected to affect Interconnection Customer's operation of the Facility. Interconnection Customer shall notify Pepco promptly when it becomes aware of an emergency condition that affects the Facility that may reasonably be expected to affect Pepco's Electric System. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, or the expected effect on the operation of both Parties' facilities and operations, its anticipated duration and the necessary corrective action.

4.4.2 **Routine Maintenance, Construction and Repair.** Pepco shall have the right to interrupt Interconnection Service or curtail the output of the Facility and temporarily disconnect the Facility from Pepco's Electric System when necessary for routine maintenance, construction and repairs on Pepco's Electric System. Pepco shall provide Interconnection Customer with seven calendar days' notice prior to such service interruption. Pepco shall make a reasonable effort to schedule such curtailment or temporary disconnection with Interconnection Customer taking into account Interconnection Customer's peak thermal load and electric production requirements.

4.4.3 **Forced Outages.** During any forced outage, Pepco shall have the right to suspend Interconnection Service to effect immediate repairs on Pepco's Electric System; provided, however, Pepco shall use reasonable efforts to provide the Interconnection Customer with prior notice. Where circumstances do not permit such prior notice to Interconnection Customer, Pepco may interrupt Interconnection Service and disconnect the Facility from Pepco's Electric System without such notice.

4.4.4 **Adverse Operating Effects.** Pepco shall notify Interconnection Customer if there is evidence that the operation of the Facility could cause disruption or deterioration of service to other customers served from the same grid or if operation of the Facility could cause damage to Pepco's Electric System or Affected Systems. Pepco may disconnect its system from the Facility, if, after such notice to the Interconnection Customer has been provided and a reasonable time to correct such adverse operating effect has elapsed, consistent with the conditions, Interconnection Customer has failed to make such corrections. Each Party will promptly notify the other Party of any emergency or hazardous condition or occurrence with its equipment or facilities which could affect safe operation of the other Party's equipment or facilities. Each Party shall use reasonable efforts to provide the other Party with advance notice of such conditions. Where circumstances do not permit such prior notice to Interconnection Customer, Pepco may interrupt Interconnection Service and disconnect the Facility from Pepco's Electric System without such notice.

4.4.5 **Modification of the Facility.** Pepco shall notify Interconnection Customer if there is evidence of a material modification to the Facility and shall have the right to immediately suspend Interconnection Service in cases where such material modification impacts Pepco's Electric System and has been implemented without prior written authorization from Pepco. The Operating Committee shall identify the types of modifications considered material under this provision.

4.4.6 **Re-connection.** Any curtailment, reduction or disconnection shall continue only for so long as reasonably necessary. The Parties shall cooperate with each other to restore the Facility, the Interconnection Facilities, and Pepco's Electric System to their normal operating state as soon as reasonably practicable following the cessation or remedy of the event that led to the temporary disconnection.

4.4.7 **Operation of Facility While Disconnected.** While disconnected from the Pepco System, Interconnection Customer may operate the Facility on an "islanded" basis (not in parallel with the Pepco system) to serve isolated load on the premises (not simultaneously served by the Pepco system). As between Pepco and Interconnection Customer, such operation shall be the responsibility of the Interconnection Customer.

SECTION 5
COST RESPONSIBILITY, BILLING AND PAYMENT

5.1 **Cost Responsibility.** Interconnection Customer shall be responsible for the costs of (i) all equipment and facilities from the Facility to the Point of Interconnection, (ii) any modifications, additions, or upgrades to Pepco's equipment and facilities that are necessary to interconnect the Facility to Pepco's Electric System, as described in Exhibit C, and associated ongoing operation and maintenance expenses, and (iii) any CIAC tax resulting from the payment by the Interconnection Customer of the costs specified above.

5.1.1 An estimate of each of these costs appears at Exhibit E to this Agreement. The actual amount due from the Interconnection Customer shall be based on the actual costs incurred by Pepco.

5.2 **Security.** On or before the execution date of this Agreement, Interconnection Customer shall provide Pepco, as security for the Interconnection Facilities costs, a letter of credit from an agreed upon provider or other form of security reasonably acceptable to Pepco in the amount of $ 15,000.00 naming Pepco as a beneficiary. In the event Interconnection Customer fails to provide such security in the amount or form required within thirty calendar days of the effective date of this Agreement, this Agreement shall be terminated. Interconnection Customer acknowledges that it will be responsible for the actual costs of the facilities described in Exhibit C to this Agreement, whether greater or lesser than the amount of the payment security provided under this section.

5.3 **Milestones.** Pepco shall be relieved of all obligations pursuant to this Agreement in the event Interconnection Customer fails to achieve the development milestones set forth in Exhibit C to this Agreement (such milestones may include fuel delivery agreements, water agreements, rights-of-way for fuel and water interconnections, any necessary local, county, and state site permits, a memoranda of understanding for the acquisition of major equipment, site acquisition, permitting, regulatory certifications (if required), acquisition of any third-party financial commitments, commercial operation and similar events). Interconnection Customer shall demonstrate the occurrence of each of the milestones set forth in Exhibit C, to Pepco's reasonable satisfaction. Pepco may reasonably extend any such milestone dates, in the event of delays that Interconnection Customer (i) did not cause and (ii) could not have remedied through the exercise of due diligence.

5.4 **Billing and Payment.**

5.4.1 **Normal Billing Procedure.** Billing and payment obligations for services rendered under this Agreement shall be performed in accordance with Pepco's electric distribution tariff.

5.4.2 **Billing Procedure for Interconnection Facilities Construction.** Pepco shall bill Interconnection Customer for the monthly expenditures for the design, engineering and construction of, or for other charges related to, the Interconnection

Facilities contemplated by this Agreement. Interconnection Customer shall pay each bill within thirty calendar days after receipt thereof.

5.4.3 **Final Accounting.** Within one-hundred twenty calendar days after the completion of the construction and installation of the Interconnection Facilities described in Exhibit C, Pepco shall provide Interconnection Customer with a final accounting report of any difference between (a) Interconnection Customer's cost responsibility under this Agreement for the actual cost of such Interconnection Facilities, and (b) Interconnection Customer's previous aggregate payments to Pepco for such Interconnection Facilities. To the extent that Interconnection Customer's cost responsibility under this Agreement exceeds Interconnection Customer's previous aggregate payments, Pepco shall invoice Interconnection Customer and Interconnection Customer shall make payment to Pepco. To the extent that Interconnection Customer's previous aggregate payments exceed Interconnection Customer's cost responsibility under this Agreement, Pepco shall refund to Interconnection Customer an amount equal to the difference within forty-five calendar days of the provision of such final accounting report.

SECTION 6
LIMITATION OF LIABILITY AND INDEMNIFICATION

6.1 **Limitation of Liability.** Under no circumstances shall either Party or its directors, officers, employees, contractors or agents be liable to the other Party for consequential, incidental, special, punitive, exemplary or indirect damages, lost profits, other business interruption damages, or other costs including, but not limited to, loss of profits, business interruption, loss of use, loss of revenue, loss by reason of cost of capital, loss of opportunity or loss of goodwill, regardless of whether a claim is based on contract, tort (including negligence), warranty, theory of strict liability or other legal theory and even if it has been advised of the possibility of such damages, by statute, in tort or contract, with respect to any claim, controversy or dispute connected with, relating to, or arising between the Parties under this Agreement. The provisions of this Section 6.1 shall apply regardless of fault and shall survive termination, cancellation, suspension, completion, or expiration of this Agreement.

6.2 **Indemnification.** Subject to, and limited by, the Maryland Tort Claims Act, the terms and conditions of the insurance policies required under Sections 6.3 and 9.11 hereof, and appropriation by the General Assembly for the specific claim in question, Interconnection Customer shall at all times indemnify, defend, and hold Pepco harmless from and against any and all damages, losses, claims, including claims and actions involving injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court cost, reasonable attorney fees, and all other obligations by or to third parties, arising out of or resulting from Interconnection Customer's performance or non-performance under this Agreement.

6.3 MEDCO's liability under this Agreement shall not exceed $50,000,000 U.S. dollars. Throughout the term of this Agreement, MEDCO shall purchase and maintain, or cause to be purchased and maintained, commercial general liability insurance and excess liability insurance with combined single limits of at least $50,000,000 U.S. dollars per occurrence. MEDCO's liability hereunder shall be limited to the proceeds of such insurance. Each policy of such insurance shall name Pepco as an additional insured and shall contain an endorsement prohibiting cancellation or reduction in the scope or limits of coverage thereof without written notice to Pepco at least sixty (60) days before such cancellation or reduction becomes effective. In the event an insurer seeks to cancel coverage for non-payment of premium, such notice period shall be reduced to ten (10) days prior to the effective date of the cancellation. Upon receipt of any such notice, Pepco shall have the right, but not the obligation, upon prior written notice to MEDCO and at MEDCO's expense, to pay the premium on the existing coverage or to secure such additional coverage to protect Pepco's interests. MEDCO hereby acknowledges that the insurance required by this Section 6.3 is a material term and condition of this Agreement and that any absence of such insurance shall give rise to Pepco's right to terminate this Agreement pursuant to Section 4.2.3 hereof. Concurrently with its execution of this Agreement, MEDCO shall deliver, or cause to be delivered, a certificate of insurance evidencing Pepco's status as an additional insured under each insurance policy. Thereafter, upon any replacement of such policies, MEDCO shall deliver, or cause to be delivered, to Pepco replacement certificates of insurance.

6.4 In recognition of the fact that Interconnection Customer is a public instrumentality of the state of Maryland pursuant to Md. Ann. Code art. 83A, § 5-201 (2002) and Md. Ann. Code art. 83A, § 5-203 (2002), and solely on that basis, the Parties agree that no member, officer, director, employee, agent, or representative of MEDCO shall have any personal or individual liability for any obligation, liability, or other matter by reason of their execution of this Agreement or any actions hereunder or in furtherance hereof.

SECTION 7
FORCE MAJEURE

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's reasonable control. An event of Force Majeure does not include an act of negligence or intentional wrongdoing by the Party claiming the Force Majeure. Neither Party will be considered in default as to any obligation hereunder if such Party is prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations hereunder.

SECTION 8
CONFIDENTIALITY

8.1 **Confidentiality Obligations of Pepco.** Pepco shall hold in confidence, unless compelled to disclose by judicial or administrative process or other provisions of law, all documents and information furnished by Interconnection Customer in connection with this Agreement marked "Confidential" or "Proprietary." Except to the extent that such information or documents are (i) generally available to the public other than as a result of a disclosure by Pepco in breach of this Agreement, (ii) available to Pepco on a non-confidential basis prior to disclosure to Pepco by Interconnection Customer, or (iii) available to Pepco on a non-confidential basis from a source other than Interconnection Customer, provided that such source is not known, and by reasonable effort could not be known, by Pepco to be bound by a confidentiality agreement with Interconnection Customer or otherwise prohibited from transmitting the information to Pepco by a contractual, legal or fiduciary obligation, Pepco shall not release or disclose such information to any other person who has not first been advised of the confidentiality provisions of this Section 8.1 and has agreed in writing to comply with such provisions, except to its employees, representatives or agents on a need-to-know basis, in connection with this Agreement. Pepco shall promptly notify Interconnection Customer if it receives notice or otherwise concludes that the production of any information subject to this Section 8.1 is being sought under any provision of law and Pepco shall use reasonable efforts in cooperation with Interconnection Customer to seek confidential treatment for such confidential information provided thereto.

8.2 **Confidentiality Obligations of Interconnection Customer.** Unless compelled to disclose by judicial or administrative process or other provisions of law, Interconnection Customer shall hold in confidence all documents and information furnished by Pepco in connection with this Agreement marked "Confidential" or Proprietary." Except to the extent that such information or documents are (i) generally available to the public other than as a result of a disclosure by Interconnection Customer in breach of this Agreement, (ii) available to Interconnection Customer on a non-confidential basis prior to disclosure to Interconnection Customer by Pepco, or (iii) available to Interconnection Customer on a non-confidential basis from a source other than Pepco, provided that such source is not known, and by reasonable effort could not be known, by Interconnection Customer to be bound by a confidentiality agreement with Pepco or otherwise prohibited from transmitting the information to Interconnection Customer by a contractual, legal or fiduciary obligation, Interconnection Customer shall not release or disclose such information to any other person who has not first been advised of the confidentiality provisions of this Section 8.1 and has agreed in writing to comply with such provisions, except to its employees, representatives or agents (including any entity that Interconnection Customer contracts with to operate and maintain the Facility) on a need-to-know basis, in connection with this Agreement. Interconnection Customer shall promptly notify Pepco if it receives notice or otherwise concludes that the production of any information subject to this Section 8.2 is being

sought under any provision of law and Interconnection Customer shall use reasonable efforts in cooperation with Pepco to seek confidential treatment for such confidential information provided thereto. If Interconnection Customer concludes that a document requested pursuant to the Maryland Public Information Act or similar law is not confidential, then it will advise Pepco of its intention to release the document and give Pepco a reasonable amount of time to file a court action in the proper court to prevent the disclosure of the document. If, after advised by Interconnection Customer of its intent to disclose the document and a reasonable amount of time, Interconnection Customer is not prohibited by the proper court to release the document, Pepco will hold harmless Interconnection Customer for the release of the document.

8.3 **Remedies.** The Parties agree that monetary damages may be inadequate to compensate a Party for the other Party's breach of its obligations under Section 8.1 or 8.2, above, as applicable. Each Party accordingly agrees, subject to Section 6 hereof, that the other Party shall be entitled to seek equitable relief, by way of injunction or otherwise, if the first Party breaches or threatens to breach its obligations under Section 8.1 or 8.2 of this Agreement, as applicable.

SECTION 9
MISCELLANEOUS

9.1 **Governing Law, Regulatory Authority and Rules.** The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State where the Point of Interconnection is located, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations and Operating Requirements. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

9.2 **Amendment.** This Agreement may be amended upon mutual agreement of the Parties, which amendment will not be effective until reduced to writing, executed by both Parties.

9.3 **Third-Party Beneficiaries.** This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

9.4 **Non-Waiver.** None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered to waive the obligations, rights, or duties imposed on the Parties.

9.5 **Successors or Assigns.** This Agreement shall bind and inure to the benefit of the permitted successors and assigns of the Parties. At any time during the term of this Agreement, Interconnection Customer may assign this Agreement to any entity (including but not limited to a limited liability corporation or a Governmental Authority) to whom Interconnection Customer also transfers ownership of the Facility (the "Assignee"), provided that Interconnection Customer obtains the consent of Pepco in advance of the assignment. Pepco's consent will be based on a determination that the Assignee is financially and technically capable to assume ownership and/or operation of the Facility. The Assignee will be responsible for the proper operation and maintenance of the Facility, and must agree in writing to be subject to all provisions of this Agreement. Pepco shall not unreasonably withhold, condition or delay its consent to such assignment. Pepco may assign the Agreement to another entity who is the successor in interest to Pepco's Electric System without the consent of the Interconnection Customer.

9.6 **Entire Agreement.** This Agreement, including all Attachments, Exhibits, and Appendices, constitutes the entire Agreement between the Parties with regard to the interconnection of the facilities of the Parties at the Point of Interconnection expressly provided for in this Agreement and supersedes all prior agreements or understandings, whether verbal or written. It is expressly acknowledged that the Parties may have other agreements covering other services not expressly provided for herein, which agreements are unaffected by this Agreement.

9.7 **Notices.** Notices given under this Agreement are deemed to have been duly delivered if hand delivered or sent by United States certified mail, return receipt requested, postage prepaid, to:

If to Pepco:

Potomac Electric Power Company
701 Ninth St NW
Washington, DC 20068
Attn: Mr. William Gausman

If to Interconnection Customer:

Trigen-Cinergy Solutions of College Park, LLC
PMB #307
4423 Lehigh Road
College Park, MD 20740

Attn.: Mr. Erol Ozkirbas

with a copy to:

Mr. Charles Abbott
Vice President of Operations
Trigen-Cinergy Solutions of College Park, LLC
1400 Ridgley Street
Baltimore, Maryland 21230

and a copy to:

Mr. Hans F. Mayer
Executive Director
Maryland Economic Development Corporation
100 North Charles Street
Suite 630
Baltimore, MD 21201
Attn: Mr. Hans Mayer

The above-listed names, titles, and addresses of either Party may be changed by written notification to the other.

9.8 **Counterparts.** This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

9.9 **Confidential Information.** Except as otherwise provided in section 8, each Party shall hold in confidence and shall not disclose Confidential Information to any person

9.10 **No Partnership.** This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

9.11 **Insurance.** Interconnection Customer shall carry the insurance coverage required pursuant to section 6.3 in this Agreement that shall be reasonably acceptable to Pepco; provided, that the minimum commercial general liability insurance and excess liability insurance that shall be continuously maintained, or caused to be maintained, by the Interconnection Customer during the term shall be not less than $50,000,000 U.S. dollars combined single limits per occurrence.

9.12 **Dispute Resolution.**

9.12.1 If a dispute arises under this Agreement, either the Interconnection Customer or Pepco may seek resolution by providing written notice to the other Party stating the issues in dispute.

9.12.2 At the outset, the parties may agree that the results of the dispute resolution process be binding. The dispute resolution will be conducted in an informal, expeditious manner in order to reach resolution with minimal costs and delay. In the event the Parties elect to settle the dispute through arbitration or mediation, either Party may request that the arbitrator/technical master determine whether it is appropriate to conduct the dispute resolution by phone or through Internet communications.

9.13 **Operating Committee.** Pepco and Interconnection Customer shall each appoint one representative to serve on the Operating Committee. Each Party will provide the other Party with the name, title, address and phone number of its representative. The representatives will receive operational communications and conduct the daily communications which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers, may be communicated or revised by one Party's notice to the other in accordance with Section 9.7. The Parties shall permit a representative of the University of Maryland, College Park to only attend all meetings of the Operating Committee on the condition that such representative shall not have any authority or voting power as a member of the Operating Committee. The Parties shall provide such representative copies of all notices and other correspondence.

9.14 **Severability.** If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, (i) such portion or provision shall be deemed separate and independent, (ii) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such the ruling, and (iii) the remainder of this Agreement shall remain in full force and effect.

9.15 **Survival of Obligations.** Upon the expiration or termination of this Agreement, any monies, penalties or other charges due and owing shall be paid, any corrections or adjustments to payments previously made shall be determined, and any refunds due and owing shall be made, as soon as practicable. To the extent necessary to enforce or resolve matters or claims hereunder, the rights and obligations of the Parties shall survive the termination or expiration of this Agreement.

IN WITNESS WHEREOF, Pepco and Interconnection Customer have caused this Agreement to be executed by their respective duly authorized representatives.

Potomac Electric Power Company

By:_____ _____

William Gausman — Vice President

Name — Title — Date

Maryland Economic Development Corporation [MEDCO]

By:_____ _____

Hans Mayer — Executive Director

Name — Title — Date

APPENDIX 1

DEFINITIONS

"**Affected Systems**" - shall mean any electric system that is either directly or indirectly connected to Pepco's Electric System that could be adversely affected by the interconnection and parallel operation of the Facility with Pepco's Electric System.

"**Agreement**" - shall mean this Interconnection and Parallel Operation Agreement by and between Pepco and Interconnection Customer.

"**Applicable Laws and Regulations**" - shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

"**Confidential Information**" - Confidential Information shall mean any confidential and/or proprietary information provided by Pepco (or "Disclosing Party") to the other party ("Receiving Party") and which is clearly marked or otherwise designated as "CONFIDENTIAL" as further defined in Section 8.

"**Control Area**" - shall mean an electrical system or systems, as certified by NERC or the applicable regional reliability council, as the case may be, and bounded by interconnection metering and telemetry, to which a common automatic generation control scheme is applied in order to (i) match, at all times, power output of the generator(s) within the electrical system and capacity and energy purchased from or sold to entities outside the electrical system to load within the electrical system; (ii) maintain scheduled interchange with other control areas within the limits of Good Utility Practice; (iii) maintain the frequency of the electrical system within reasonable limits in accordance with Good Utility Practice; and (iv) provide sufficient generating capacity and operating reserves in accordance with Good Utility Practice.

"**Effective Date**" - shall mean the date on which the Agreement is executed by the Parties.

"**Facility**" - shall mean Interconnection Customer's generating facility or facilities, including all associated interconnection equipment located between the Facility and Point of Interconnection, used to produce electric power and required for parallel operation with Pepco's Electric System, as further described in Exhibit A.

"**Good Utility Practice**" - shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable

judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region. Good Utility Practice shall include, but not be limited to, compliance with this Agreement, Applicable Laws and Regulations, the National Electric Safety Code, and the National Electrical Code, as they may be amended from time to time, including the criteria, rules and standards of any successor organizations.

"**Governmental Authority**" - shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer or Pepco or any affiliate of Pepco.

"**IEEE**" - shall mean the Institute of Electrical and Electronics Engineers.

"**Interconnection Customer**" - shall have the meaning ascribed to it in the first paragraph of this Agreement, and its agents or permitted successors and assigns.

"**Interconnection Facilities**" - shall mean all equipment which is constructed, owned, operated, or maintained by or for Pepco, as such are generally identified and described in Exhibit C, (including without limitation, equipment for connection, switching, transmission, distribution, protective relaying and safety) that, in Pepco's reasonable judgment, is required to be installed for the parallel operation of the Facility and the delivery of electric energy onto Pepco's Electric System from the Facility.

"**Interconnection Service**" - shall mean the services provided by Pepco to Interconnection Customer to safely and reliably interconnect Interconnection Customer's Facility, and operate the Facility in parallel with, to Pepco's Electric System pursuant to the terms of this Agreement.

"**NERC**" - shall mean the North American Electric Reliability Council or its successor agency assuming or charged with similar responsibilities related to the operation and reliability of the North American interconnected electric transmission grid.

"Operating Requirements" - shall mean the operating and technical requirements that may be applicable due to PJM or Pepco requirements, including Pepco's "Engineering Requirements and Performance Standards for Interconnection Customers on the

Potomac Electric Power Company System" in Exhibit D.

"**Party**" or "**Parties**" - shall mean either Pepco or Interconnection Customer or both.

"**Pepco**" - shall have the meaning ascribed to it in the first paragraph of this Agreement, and its agents or permitted successors and assigns.

"**Pepco's Electric System**" - shall mean, collectively, the entire network of electric transmission and distribution facilities, equipment and other devices owned (in whole or in part) or controlled by Pepco, or to which Pepco has a right of use, for the purposes of transmitting, receiving, and distributing electric energy and capacity, excluding those facilities which PJM has under its operational control.

"PJM" – shall mean PJM Interconnection, L.L.C., the Regional Transmission Organization for the PJM Control Area including Pepco.

"**Point of Interconnection**" - shall mean the point of interconnection of Interconnection Customer's Facility to Pepco's Electric System as shown on the one-line diagram in Exhibit B and described in Exhibit C.

"**Term**" - means the duration of this Agreement as specified in Section 4.1.

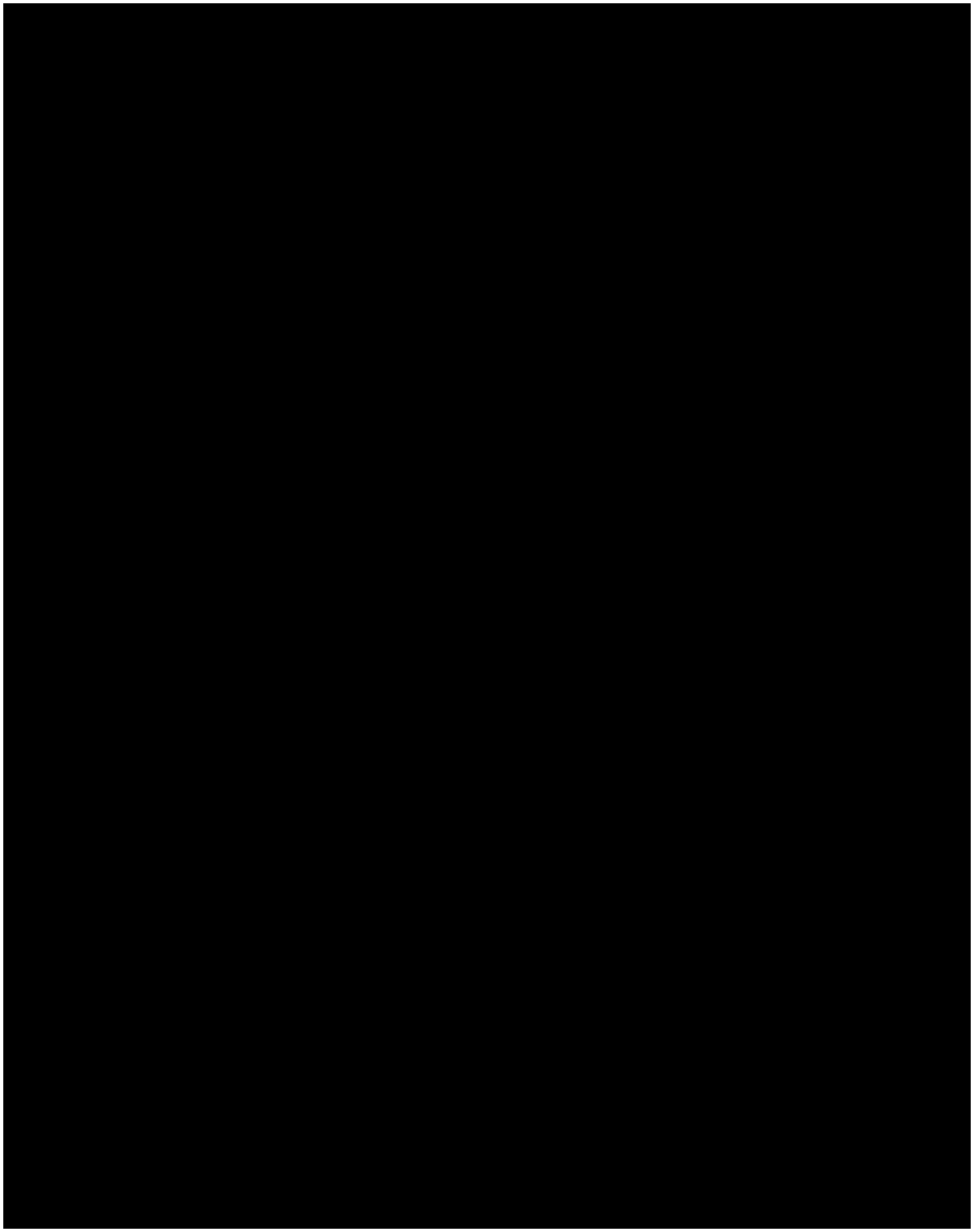
EXHIBIT A

DESCRIPTION OF FACILITY

EXHIBIT B

GENERATION AND INTERCONNECTION ONE-LINE DIAGRAM

- [redacted]



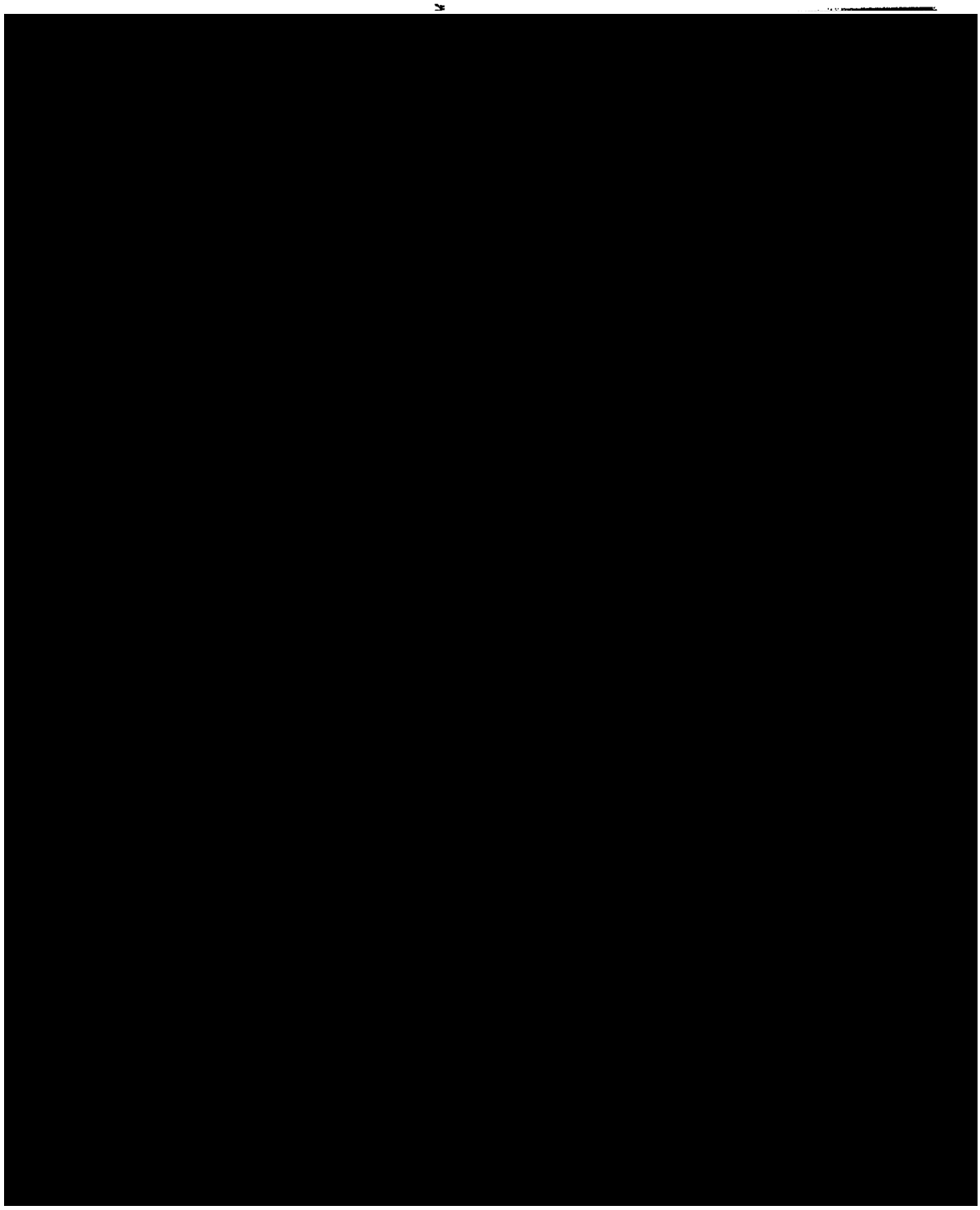
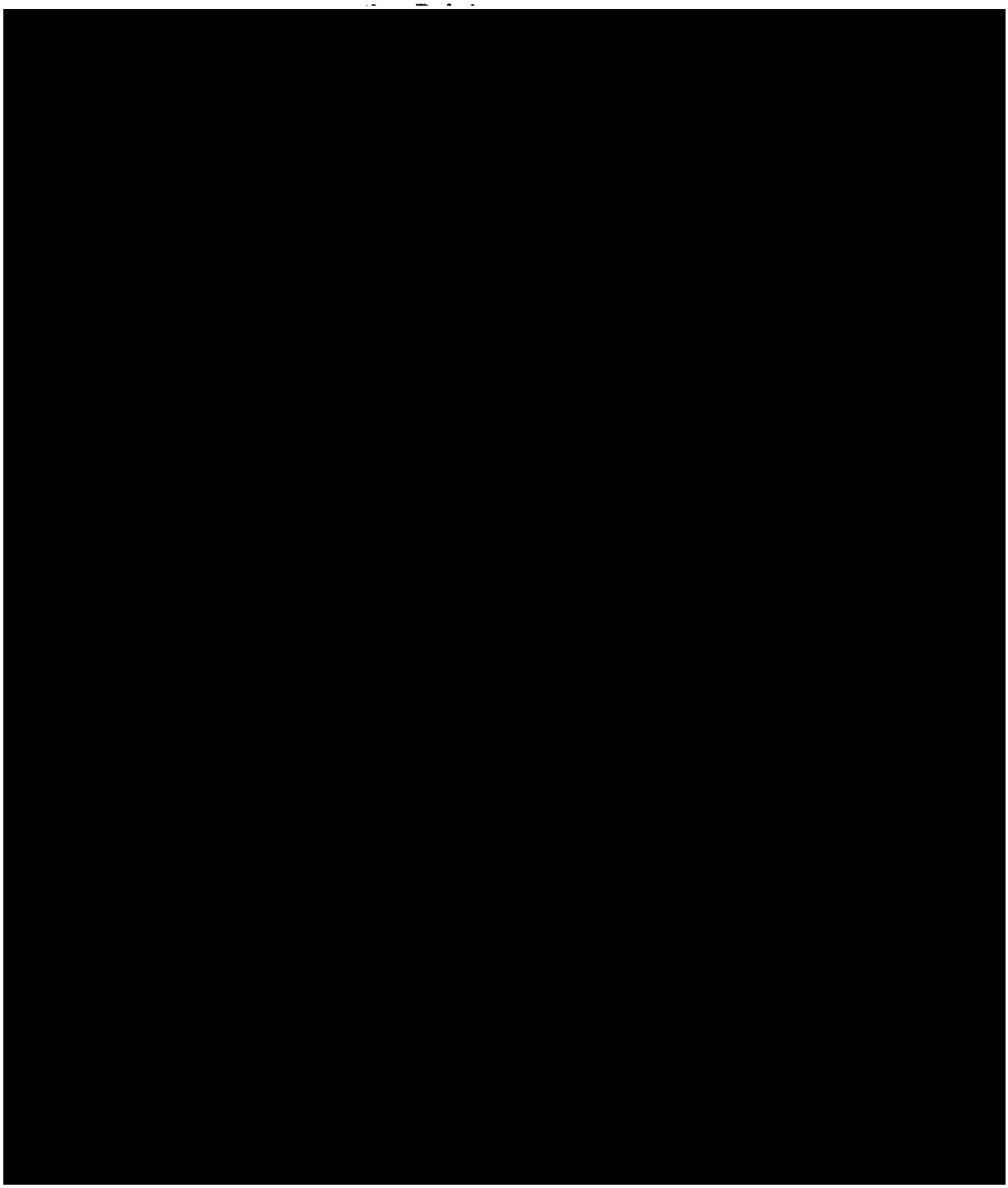


EXHIBIT C

DESCRIPTION OF INTERCONNECTION FACILITIES



6. Milestones:

Interconnection Customer shall satisfy all of the requirements of Exhibit D of this Agreement including Pepco verification of the generator control scheme that prevents power from flowing into Pepco's Electric System.

EXHIBIT D

OPERATING REQUIREMENTS

[redacted]

- Pepco's Retail Tariff in Maryland including the General Terms and Conditions for Furnishing Electric Service and the Company's Electric Rules and Regulations

EXHIBIT E

1. **Interconnection facilities cost estimate:**
Fifteen Thousand U.S. dollars ($15K)

Other than amounts billed or refunded pursuant to Section 5.4.3 of the Agreement, the Parties agree that there will be no additional billings for the design, engineering, or construction of the Interconnection Facilities rendered pursuant to Section 5.4.2 of the Agreement.

2. **Estimated annual operation and maintenance expenses:**

Notwithstanding Sections 2.3.6 and 5.1(ii) of the Agreement, Interconnection Customer shall not be responsible for ongoing operation and maintenance expenses for the modifications, additions, or upgrades to Pepco's equipment and facilities described in Exhibit "C" that are necessary to interconnect the Facility to Pepco's Electric System or monitor the Facility's production of electric power.

Generation must be monitored and operated by the Interconnection Customer to not exceed a minimum import set point for power imported to the Interconnected Customer's distribution system from the Pepco's electrical system. Power must not flow from the Interconnected Customer's electrical system past the Point of Interconnection to Pepco's Electric System. The Interconnection Customer will install watt transducers on its 13.8kV circuits at its Mowatt substation to provide input analog signals to its SCADA system to control the generation's MW set point to meet this requirement.

3. Automatic Voltage control of the generation is required during operation of the generation at the Facility with voltage set point set in accordance with Pepco requirements.

4. The Parties understand and acknowledge that as a consequence of operation of the generation which is the subject of this Agreement upon the campus of the University of Maryland, College Park, in a manner which reduces the University of Maryland load served by Pepco, the University of Maryland may become subject to standby charges pursuant to Pepco's retail tariff for electric service in Maryland, which charges shall be the responsibility of the University of Maryland, College Park.

EXHIBIT F

OPERATION DATE

This Exhibit F is a part of the Standard Agreement for Interconnection and Parallel Operation of Generation Facilities between Pepco and Interconnection Customer. The final letter will be included as part of this Agreement upon completion.

[Date]

MEDCO
36 South Charles Street
Baltimore, MD 21201

Re: University of Maryland – College Park Generation

Dear Mr. Hans Mayer:

On [Date] , Potomac Electric Power Company ("Pepco") and Maryland Economic Development Corporation, ("MEDCO" or the "Interconnection Customer") completed to their mutual satisfaction all work on the Interconnection Facilities and related equipment required to allow the Facility to operate in parallel with and interconnect to Pepco's Electric System. Interconnection Customer may energize the facility in parallel operation with Pepco's Electric System as of the date of this letter.

Thank you.

[Signature]
[Pepco]

M:\WDOX\CLIENTS\160Pepco\BLF2790.DOC

IN WITNESS WHEREOF, Pepco and Interconnection Customer have caused this Agreement to be executed by their respective duly authorized representatives.

Potomac Electric Power Company

William Gausman 7/31/03

By: William M Gausman V.P. Asst Mgt 7-30-03

William Gausman Vice President

Name Title Date

Maryland Economic Development Corporation (MEDCO)

By: Hans Mayer 7.30.03

Hans Mayer Executive Director

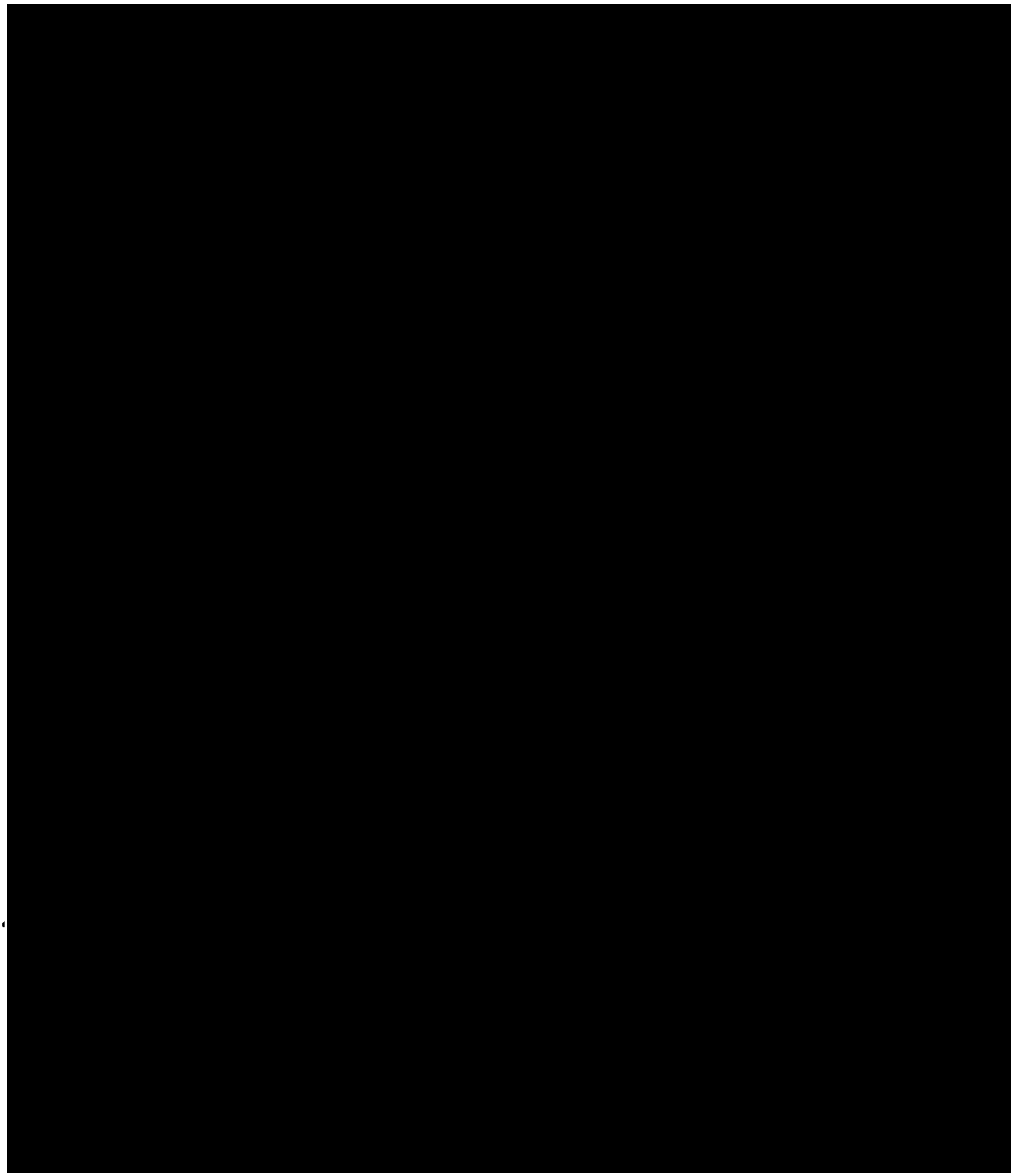
Name Title Date

ATTACHMENT B

NEW EXHIBITS

EXHIBIT A

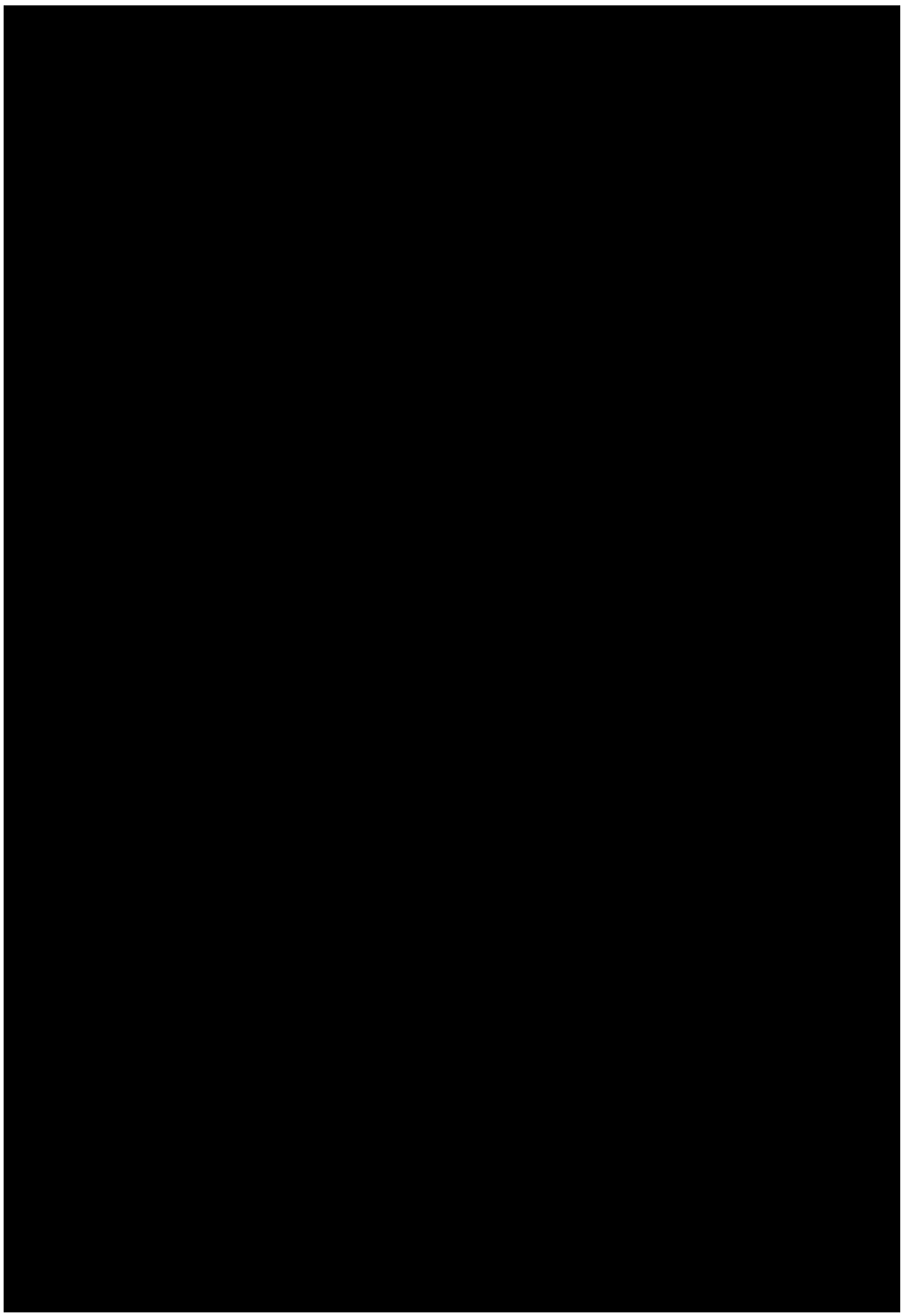
DESCRIPTION OF FACILITY



5. 

EXHIBIT B

GENERATION AND INTERCONNECTION ONE-LINE DIAGRAM



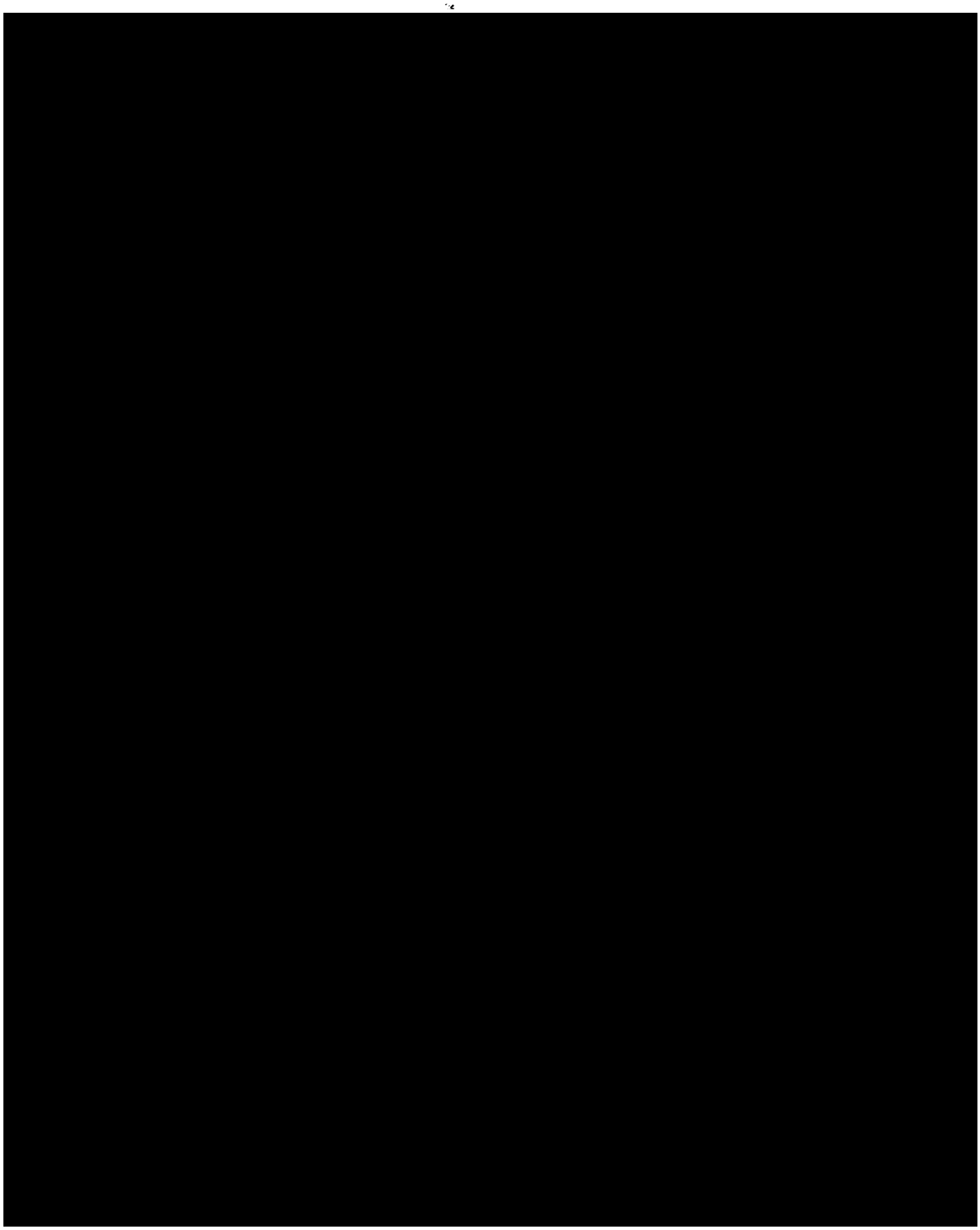
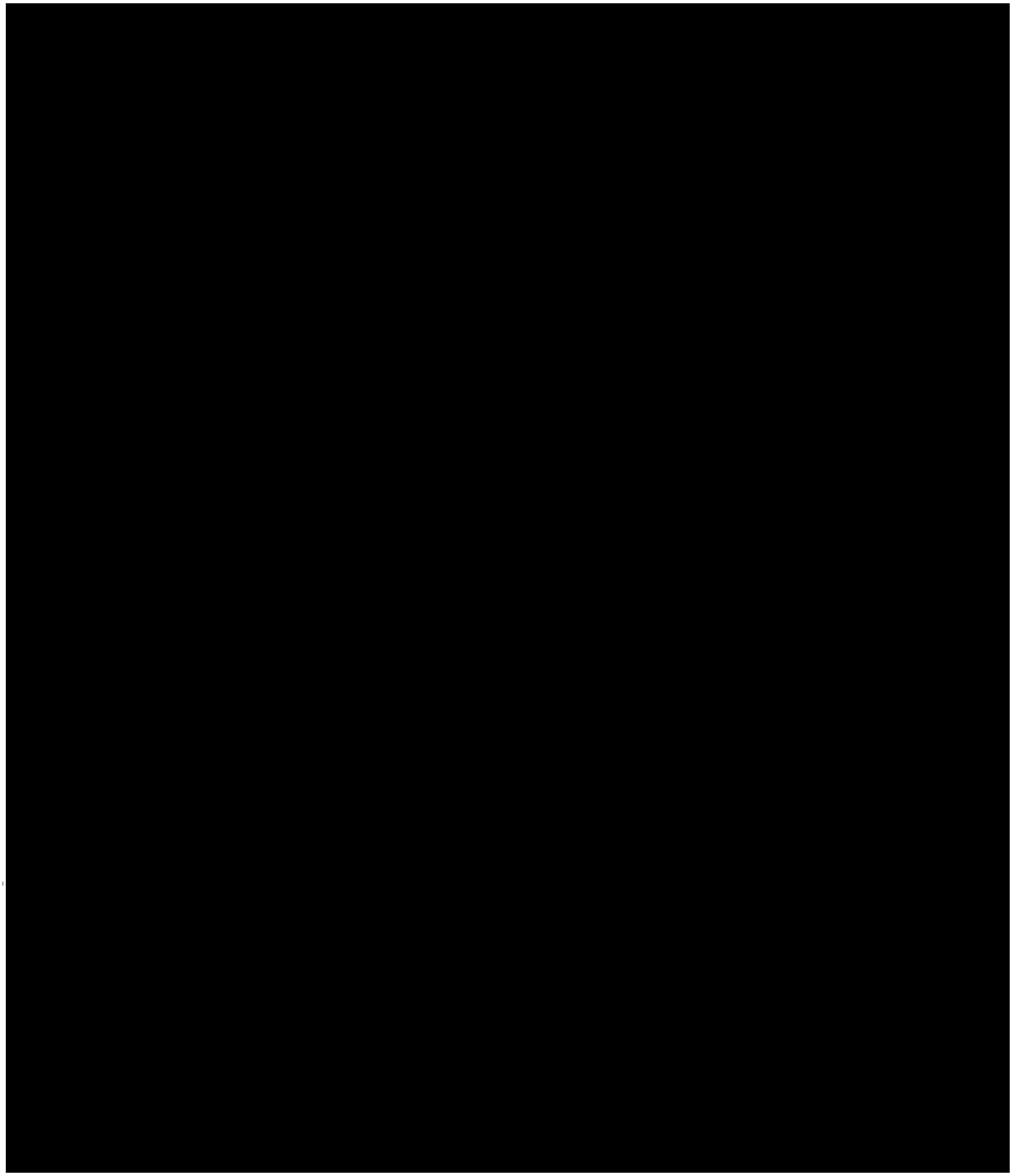


EXHIBIT C

DESCRIPTION OF INTERCONNECTION FACILITIES



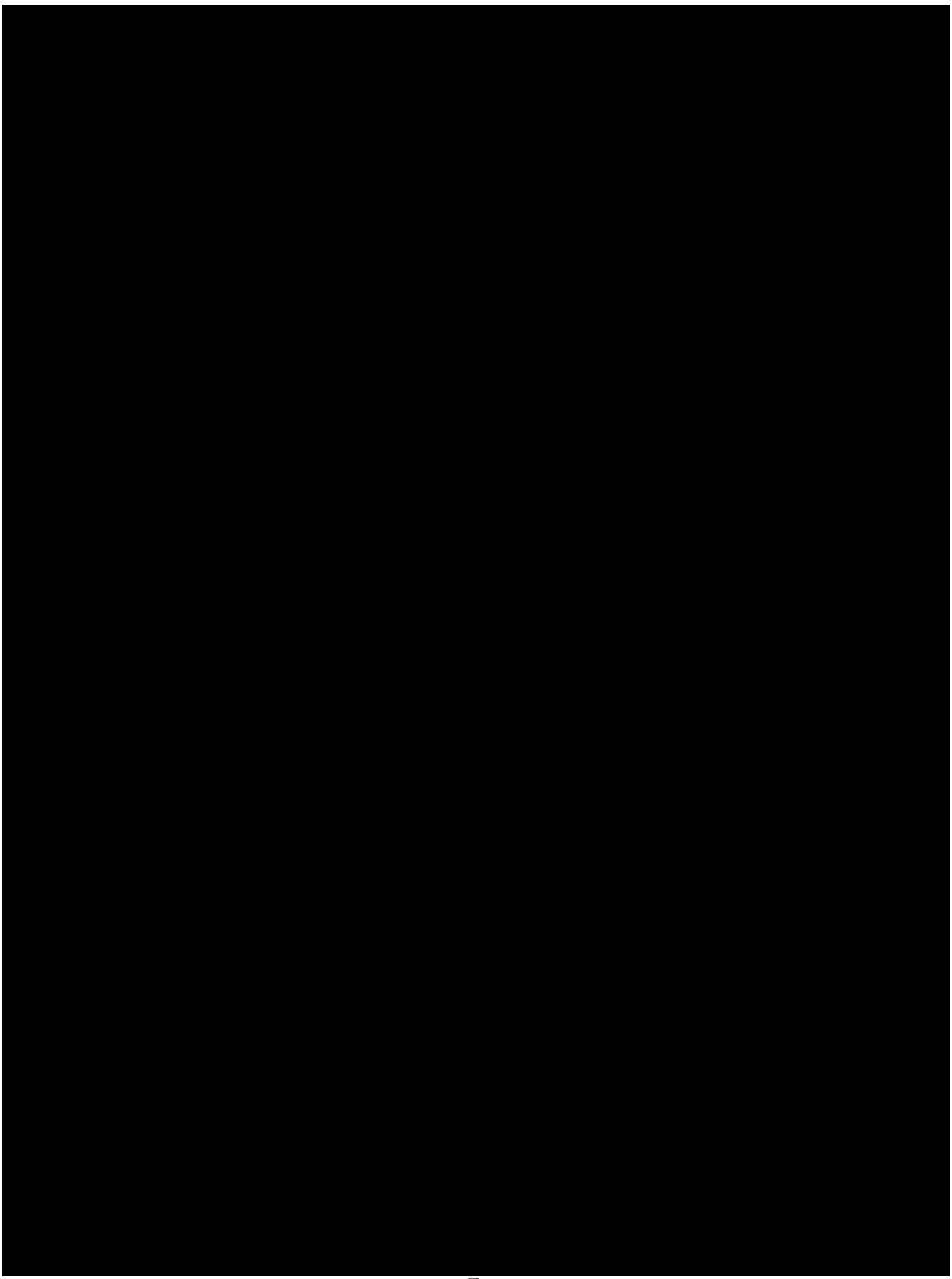


EXHIBIT D

OPERATING REQUIREMENTS

1. [redacted]

2. [redacted]

3. Pepco's Retail Tariff in Maryland including the General Terms and Conditions for Furnishing Electric Service and the Company's Electric Rules and Regulations.

4. Generation must be monitored and operated by the Interconnection Customer to not exceed a minimum import set point for power imported to the Interconnection Customer's distribution system from Pepco's electrical system. Power must not flow from the Interconnection Customer's electrical system past the Point of [redacted]

5. [redacted]

EXHIBIT E

1. **Interconnection facilities cost estimate:**

Fifteen Thousand U.S. dollars ($15K)

Other than amounts billed or refunded pursuant to Section 5.4.3 of the Agreement, the Parties agree that there will be no additional billings for the design, engineering, or construction of the Interconnection Facilities rendered pursuant to Section 5.4.2 of the Agreement.

2. **Estimated annual operation and maintenance expenses:**

Notwithstanding Sections 2.3.6 and 5.1(ii) of the Agreement, Interconnection Customer shall not be responsible for ongoing operation and maintenance expenses for the modifications, additions, or upgrades to Pepco's equipment and facilities described in Exhibit "C" that are necessary to interconnect the Facility to Pepco's Electric System or monitor the Facility's production of electric power.

3. **Standby charges:**

The Parties understand and acknowledge that as a consequence of operation of the generation which is the subject of this Agreement upon the campus of the University of Maryland, College Park, in a manner which reduces the University of Maryland load served by Pepco, the University of Maryland may become subject to standby charges pursuant to Pepco's retail tariff for electric service in Maryland, which charges shall be the responsibility of the University of Maryland, College Park.

EXHIBIT F

OPERATION DATE

This Exhibit F is a part of the Standard Agreement for Interconnection and Parallel Operation of Generation Facilities between Pepco and Interconnection Customer. The final letter will be included as part of this Agreement upon completion.

[Date]

MEDCO
100 North Charles Street
Suite 630
Baltimore, MD 21201

Re: University of Maryland – College Park Generation

Dear Mr. Robert Brennan:

On [Date] , Potomac Electric Power Company ("Pepco") and Maryland Economic Development Corporation, ("MEDCO" or the "Interconnection Customer") completed to their mutual satisfaction all work on the Interconnection Facilities and related equipment required to allow the Facility to operate in parallel with and interconnect to Pepco's Electric System. Interconnection Customer may energize the facility in parallel operation with Pepco's Electric System as of the date of this letter.

Thank you.

[Signature]
[Pepco]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX K-3

FORM OF UMD NONDISCLOSURE AGREEMENT

NONDISCLOSURE AGREEMENT

This Agreement, effective as of the date of last signature below ("Effective Date"), is entered into by and between _____, a _____organized under the laws of _____, ("Proposer") and the University of Maryland, a public agency and instrumentality of the State of Maryland, located in College Park, Maryland 20742 ("University"), through the Department of Procurement and Strategic Sourcing.

A. Purpose: The parties recognize that it may be necessary to disclose information to the other that the disclosing party considers its proprietary and confidential information ("Confidential Information") to fulfill the following purpose (the "Purpose"):

[Describe purpose]

B. Confidential Information means information that one party discloses (the "Disclosing Party") in written, oral, graphic, electronic or physical form to the other party (the "Recipient") that: (a) is not generally known to the public and concerns scientific, business, or technical knowledge, know-how, processes, inventions, techniques, formulae, products, data, plans, software, critical energy infrastructure information, and similar information; and (b) that if disclosed in a tangible form is clearly marked Confidential at the time of initial disclosure and/or, (c) that if disclosed verbally is identified as Confidential Information at the time of disclosure and is then summarized and identified as Confidential Information in a writing marked "Confidential" submitted by the Disclosing Party to the Recipient within ten (10) business days of initial disclosure. If the Disclosing Party wishes to disclose any information that it considers to be a trade secret, the Disclosing Party must clearly identify that information as a TRADE SECRET and Confidential Information. If the Disclosing Party does not identify qualifying information as a trade secret, the Recipient shall treat it as Confidential Information with respect to the duration of the duty of confidentiality (see Section L below). Confidential Information does not include information that (u) the Recipient develops independently and without the benefit of the Disclosing Party's Confidential Information; (v) the Recipient lawfully obtains from a third party under no obligation of confidentiality; (w) is or becomes publicly available through no wrongful act of the Recipient; (x) is known to the Recipient prior to receiving the information from the Disclosing Party, (y) the Disclosing Party fails to identify clearly as Confidential Information and/or trade secret, and/or (z) Recipient is obligated to produce to comply with applicable laws or regulations, including the Maryland Public Information Act, or pursuant to an order of a court of competent jurisdiction or a valid administrative or congressional subpoena provided, if legally permitted, the Recipient notifies the Disclosing Party prior to making such a disclosure so it may take appropriate action.

C. Describe the information to be released that may contain Confidential Information that meets the definition above:

D. Disclosure of Confidential Information: Before being granted access to Confidential Information, each Proposer employee, agent, representative, contractor, consultant, attorney, or other affiliated person must execute the Proposer Nondisclosure Certificate attached hereto to evidence her/his understanding that such access is provided pursuant to the terms and restrictions of this Nondisclosure Agreement and that she/he has read the Nondisclosure Agreement and agrees to be

bound by it. All executed Proposer Nondisclosure Certificates must be submitted to NextGen Energy Program's Procurement Officer before the signor may access the Online Document Library or participate in any site visit of the University's Energy Systems.

E. Disclosure of Export Controlled Information: The parties do not anticipate the need to disclose to each other technical data that are subject to control under the Commerce Control List of the Export Administration Regulations (excluding "EAR99"), the US Munitions List of the International Traffic in Arms Regulations, or "Sensitive Nuclear Technology" subject to the Atomic Energy Act (collectively, "Export Controlled Information"). Company acknowledges University personnel involved in fulfilling the Purpose may qualify as foreign persons under those regulations and University email systems are NOT certified for transmitting and receiving Export Controlled Information. **Disclosure of Export Controlled Information is <u>NOT</u> permitted under this Agreement unless the Disclosing Party has received written approval from the University's Export Compliance Office and the Disclosing Party agrees to follow any protocol provided by the Export Compliance Office for transmitting Export Controlled Information to the University.**

F. Restrictions on Use: The Recipient of Confidential Information will:

1. Hold Confidential Information in confidence using at least the same degree of care it uses to prevent the disclosure of its own proprietary or confidential information, but in any event using no less than a reasonable standard of care; and
2. Use Confidential Information solely in support of the Purpose; and
3. Limit disclosure of Confidential Information to those of Recipient's employees and agents who have a need to access the Information in order to fulfill the Purpose and obtain the agreement of such persons to maintain and safeguard the confidentiality of Confidential Information and, in the case of Export Controlled Information disclosed to the University, to individuals who have received approval from the University Export Compliance Officer; and
4. Reproduce Confidential Information only as needed to fulfill the Purpose and ensure that all copies clearly identify the information as Confidential Information; and
5. Not disclose Confidential Information to any third party without the prior written consent of the Disclosing Party and then only pursuant to a separate written nondisclosure agreement that is at least as restrictive as this Agreement.

G. No License: This Agreement shall not be construed to grant any right or license, express or implied, to the Recipient under any patent, copyright, or application therefore except to the extent specified in this Agreement. Title in Confidential Information shall remain with the Disclosing Party.

H. Limited Warranties: The parties acknowledge that Confidential Information is or may be experimental in nature. THE DISCLOSING PARTY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, IN FACT OR ARISING BY OPERATION OF LAW, ORAL OR WRITTEN, WITH RESPECT TO THE ACCURACY, UTILITY, SAFETY, ITS APPROPRIATENESS FOR A PARTICULAR USE OR ITS FREEDOM FROM INFRINGEMENT OF ANY INTELLECTUAL PROPERTY OR PROPRIETARY RIGHTS OF ANY THIRD PARTY.

I. Limitation of Liability and Remedies: In no event will either party or its officers, agents, or employees be liable for any incidental, special, indirect, exemplary, punitive or consequential damages of any kind arising out of this Agreement, even if the party has been advised of the possibility of such damages. Recipient agrees that a breach of this Agreement may cause the Disclosing Party irreparable damage for which recovery of damages would be inadequate recompense and that, in the event of any actual, likely, or threatened breach of the duty of confidentiality, the Disclosing Party shall be entitled to seek injunctive relief in addition to any other relief available at law or in equity.

J. Authority: The Disclosing Party represents that it has the right to disclose Confidential Information to the Recipient.

K. Contacts: Until otherwise notified in writing, each party designates the following person as its sole contact on all matters related to the delivery, receipt, use and protection of Confidential Information:

For the University of Maryland:	For Proposer: Name: Address: Telephone: E-mail:

If it becomes necessary to disclose Export Controlled Information to the University, Company must first contact the University's Export Compliance Office (export@umd.edu) and provide a description of information to be sent. The University will incur no liability if it elects not to accept Export Controlled Information.

L. Term and Termination: This Agreement will expire three (3) years after the Effective Date. The obligations of confidentiality shall continue for one year after the expiration of this Agreement or until the information no longer qualifies as Confidential Information. The duty of confidentiality in Trade Secret information shall continue for as long as the information retains trade secret status.

M. Destruction or Return of Confidential Information. Within sixty (60) days of the expiration of this Agreement or upon its receipt of University's notice following award of the NextGen Program (whichever is earlier), Proposer will destroy or return, as directed by the University, the originals and any copies of Confidential Information in Proposer's possession or control.

N. General:

1. The failure of either party to enforce any term hereof shall not be deemed a waiver of any rights contained herein.
2. This Agreement may not be modified in any way without the prior written consent of the authorized representatives of each party. Any attempt to modify this Agreement in any way without the prior written consent of those persons shall render the proposed modification null and void.
3. This Agreement shall be governed and interpreted in accordance with the laws of the State of Maryland excluding its conflict of laws rules.
4. The terms and conditions herein constitute the entire agreement and understanding of the parties and supersedes all other communications, negotiations, arrangements and agreements, either oral or written, with respect to the subject matter herein.
5. This Agreement may be executed in counterparts which when taken together shall constitute one and the same agreement. The parties agree to accept electronic delivery of the signed documents.

ACCEPTED AND AGREED TO:

_____	UNIVERSITY OF MARYLAND
BY _____ Signature of authorized signatory	_____ Signature of University authorized signatory
_____ Print name of authorized signatory	_____ Name of University authorized signatory
_____ Date	_____ Date

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

PROPOSER NONDISCLOSURE CERTIFICATE

I hereby certify my understanding that:

(1) Access to Confidential Information is being provided to me pursuant to the terms and restrictions of the Nondisclosure Agreement ("Agreement") by and between _____ and the University of Maryland; and,

(2) I have been given a copy of and have read the Agreement and that I agree to be bound by it.

I understand that the contents of any Confidential Information, any notes or other memoranda, or any other form of information that copies or discloses such materials, shall not be disclosed to anyone other than in accordance with the Agreement.

By: _____

Printed Name: _____

Title: _____

Representing: _____

Date: _____

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSSION AGREEMENT

APPENDIX L

LIST OF KEY CONTRACTS

The list below identifies each of the contracts directly between Concessionaire and a contractor for Project design, Project construction, Energy Systems management, operation and maintenance, or for Concessionaire's NextGen Program management.

Key Contract Name	**Parties to Contract**	**Services**
Design and Construction Contract	Concessionaire and Kiewit Power Constructors Co	Design and construction of Phase I Capital Improvements
Management Operation and Maintenance Agreement	Concessionaire and Honeywell International Inc.	Management operating and maintenance services with respect to the implementation of the NextGen Program and the delivery of Full Requirements Energy Services
Interface Agreement	Concessionaire, Honeywell International Inc., and Kiewit Power Constructors Co.	Dictates the terms for points of interface between the Concessionaire, Lead Contractor, and Lead Operator
Management Services Agreement	Concessionaire and Plenary Americas USA Ltd.	Partial operational management of Concessionaire SPV
Management Services Agreement	Concessionaire and Kiewit Development Company	Partial operational management of Concessionaire SPV
Financial Services Agreement	Concessionaire and Plenary Americas USA Ltd.	Financial management of Concessionaire SPV

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1

GOVERNMENTAL AUTHORIZATIONS

[NTD: THIS APPENDIX WILL BE UPDATED TO INCLUDE GOVERNMENTAL AUTHORIZATIONS IN EFFECT ON THE CONCESSION AGREEMENT'S EFFECTIVE DATE]

This appendix contains the major Environmental Authorizations and a related implementation plan applicable to the Energy Systems on July 1, 2023. It does not include all Governmental Authorizations required to operate and maintain the Energy Systems and should not be construed to diminish to any degree Concessionaire's obligation to perform the Concession Agreement in accordance with all applicable Governmental Authorizations. The Parties shall supplement this Appendix with new, renewed, or replacement Environmental Authorizations as they are issued.

Appendix M-1.1: Part 70/Title V Air Emission Permit No. 24-033-0010 (issued December 13, 2022; expires September 30, 2027) (Note that as issued, this permit contained numerous significant errors. UMD is seeking administrative correction of these errors)

Appendix M-1.2: General Permit for Discharges from Stormwater Associated with Industrial Activities, Discharge Permit No. 12SW3281, NPDES Permit No. MDR003281 (effective date January 1, 2014; continues in effect until issuance of new general permit; UMD will be filing a Notice of Intent to renew no later than July 31, 2023)

Appendix M-1.3 National Pollutant Discharge Elimination System General Permit for Discharges from State and Federal Small Municipal Separate Storm Sewer Systems, State Discharge Permit No. 13-SF-5501, General NPDES Permit No. MDR055501 (effective October 31, 2018; expires October 30, 2023)

Appendix M-1.4 Permit to Discharge from UMD Campus via Outfalls into Paint Branch and Unnamed Tributaries, State Discharge Permit No. 08-DP-2618, NPDES Permit No. MD0063801 (effective November 1, 2012; expires October 31, 2017; continues in effect until issuance of new general permit)

Appendix M-1.5 General Permit for Discharges from the Application of Pesticides, General State Discharge Permit No. 17PE-0195, NPDES Permit No. MDG87 (effective July 26, 2022; expires March 31, 2025)

Appendix M-1.6 General Permit for Discharges from Stormwater Associated with Industrial Activities, Discharge Permit No. 20-SW, NPDES No. MDR000 (effective February 1, 2023; expires January 31, 2028)

Appendix M-1.7 Oil Operations Permit, Permit No. 2020-OPT-3522 (effective September 19, 2019; expires September 24, 2024)

Appendix M-1.8 Spill Prevention Control and Countermeasures Plan (prepared pursuant to 40 C.F.R. Part 112 and 26 COMAR 26.10)

.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.1

PART 70/TITLE V AIR EMISSION PERMIT
NO. 24-033-0010

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Horacio Tablada, Secretary
Suzanne E. Dorsey, Deputy Secretary

Mr. Carlo Collela, Vice President
University of Maryland
Thomas V. Miller, Jr Administration Building, Room #2119
7901 Regents Drive
College Park, MD 20742-5035

DEC 1 3 2022

Dear Mr. Collela:

Re: Renewal Part 70/ Title V Operating Permit #24-033-0010

Enclosed, please find the renewal Part 70/Title V Operating Permit and Fact Sheet for the University of MD College Park campus located in Prince George's County, MD. The Permit will expire on September 30, 2027.

The Code of Maryland Regulations (COMAR) 26.11.03.11 states the following:

> If the Department denies a Part 70 permit or issues it with terms and conditions that are objectionable to the applicant, the applicant may request that a contested case hearing be held regarding the permit. This request shall be made to the Department in writing not later than 15 days after the applicant receives notice that the permit has been denied or of the objectionable terms and conditions. The request shall include the basis for the request and refer to any objectionable terms and conditions.

Please note the following revised condition in the Permit under Section II, General Conditions, Number 5, Permit Renewal:

> The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit 12 months before the expiration of the permit. Upon submitting a complete application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

If you have any questions, please feel free to contact Ms. Marcie Gurley, Chief, Technical Support Division, at Marcie.gurley@maryland.gov, or (410) 537-3230.

Sincerely,

Suna Yi Sariscak, Manager
Air Quality Permits Program
Air & Radiation Administration

SYS/jm

Enclosures

cc: EPA Region III (w/encl)

KEEP PERMIT AT SITE

CONTROL NO. B - 07282

Larry Hogan
Governor

State of Maryland

Horacio Tablada
Secretary

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

[ ] Construction Permit

[X] Part 70 Operating Permit

PERMIT NO. 24-033-0010

DATE ISSUED DEC 13 2022

PERMIT FEE To be paid in accordance with COMAR 26.11.02.19B

EXPIRATION DATE September 30, 2027

LEGAL OWNER & ADDRESS

University of Maryland
Thomas V. Miller, Jr Administration Building
Room #2119
7901 Regents Drive
College Park, MD 20742-5035
Attn: Mr. Carlo Collela, Vice President
& Chief Administrative Officer

SITE

University of Maryland
4716 Pontiac Street, Seneca Building 812
College Park, MD 20742
Prince George's County
AI # 16453

SOURCE DESCRIPTION

One (1) Steam Plant (CSP) Cogeneration Facility.

This source is subject to the conditions described on the attached pages.

Program Manager

Director, Air and Radiation Administration

(NOT TRANSFERABLE)

UNIVERSITY OF MARYLAND (UMD) AND
MARYLAND ECONOMIC DEVELOPMENT CENTER (MEDCO)
SENECA BUILDING, SUITE #0103
4716 PONTIAC STREET
COLLEGE PARK, MARYLAND 20742-6511
PART 70 OPERATING PERMIT NO. 24-033-0010

UNIVERSITY OF MARYLAND (UMD) AND
MARYLAND ECONOMIC DEVELOPMENT CENTER (MEDCO)
SENECA BUILDING, SUITE #0103
4716 PONTIAC STREET
COLLEGE PARK, MARYLAND 20742-6511
PART 70 OPERATING PERMIT NO. 24-033-0010

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

The University of Maryland (UMD) is located along US Route 1 in Prince George's County Maryland. The UMD is primarily an academic institution where most of the equipment is used for either utilities or power generation. Utility use includes heating and cooling for campus housing, offices, instructional and laboratory use. Primary power generation comes from the central steam plant/cogeneration facility operated by UMD. The facility also operates emergency generator sets for emergency power generation as needed, charbroilers, and other various boilers, heaters, and furnaces. The SIC code for the facility is 8221.

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE – ARA Registration Number	Emissions Unit Name and Description	Date of Installation
Central Heating Plant (CHP), Building #001			
EU #001-7	9-1081	One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 Mwe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner	January 2004
EU #001-8	9-1082	One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 Mwe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner	January 2004
EU #001-2	5-0256	One (1) NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired 157 MMBtu/hr. Union Iron boiler	1976
EU #001-4	5-0159	One (1) NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired 117 MMBtu/hr. Union Iron boiler	1966
EU #001-6	9-1083	One (1) diesel-fired 1,109 bhp, 780 kWe, Caterpillar emergency generator set	2004
EU-#001-9	5-1665	One (1) Wabash NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only fired boiler rated at 95 MMBtu/hr. mobile boiler	2020

EU-#001-10	4-1980	One (1) Cleaver Brooks No. 2 fuel oil-fired 6.695 MMBtu/hr. mobile boiler.	2022
EU #360	4-1974	One (1) Cleaver Brooks No. 2 oil-fired mobile boiler, Model CB200, rated at 8.4 MMBtu/hr.	2018
Ritchie Coliseum, Building #004			
EU #004-1	5-0945	One (1) PVI 1.0 MMBtu/hr. natural gas-fired hot water heater	1997
EU #004-2	5-0946	One (1) PVI 1.0 MMBtu/hr. natural gas-fired hot water heater	1997
Plant Sciences Building #036			
EU #036-1	9-0898	One (1) natural gas-fired Caterpillar emergency generator set, Model #3516, 780 kWe; Caterpillar engine, Model #9Y0598, Serial #3RC99077, 1,106 bhp.	1996
Van Munching, Building #039			
EU #039-1	9-1184	One (1) Stamford diesel-fired emergency generator set rated at 400kWe, Model #GTA19, 596 bhp	2003
Eppley Recreation Center (CRC), Building #068			
EU #068-1	5-0947	One (1) PVI natural gas-fired water heater rated at 1.4 MMBtu/hr.	1997
EU #068-3	5-0949	One (1) 2.45 MMBtu/hr. natural gas-fired hot water heater	1997
EU #068-4	5-1457	One (1) Lars Mighty Therm natural gas-fired pool heating boiler rated at 2.0 MMBtu/hr. for indoor pools.	2009
EU #068-5	5-1458	One (1) Lars Mighty Therm natural gas-fired pool heating boiler rated at 2.0 MMBtu/hr. for indoor pools.	2009
EU #068-6	9-1176	One (1) diesel-fired Caterpillar emergency generator set rated at 500 kWe, Model #572RSL4027, 745 bhp.	1996
EU #068-7	5-1680	One (1) Lars Mighty Therm natural gas-fired boiler rated at 2 MMBtu/hr. for indoor pools.	2022
Animal Sciences Building #142			
EU #142-2	9-0900	One (1) Cummins diesel-fired emergency generator set, Model #CC634A, Serial #D892174048, rated 775 kWe; Cummins engine, Model #KTA38-38G51, Serial #33115424, emergency generator set has a maximum rated capacity of 1,135 bhp	1990
Adele H. Stamp Student Union, Building #163			
EU #163-1	5-1030	One (1) natural gas-fired hot water heater rated 1.2 MMBtu/hr.	2000

EU #163-2	5-1029	One (1) natural gas-fired hot water heater rated 1.2 MMBtu/hr.	2000
EU #163-3	8-0424	One (1) natural gas fired charbroiler	2019
Denton Dining Hall, Building #251			
EU #251-1	8-0329	One (1) Jade KC-36 charbroiler	2009
Xfinity (Comcast) Center, Building #360			
EU #360-1	9-1178	One (1) diesel-fired Caterpillar emergency generator set rated at 500 kWe, Model #SR4, Serial AFE00146,745 bhp	2001
EU #360-2	9-1179	One (1) diesel-fired Caterpillar emergency generator set rated at 500 kWe, Model #SR4, Serial AFE00177,745 bhp	2001
EU #360-4	8-0227	One (1) natural gas fired Magikitchen RMB 48 charbroiler	2001
EU #360-5	8-0228	One (1) natural gas fired Magikitchen RMB 48 charbroiler	2001
EU #360-6	8-0229	One (1) natural gas fired Magikitchen RMB 48 charbroiler	2001
Maryland Stadium, Building #361-(formerly Byrd)			
EU #361-1	5-0856	One (1) natural gas fired Jarco water heater rated at 1.2 MMBtu/hr., model #AJH120, Serial #680.	1995
EU #361-2	5-0854	One (1) natural gas fired Jarco water heater rated at 1.4 MMBtu/hr., model #AJH140, Serial #677.	1995
EU #361-3	5-0855	One (1) natural gas fired Jarco water heater rated at 1.4 MMBtu/hr., model #AJH140, Serial #676.	1995
Clarice Smith Performing Arts Center, Building #386			
EU #386-1	9-1177	One (1) diesel fired Katolight emergency generator set rated at 500 kWe, Model #D500FRXY, 745 bhp	2000
Technology Advancement Program Building #387			
EU #387-1	5-0944	One (1) natural gas fired Cleaver Brooks Model M4W boiler rated at 3.0 MMBtu/hr.	1998
EU #387-2	5-0943	One (1) natural gas fired Cleaver Brooks Model M4W boiler rated at 3.0 MMBtu/hr.	1998
SCUB III, Building #392			
EU #392-1	5-0942	One (1) natural gas fired Lochinvar boiler rated at 1.44 MMBtu/hr.	1998
EU #392-2	5-0941	One (1) natural gas fired Lochinvar boiler rated at 1.44 MMBtu/hr.	1998
EU #392-3	9-1180	One (1) diesel fired Detroit emergency generator set rated at 835 kWe, Model #750DS4, 1,120 bhp.	2001

Research Greenhouse, Building #398			
EU #398-1	5-1032	One (1) natural gas fired boiler rated at 8.4 MMBtu/hr., Hurst Series 100 three-pass firebox design with Model CR4-G-30 burner	2002
EU #398-2	5-1033	One (1) natural gas fired boiler rated at 8.4 MMBtu/hr., Hurst Series 100 three-pass firebox design with Model CR4-G-30 burner	2002
EU #398-3	9-1191	One (1) diesel fired Detroit Diesel emergency generator set rated at 450 kWe, Model #450DSE4, 670 bhp.	2003
SCUB IV, Building #405			
EU #405-1	9-1181	One (1) diesel fired Detroit Diesel emergency generator rated at 700 kWe, Model; #750D34	2001
EU #405-2	9-1182	One (1) diesel fired Detroit Diesel emergency generator rated at 700 kWe, Model; #750D84	2001
Biosciences Research Building #413			
EU #413-1	5-1226	One (1) natural gas fired Fulton Steam boiler rated at 1.26 MMBtu/hr.	2006
EU #413-2	5-1227	One (1) natural gas fired Fulton Steam boiler rated at 1.26 MMBtu/hr.	2006
EU #413-3	5-1228	One (1) natural gas fired Fulton Steam boiler rated at 1.26 MMBtu/hr.	2006
EU #413-4	9-1248	One (1) diesel fired Detroit Diesel emergency generator set rated at 835 kWe, Model #750DSEB, 1,120 bhp	2006
EU #413-5	9-1183	One (1) diesel fired Detroit Diesel emergency generator set rated at 835 kWe, Model #750D84, 1,120 bhp	2002
SCUB VI, Building #418			
EU #418-1	9-1296	One (1) diesel fired Kohler emergency generator set rated at 600 kWe, Model #600REOZMB, 918 bhp	2008
Oakland Hall, Building #419			
EU #419-1	9-1387	One (1) natural gas fired Stamford emergency generator set, Model 450GFGACC, rated at 450 kWe, Cummins engine, Model GTA28CC, rated 701 bhp	2012
Physical Sciences Complex, #415			
EU #415-1	9-1408	One (1) Cummins diesel fired emergency generator set, Model 1250DQGAA, rated at 1,250 kWe, Cummins engine, Model QSK50-G4 NR2, 2,220 bhp	2013
A. James Clark Hall, Building #429			
EU #429-1	9-1495	One (1) Caterpillar natural gas fired emergency generator set, Model G3512, rated 750 kWe.	2016

EU-#429-2	9-1496	One (1) Caterpillar natural gas fired emergency generator set, Model G3512, rated 750 kWe.	2016
Atlantic Building, #224			
EU #224-1	9-1537	One (1) Caterpillar diesel fired emergency generator set, Model G3512, rated 1,250 kWe, Cummins engine, Model QSK50, rated at 2,220 bhp.	2019
Brendan Iribe Center for Computer Science and Innovation, Building #432			
EU #432-1	9-1516	One (1) Kohler natural gas fired emergency generator set, Model 400REZXB, rated at 400 kWe, 536 bhp.	2017
Patuxent Building, #010			
EU #010-1	9-1545	One (1) diesel fired emergency generator set rated at 685 bhp	~2008
Prince Frederick Hall Building #425			
EU #425-1	9-1420	One (1) Cummins natural gas fired emergency generator set, Model KTA19G, rated at 395 kWe, 530 bhp.	2013
School of Public Health Building, #255			
EU #255-1	9-1536	One (1) Kohler diesel fired emergency generator set, Model 350REOZB, rated at 401 kWe, 538 bhp.	2018
Mobile			
EU #810-1	9-1517	One (1) mobile diesel fired emergency generator set, rated at 500 kWe, 757 bhp.	2017
SCUB II, Building #067			
EU #067-1	5-1635	One (1) PVI natural gas fired hot water heater rated at 2.01 MMBtu/hr.	2019
EU #067-2	5-1636	One (1) PVI natural gas fired hot water heater rated at 2.01 MMBtu/hr.	2019
EU #067-3	9-1568	One (1) Caterpillar 636 bhp natural gas fired emergency generator	2020
Laboratory of Physical Science, Building #796			
EU #796-1	9-1546	One (1) diesel fired emergency generator set rated at 1,111 kWe, 1,490 bhp	2019
EU #796-2	9-1547	One (1) diesel fired emergency generator set rated at 1,111 kWe, 1,490 bhp	2019
EU #796-3	5-1662-1	One (1) HB Smith natural gas fired boiler rated at 2.403 MMBtu/hr.	2010
EU #796-4	5-1662-2	One (1) HB Smith natural gas fired boiler rated at 2.403 MMBtu/hr.	2010
General Permit			
Mobile	8-0425	Ten (10) Belson grills fired on liquid propane.	Various
Mobile	8-0425	Two (2) Holstein grills fired on liquid propane.	Various
Cole Field house Building #162			

EU #162-1	9-1555	One (1) diesel fired emergency generator set rated at 1,194 bhp	2019
EU #162-2	8-0435	One (1) Jade Titan natural gas fired charbroiler.	2021
Gudelsky Vet Science Building #795			
EU #795-1	5-0980	One (1) Cleaver Brooks, Model #CB200-50, Serial #L8389, natural gas fired boiler rated at 2.1 MMBtu/hr.	1996
EU #795-2	5-0978	One (1) Cleaver Brooks, Model #CB200-200, natural gas fired boiler rated at 8.4 MMBtu/hr.	1996
EU #795-3	5-0979	One (1) Cleaver Brooks, Model #CB200-200, natural gas fired boiler rated at 8.4 MMBtu/hr.	1996
EU #795-4	9-1175	One (1) Caterpillar, Model #SR4, Serial #6FA04786, diesel fired emergency generator set rated at 890 bhp.	1986
Maryland Fire and Rescue Institute (MFRI), Building #199			
EU #199-2	5-1674	One (1) Weil McLain, Model #1080 natural gas fired boiler rated at 1.38 MMBtu/hr.	2021
Pocomoke Building #007			
EU #007-1	9-1419	One (1) Generac, Model #SD500, diesel fired emergency generator set rated at 500 kWe, 757 bhp	2013
Chesapeake Building #338			
EU #338-1	5-1664-1 & 5-1664-2	Two (2) Trane natural gas fired furnaces, each rated at 1 MMBtu/hr.	2019
Microbiology Building #231			
EU #231-1	9-1569	One (1) 550 bhp natural gas fired emergency generator	2016
UMD Golf Course Clubhouse, #166			
EU #166-1	8-0438	One (1) Vulcan Hart natural gas fired charbroiler.	2021
E.A Fernandez Idea Factory, #228			
EU #228-1	9-1583	One (1) John Deere diesel fired emergency generator set rated at 617 bhp	2021
Yahentamitsi Dining Hall, #436			
EU #436-1	9-1578	One (1) Kohler model #450REZXB natural gas fired emergency generator set rated at 684 bhp.	2020
EU #436-2 thru EU #436-6	8-0432	Five (5) Jade Model JMRH-36B and JMRH-48B natural gas fired charbroilers.	2021

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARA	Air and Radiation Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct
PTO	Permit to operate (State)

SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements

that become applicable to the facility after the date a completed application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal, including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit..

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of

the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required by (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon

presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

[COMAR 26.11.03.03B(23)] and [40 CFR 68]

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.155.

e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.157.

16. ACID RAIN PERMIT

Not applicable

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping, and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. **[Reference: COMAR 26.11.03.06C(5)(g)]**

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1.0	**Emissions Unit Number(s): EU #001-7 & EU #001-8** **EU #001-7**: One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 MWe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner. **[9-1081]** **EU #001-8**: One (1) GE model PGT-10B/1, NG/No.2 fuel oil fired 11.2 MWe – 16,200 bhp combustion turbine equipped with a 126 MMBtu/hr. duct burner. **[9-1082]** Located in the Central Heating Plant.
1.1	**Applicable Standards/Limits:** A. Control of Visible Emissions *Combustion Turbines and Duct Burners* **COMAR 26.11.09.05** - Visible Emissions. **A**. Fuel Burning Equipment. (**2**) Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data,

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emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.
(3) Exceptions. Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
(a) The visible emissions are not greater than 40 percent opacity; and
(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period."

B. Control of Sulfur Oxides
Combustion Turbines only
COMAR 26.11.09.07A(2) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV:
(b) Distillate fuel oil, 0.3 percent."

40 CFR 60 Subpart GG: §60.333 - Standard for sulfur dioxide.
"On and after the date on which the performance test required to be conducted by Sec. 60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with one or the other of the following conditions:
(a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contains sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw)." *(1)

CPCN #8840 issued on October 25, 2000, amended December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015, which limits **sulfur in fuel content to 0.2 percent by weight.**

***Note (1)**: Compliance with the more stringent CPCN distillate fuel oil sulfur content of 0.2% will be used to determine compliance with the COMAR and NSPS Subpart GG fuel oil sulfur requirements.

C. Control of Nitrogen Oxides

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Combustion Turbines only

40 CFR Subpart GG - Standard for nitrogen oxides

§60.332(a). "On and after the date on which the performance test required by §60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b), (c), and (d) of this section shall comply with one of the following, except as provided in paragraphs (e), (f), (g), (h), (i), (j), (k), and (l) of this section.

(2) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150\ (14.4)/Y + F$$

Where:
STD = allowable ISO corrected (if required as given in § 60.335(b)(1) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis),
Y=manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour, and
F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(4) of this section.

(3) The use of F in paragraphs (a)(1) and (2) of this section is optional. That is, the owner or operator may choose to apply a NO_x allowance for fuel-bound nitrogen and determine the appropriate F-value in accordance with paragraph (a)(4) of this section or may accept an F-value of zero.

(4) If the owner or operator elects to apply a NO_x emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under § 60.8 as follows:

Fuel-bound nitrogen (% by weight)	F: (NO_x % by volume)
N<0.015	0
0.015<N<0.1	0.04(N)
0.1<N<0.25	0.004+0.0067(N-0.1)
N>0.25	0.005

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Where:
N=the nitrogen content of the fuel (percent by weight), or
Manufacturers may develop and submit to EPA custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Administrator before the initial performance test required by § 60.8. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register."

"**(d)** Stationary gas turbines with a manufacturer's rated base load at ISO conditions of 30 megawatts or less except as provided in §60.332(b) shall comply with paragraph (a)(2) of this section."

Note (2): Based on CPCN application when taking no allowance for fuel bound nitrogen, the STD value nitrogen oxide emissions from each combustion turbine shall be limited to the following: 201 ppm (firing natural gas); and 199 ppm (firing No. 2 fuel oil).

COMAR 26.11.09.08G(2) - Control of NOx Emissions for Major Stationary Sources - "Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent.
"A person who owns or operates a combustion turbine with a capacity factor greater than 15 percent shall meet an hourly average NO_x emission rate of not more than ***42 ppm*** when burning gas or ***65 ppm*** when burning fuel oil (dry volume at 15 percent oxygen) or meet applicable Prevention of Significant Deterioration limits, whichever is more restrictive."

Capacity factor means either: (1) the ratio of a unit's actual annual electric output (expressed in MWe-hr) to the unit's nameplate capacity times 8760 hours, or (2) the ratio of a unit's annual heat input (in million British thermal units or equivalent units of measure) to the unit's maximum design heat input (in million British thermal units per hour or equivalent units of measure) times 8,760 hours. **[40 CFR 72.2]**

Note (3): *The Permittee shall comply with the more restrictive emission rate limits stipulated by the State regulation, COMAR 26.11.09.08G(2), which supersedes the federal regulation, §60.332 (a)(2).*

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Duct Burners only

40 CFR §60.44b- Federal Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units - NO_x emissions from each duct burner shall be limited to 0.2 lbs./MM Btu.

COMAR 26.11.09.08D(1)(b)- Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of Less than 250 MM Btu per hour and Greater than 100 MM Btu/hr. - All other fuel burning equipment with a rated heat input capacity of less than 250 MM Btu per hour shall meet the NO_x emission rates set forth in §B(1)(c) of this regulation.
§B(1)(c): Emission Standards in Pounds of NO_x per MM Btu of heat input.

Fuel	***Tangential-Fired***	***Wall-Fired***
Gas Only	0.20	0.20
Gas/Oil	0.25	0.25

D. Operational Limit
Combustion Turbines only
CPCN #8840 issued on October 25, 2000, and amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015, states that the Permittee shall burn only natural gas or No. 2 fuel oil in the combustion turbines.

The combustion turbines shall be operated and maintained in accordance with the facility's combustion turbine operation and maintenance (O & M) plan, which can also include service agreements with outside maintenance contractors. A copy of the plan must be maintained on site and made available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

Duct Burners only
CPCN #8840 issued on October 25, 2000, and amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015, states that the Permittee shall burn only natural gas in the duct burners.

1.2 Testing Requirements:

A. Control of Visible Emissions
See Monitoring Requirements.

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	B. Control of Sulfur Oxides "Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s)."[**Reference:40 CFR 60 Subpart A – §60.8**] (*Completed*) **40 CFR 60 Subpart GG - §60.335**– Test methods and procedures: **(b)(10)** "If the owner or operator is required under §60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using: (i) For liquid fuels, ASTM D129–00, D2622–98, D4294–02, D1266–98, D5453–00 or D1552–01 (all of which are incorporated by reference, see §60.17); **(b)(11)** The fuel analyses required under paragraphs (b)(9) and (b)(10) of this section may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency." C. Control of Nitrogen Oxides *Combustion Turbines only* **40 CFR 60 Subpart GG - §60.335** – Test methods and procedures: "(**a**) The owner or operator shall conduct the performance tests required in Sec. 60.8, using either (1) EPA Method 20, (2) ASTM D6522-00 (incorporated by reference, see Sec. 60.17), or (3) EPA Method 7E and either EPA Method 3 or 3A in appendix A to this part, to determine NO_x and diluent concentration." **40 CFR 60 Subpart GG - §60.335**: (**b**) "The owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in §60.332 and shall meet the performance test requirements of §60.8 in accordance with the requirements of Part (b) of this Section (§60.335). *Subsequent Testing:* After the initial compliance test required under 40 CFR 60 Subpart GG, the owner or operator shall perform a stack test for each CGT unit once during the 5-year operating permit term, and not

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	less than one year prior to expiration of the permit. All testing shall be completed, and the results submitted at least one year prior to the expiration of the operating permit. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit The Permittee shall sample the NOx emissions after any maintenance swap out or replacement of turbine drives including, rebuilds, replacements of shafts, turbine impellers, casings, liners, etc. Once installed, the replacement/rebuilt combustion turbines exhaust shall be tested for NOx emissions by calibrated handheld analyzer twice per operating day, such that readings occur approximately 12 hours apart. Reading shall take place for a minimum of 7 operating days and with the CT operating at a minimum of 90% of its capacity. Records of the sampling results shall be maintained on site and made available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**
1.3	**Monitoring Requirements:** A. Control of Visible Emissions *Combustion Turbines only* The Permittee shall verify that there are no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation of stack emissions for a 12-minute period at least once for each 168 hours that the combustion turbines burn oil. If oil is burned for less than 100 hours in a calendar year, this requirement is waived for that calendar year. The Permittee shall perform the following, if emissions are visible: (a) inspect combustion control system and combustion turbine operations, (b) perform all necessary adjustments and/or repairs to the combustion turbine within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the combustion turbine. The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when the combustion turbine is operating on No.2 fuel oil for 18 minutes until corrective action have eliminated visible emissions. **[Reference: COMAR 26.11.03.06C]**.

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B. Control of Sulfur Oxides

Combustion Turbines only

40 CFR 60 Subpart GG § 60.334 - Monitoring of operations.

"**(h)** The owner or operator of any stationary gas turbine subject to the provisions of this subpart:

"(4) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule."

"**(i)** The frequency of determining the *sulfur* and *nitrogen* content of the fuel shall be as follows:

"(3) Custom schedules. Notwithstanding the requirements of paragraph (i)(2) of this section, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (i)(3)(i) and (i)(3)(ii) of this section, custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in § 60.333."

"**(j)** For each affected unit that elects to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content or fuel nitrogen content under this subpart, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with § 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction...."

Sulfur Monitoring.

(a) Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).

(b) Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows variability in the fuel sulfur content, and indicated consistent

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compliance with 40 CFR Section 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.

(c) If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emissions limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.

(d) Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the EPA Regional Office Air Division of each excess emissions and the custom schedule shall be re-examined by the EPA. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

(3) If there is a change in fuel supply, the owner or operator must notify the EPA of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined."
[Reference: Letter dated October 6, 2000, from EPA to Trigen Services of College Park: Approval for Custom Monitoring]

C. Control of Nitrogen Oxides
Combustion Turbines only
40 CFR 60 Subpart GG § 60.334 - Monitoring of operations.
(h) The owner or operator of any stationary gas turbine subject to the provisions of this subpart:
"(4) For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

(1) Nitrogen Oxides. "Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine."
[Reference: Letter dated October 6, 2000 from EPA to Trigen Services of College Park: Approval for Custom Monitoring]

The Permittee shall measure the NO_x content of the flue gases from each CGT for a 3 to 5-minute period every 168 hours of operation. The

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	Permittee shall use an analyzer that is properly calibrated and maintained in accordance with the vendor specification. The analyzer shall be the type approved by the Department. This requirement is waived for any combustion turbine and duct burner that operates less than 400 hours during a calendar quarter. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit *Combustion Turbines only* The Permittee shall calculate the monthly usage of No. 2 fuel oil and natural gas burned in the combustion turbines and shall calculate the usage for each 12-month rolling period. The calculations shall be completed within 30 days of the end of each calendar month. **[Reference: COMAR 26.11.03.06C]** *Duct Burners only* The Permittee shall calculate the monthly usage of natural gas burned in the duct burners and calculate the usage for each 12-month rolling period. The calculations shall be completed within 30 days of the end of each calendar month. **[Reference: COMAR 26.11.03.06C]**
1.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall: (1) Maintain records of the results of visual emissions observations performed; (2) Maintain a record of the maintenance performed that relates to combustion performance; and (3) Maintain an operation manual and maintenance plan on site. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides *Combustion Turbines only* The Permittee shall maintain records of all fuel oil certifications indicating that the oil complies with the limitations on **sulfur** and nitrogen content and make them available to the Department upon request. The Permittee or its fuel supplier or designated agent shall

Table IV – 1	
	determine compliance with the sulfur content standard in § 60.333(b) as follows: ASTM D 2880-71, 78, or 96 shall be used to determine the sulfur content of liquid fuels. Certification may include: i) a fuel supplier certification consisting of the name of the fuel oil supplier and a statement from the supplier that the fuel oil complies with specifications for fuel oil in accordance with Subpart GG - §60.335; ii) a record of fuel analysis by the Maryland State Comptroller's Office; and iii) A certified statement signed by the authorized representative of the facility, stating that the records of fuel supplier certifications submitted represent all of the fuel oil combusted. **[Reference: 40 CFR 60 Subpart GG - §60.335, & COMAR 26.11.03.06C]** (4) Record of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years or consistent with applicable State Permit **[5 years]**, and be available for inspection by personnel of federal, state, and local air pollution control agencies." **[Reference: Letter dated October 6, 2000, from EPA to Trigen Services of College Park: Approval for Custom Monitoring]** C. Control of Nitrogen Oxides The Permittee shall maintain a record of the results of the quarterly NO_x sampling analyses for a period of at least five years. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit *Combustion Turbines & Duct Burners* The Permittee shall maintain the following records on-site and make them available to the Department upon request: (1) Records of monthly No. 2 fuel oil and natural gas usage in the combustion turbines; (2) Records of the monthly natural gas usage burned in the duct burners; and (3) The Permittee shall maintain records of the occurrences and duration of any startup, shutdown and/or malfunctions in the operation of the combustion turbines (4) Maintenance records, including but not limited to the following:

Table IV – 1	
	(a) Copy of operation and maintenance plan and/or copy maintenance contracts with outside contractors. (b) Records of work performed and why, i.e., scheduled maintenance or equipment failure, etc. (5) Records of any maintenance swap out or replacement of turbine drives including, rebuilds, replacements of shafts, turbine impellers, casings, liners, etc. Records shall also include the serial number(s) of the turbine casing, shaft, combustion liner and/or transition to be installed. **[Reference: COMAR 26.11.03.06C]**
1.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall submit fuel certification report upon request by MDE. The Permittee shall maintain records of the results of the fuel sulfur content monitoring on site and shall make those records available to or submit them to the Department upon request. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides **COMAR General Administrative Provisions** – Testing and Monitoring. The Permittee shall submit a test protocol/notification to the Department for approval at least 30 days prior to testing and a notice of intent to test at least 14 days prior to the scheduled test date. The Permittee shall submit the results of stack tests in a final report within 45 days from test completion. **[Reference: COMAR 26.11.01.04A]** The Permittee shall report the results of the quarterly NO_x sampling analyses to the Department within 30 days of the end of each calendar quarter. **[Reference: COMAR 26.11.03.06C]** {**Note**: Only required when CTs are firing No. 2 fuel oil} D. Operational Limits *Maintenance swap out/replacement of CTs*: The Permittee shall notify the Department 1 week prior to any turbine maintenance swap out or replacement as specified above. Prior notification is not required for

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	general maintenance or repairs, including replacement of turbine shafts, impellers, liners, etc. Notification shall include the reason for replacement, i.e., turbine failure, etc. Notification shall also include the serial number(s) of the turbine casing, shaft, combustion liner and/or transition to be installed. The Permittee shall provide the Department with the results of NO_x sampling, which is required after any rebuild, maintenance swap out or replacement of a turbine. The results shall be submitted within 14 days after the sampling. **[Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 1a	
1a.0	**Emissions Unit Number(s): Combined Heat and Power Plant (CHP)** **Plant-Wide Emissions Cap** **EU #001-7 & EU #001-8**: Two-(2) GE Model PGT-10B/1, natural gas/No.2 fuel oil-fired 11.2 MW Combustion Turbines (CTs), each equipped with a 126 MM Btu/hr. duct burner and heat recovery steam generator (HRSG). **EU #001-2**: One 157 MM Btu/hr. Union Iron dual (NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired boiler. **EU #001-4**: One 117 MM Btu/hr. Union Iron dual (NG/No. 2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired boiler. **EU #001-6:** One 780 kW diesel fueled Caterpillar generator. **EU #001-9**: One 95 MM Btu/hr. Wabash dual (NG/ No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired mobile boiler **[5-1665]** Located in the Central Heating Plant.
1a.1	**Applicable Standards/Limits:** **CPCN #8840 issued on October 25, 2000, amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015 -** To avoid triggering Prevention of Significant Deterioration (PSD) and

Table IV – 1a	
	Nonattainment New Source Review (NA-NSR), the CHP air emission sources are to be operated under a plant-wide emissions cap with 12-month rolling emissions totals for each pollutant not to exceed: NO_x: 177 tons/year CO: 130 tons/year PM: 18.7 tons/year PM_{10}: 19 tons/year SO_x : 33.5 tons/year VOC: 19.8 tons/year The Permittee shall conduct emission calculations of NO_x, CO, PM_{10}, SO_x and VOC on a monthly basis for sources included in the plant-wide emissions cap. These calculations shall include the current month total emissions and the twelve-month rolling total emissions for NO_x, CO, PM_{10}, SO_x and VOC.
1a.2	**Testing Requirements:** (a) The owner or operator shall conduct performance stack tests for NO_x, CO, PM_{10}, SO_x and VOC emissions, for each CHP boiler once during the 5-year operating permit term, and not less than one year prior to expiration of the permit. The tests shall be conducted in accordance with the reference methods and procedures of 40 CFR 60 Appendix A. (b) The Permittee shall provide the Department at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. The Permittee shall provide the Department with two copies of the test protocols at least 30 days prior to any scheduled performance tests. (c) The Permittee shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test. Results of most current stack test shall be used to determine compliance operational limitations and the Plant-wide Emissions Cap. (d) Results of most current stack test shall be used to determine emissions factors used to determine compliance with the Plant-wide Emissions Cap.

Table IV – 1a	
	[Reference: COMAR 26.11.01.04 & COMAR 26.11.03.06C]
1a.3	**Monitoring Requirements:** The Permittee shall conduct emission calculations of NO_X, CO, PM_{10}, SO_X and VOC on a monthly basis for sources included in the plant-wide emissions cap. These calculations shall include the current month total emissions and the twelve-month rolling total emissions for NO_X, CO, PM_{10}, SO_X and VOC. Results of most current stack test(s) and/or sampling, as applicable, shall be used to determine compliance operational limitations and the Plant-wide Emissions Cap. **[Reference: COMAR 26.11.03.06C and CPCN #8840 issued on October 25, 2000, and amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015]**
1a.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** The Permittee shall maintain records of the emissions calculations on-site for at least five years and shall make them available to the Department upon request. **[Reference: COMAR 26.11.03.06C]**
1a.5	**Reporting Requirements:** The Permittee shall report results of the CHP emission calculations (NO_X, CO, PM_{10}, SO_X, and VOC) to the Department within 30 days at the end of each calendar quarter. **[Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 1b	
1b.0	**Emissions Unit Number(s): EU #001-9 & EU #001-10 & EU #360-3** **EU #001-9**: One 95 MMBtu/hr. Wabash dual (NG/ No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired mobile boiler **[5-1665]** **EU #001-10:** One 6.695 MMBtu/hr. Cleaver Brooks No.2 fuel fired mobile boiler **[4-1980]** **EU #360-3:** One 8.4 MMBtu/hr. Cleaver Brooks No.2 fuel fired mobile boiler **[4-1974]** Located in the Central Heating Plant or throughout the campus.
1b.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05** - Visible Emissions. **A**. Fuel Burning Equipment. **(2)** Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity. **(3)** Exceptions. Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if: (a) The visible emissions are not greater than 40 percent opacity; and (b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period." *NSPS applies to **EU #001-9** (Reg No. 5-1665) only* B. Control of Particulate Matter **40 CFR Part 60 Subpart Dc**—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units with a heat input capacity less than 100 MMBtu/hr. but greater than 10 MMBtu/hr. for construction began after June 9, 1989. **§60.43c** - Standard for particulate matter (PM). **(c)** On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or **oil** and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere

Table IV – 1b	
	from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity."... **(d)** The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction. Note: Compliance with the "No Visible Emissions" requirements of COMAR 26.11.09.05A(2) and (3) will be used to show compliance with this NSPS standard. C. Control of Sulfur Oxides **COMAR 26.11.09.07A(2)** – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: **(b) Distillate fuel oil, 0.3 percent."** *NSPS applies to **EU #001-9** (Reg. 5-1665) only* **40 CFR Part 60 Subpart Dc**—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units with a heat input capacity less than 100 MMBtu/hr. but greater than 10 MMBtu/hr for construction began after June 9, 1989. **§60.42c** - Standard for sulfur dioxide (SO_2). **(d)** On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that **combusts oil** shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb./MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph. **(h)** For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable. **(1)** Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr.).

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	(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction. **Note**: The monitoring, record keeping, and reporting requirements under NSPS Subpart Dc will be used to demonstrate compliance with COMAR 26.11.09.07A and NSPS sulfur in fuel standards. D. Control of Nitrogen Oxides **COMAR 26.11.09.08B(5)** - Operator Training. "(a) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. (b) The operator-training course sponsored by the Department shall include an in-house training course that is approved by the Department." **COMAR 26.11.09.08E**. Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of 100 Million Btu Per Hour or Less. A person who owns or operates fuel-burning equipment with a rated heat input capacity of 100 Million Btu per hour or less shall: (1) Submit to the Department an identification of each affected installation, the rated heat input capacity of each installation, and the type of fuel burned in each; (2) Perform a combustion analysis for each installation at least once each year and optimize combustion based on the analysis; (3) Maintain the results of the combustion analysis at the site for at least 2 years and make this data available to the Department and the EPA upon request; (4) Once every 3 years, require each operator of the installation to attend operator training programs on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (5) Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. E. Operational Limit The boilers shall burn only No. 2 fuel oil unless the Permittee applies for and receives an approval or permit from the Department to burn

Table IV – 1b	
	alternate fuels. **[Reference: COMAR 26.11.02.09A & Permit to Construct Nos. 033-0010-4-01974 & -4-1980]** The boiler shall burn primarily natural gas and No. 2 fuel oil during periods of curtailment unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels. The boiler shall not burn any distillate fuel oil with sulfur content greater than 0.3% by weight. **[Reference: COMAR 26.11.02.09A & Permit to Construct Nos. 033-0010-5-1665]**
1b.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements B. Control of Particulate Matter *NSPS applies to **EU #001-9** (Reg. 5-1665) only* **§60.45c** - Compliance and performance test methods and procedures for particulate matter. (**d**) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(**4**) shall follow the applicable procedures under §60.48c(f).".... C. Control of Sulfur Oxides *NSPS applies to **EU #001-9** (Reg. 5-1665) only* **§60.44c** - Compliance and performance test methods and procedures for sulfur dioxide. (**h**) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable. D. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis for each installation at least once each year. **[Reference: COMAR 26.11.09.08E(2)]** E. Operational Limit See Record Keeping Requirements.

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1b.3	**Monitoring Requirements:** A. Control of Visible Emissions (1) The Permittee shall verify that there are no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation of stack emissions for a 12-minute period at least once for each 168 hours that the combustion turbines burn oil. If oil is burned for less than 100 hours in a calendar year, this requirement is waived for that calendar year. The Permittee shall perform the following if emissions are visible: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the boilers. (2) The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when the boilers are operating on No.2 fuel oil for 18 minutes until corrective action have eliminated visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Monitoring Requirements for Control of Visible Emissions. C. Control of Sulfur Oxides *NSPS applies to* ***EU #001-9*** *(Reg. 5-1665) only* **§60.46c** - Emission monitoring for sulfur dioxide. (**e**) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under §60.48c(f), as applicable. *COMAR*: The Permittee shall obtain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitation. **[Reference: COMAR 26.11.03.06C]**

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	D. Control of Nitrogen Oxides The Permittee shall optimize combustion based on the combustion analysis. **[Reference: COMAR 26.11.09.08E(2)]** E. Operational Limit See Record Keeping Requirements
1b.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain: (1) Records of the results of visual emissions observations performed for a period of at least 5 years; and (2) Records of maintenance performed on the boiler that relates to combustion performance for a period of at least five years. **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Record Keeping Requirement for Control of Visible Emissions. C. Control of Sulfur Oxides *NSPS applies to **EU #001-9** (Reg. 5-1665) only* **§60.48c** - Reporting and recordkeeping requirements. "(**e**) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable. (**11**) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. (**f**) Fuel supplier certification shall include the following information: (1) For distillate oil: (i) The name of the oil supplier;

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	(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and (iii) The sulfur content or maximum sulfur content of the oil." *COMAR*: The Permittee shall retain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitation for at least 5 years. **[Reference: COMAR 26.11.03.06C]** D. Control of Nitrogen Oxides The Permittee shall maintain on site records of the following: (1) Results of the annual combustion analysis; and (2) Training program attendance for each operator. **[Reference: COMAR 26.11.09.08E(5)]** E. Operational Limit The Permittee shall maintain records of the quantity and types of fuel burned. **[Reference: COMAR 26.11.02.19C(1)(c)]**
1b.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]** B. Control of Particulate Matter See Reporting Requirement for Control of Visible Emissions. C. Control of Sulfur Oxides *NSPS applies to **EU #001-9** (Reg. 5-1665) only* **§60.48c** - Reporting and recordkeeping requirements. **(e)(11)** The report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. **(g)(1)** Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day. (j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the

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	Administrator and shall be postmarked by the 30th day following the end of the reporting period. *COMAR*: The Permittee shall submit fuel certification report if requested by MDE. **[Reference: COMAR 26.11.03.06C]** D. Control of Nitrogen Oxides The Permittee shall submit: (1) The results of combustion analysis to the Department and the EPA upon request. **[Reference: COMAR 26.11.09.08E(3)]** (2) A record of the training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.09.08E(5)]** E. Operational Limit The Permittee shall submit records of the quantity and type of fuels burn with the annual emissions certification report. See permit condition 8 of Section III.

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

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2.0	**Emissions Unit Number(s): EU #001-2 & EU #001-4** **EU #001-2**: One 157 MMBtu/hr. dual (NG/ No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired Union Iron Boiler **[5-0256]** **EU #001-4:** One 117 MMBtu/hr. dual (NG/ No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired Union Iron Boiler **[5-0159]** Located in the Central Heating Plant.
2.1	**Applicable Standards/Limits:** A. Control of Visible Emissions **COMAR 26.11.09.05** - Visible Emissions. **A.** Fuel Burning Equipment. **(2)** Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except

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that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.
(3) Exceptions. Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
(a) The visible emissions are not greater than 40 percent opacity; and
(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period."

B. Control of Sulfur Oxides
COMAR 26.11.09.07A(2) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: **(b) Distillate fuel oil, 0.3 percent.**"

C. Control of Nitrogen Oxides
COMAR 26.11.09.08D(1)(b)- Requirements for Fuel-Burning Equipment with a Rated Heat Input Capacity of Less than 250 MM Btu per hour and Greater than 100 MM Btu/hr. - All other fuel burning equipment with a rated heat input capacity of less than 250 MM Btu per hour shall meet the NOx emission rates set forth in §B(1)(c) of this regulation.
§B(1)(c): Emission Standards in Pounds of NOx per MM Btu of heat input.

Fuel	***Tangential-Fired***	***Wall-Fired***
Gas Only	0.20	0.20
Gas/Oil	0.25	0.25

OR

Alternate Operating Scenario.
COMAR 26.11.09.08G(1) - Control of NO_x Emissions
A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR part 72.2) of 15 percent or less shall:
A. Provide certification of the capacity factor of the equipment in writing;
B. For fuel-burning equipment that operates more than 500 hours during a calendar year, perform and optimize combustion at least once annually;

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	C. Maintain the results of the combustion analysis at the site for at least two years and make these results available to the Department and the EPA upon request; D. Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and E. Maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. ***Note**: if the capacity factor for these units in any calendar year is less than 15 percent, the boilers are subject to the NO_x requirements of COMAR 26.11.09.08G(1) only. If the capacity factor for these units in any calendar year is greater than 15 percent, the boilers are subject to the NOX requirements of COMAR 26.11.09.08B(1).* D. Operational Limit **CPCN #8840 issued on October 25, 2000, and amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015,** states that the Permittee shall burn only natural gas or No. 2 fuel oil in the boilers.
2.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides See Monitoring Requirements. D. Operational Limit See Monitoring Requirements.
2.3	**Monitoring Requirements:** A. Control of Visible Emissions

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	(1) The Permittee shall verify that there are no visible emissions when burning No. 2 fuel oil. The Permittee shall perform a visual observation of stack emissions for a 12-minute period at least once for each 168 hours that the combustion turbines burn oil. If oil is burned for less than 100 hours in a calendar year, this requirement is waived for that calendar year. The Permittee shall perform the following if emissions are visible: (a) inspect combustion control system and boiler operations, (b) perform all necessary adjustments and/or repairs to the boiler within 48 hours of operation so that visible emissions are eliminated; and (c) document in writing the results of inspections, adjustments and/or repairs to the boilers. (2) The Permittee shall after 48 hours of operation, if the required adjustments and/or repairs had not eliminated the visible emissions, perform another Method 9 observation once daily when the boilers are operating on No.2 fuel oil for 18 minutes until corrective action have eliminated visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitation. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides (1) The Permittee shall measure the NOx content of the flue gases from each boiler for a 15-minute period once a calendar quarter. The Permittee shall use an analyzer that is properly calibrated and maintained in accordance with the vendor specifications. The analyzer shall be the type approved by the Department. This requirement is waived for any boiler that operates less than 400 hours during a calendar quarter; *Conditions (2) & (3) apply if applicable to Alternate Scenario*: (2) For fuel-burning equipment that operates more than 500 hours during a calendar year, the Permittee shall perform and optimize combustion at least once annually. (3) The Permittee shall maintain a record of the operator training for each operator at the site and make these records available to the Department upon request. **[Reference: COMAR 26.11.03.06C & COMAR 26.11.09.08G(1)]**

Table IV – 2	
	D. Operational Limit The Permittee shall maintain monthly records of the type and amount of fuels fired for each boiler. **[Reference: COMAR 26.11.03.06C]**
2.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain: (1) Records of the results of visual emissions observations for a period of at least 5 years; and (2) Records of maintenance performed that relates to combustion performance for a period of at least five years. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitation for at least 5 years. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides (1) The Permittee shall maintain a record of the quarterly NOx sampling analyses for a period of at least five years. *Conditions (2) & (3) apply if applicable to Alternate Scenario*: (2) The Permittee shall maintain the results of any annual combustion analyses required to be performed at the site for at least five years and make them available to the Department upon request. (3) The Permittee shall maintain a record of the operator training for each operator at the site and make these records available to the Department upon request.**[Reference: COMAR 26.11.03.06C]** D. Operational Limit The Permittee maintain monthly records of the type and amount of fuels fired for each boiler.**[Reference: COMAR 26.11.03.06C]**

Table IV – 2	
2.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall submit fuel certification report if requested by MDE. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall report results of the quarterly NOx sampling analyses to the Department within 30 days of the end of each calendar quarter. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit See Record Keeping Requirements.

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 2a - MACT	
2a.0	**Emissions Unit Number(s): EU #001-2, EU #001-4, EU #001-9, EU #001-10 and EU #360-3** **EU #001-2**: One 157 MMBtu/hr. dual (NG/No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired Union Iron Boiler [**5-0256**] **EU #001-4**: One 117 MMBtu/hr. dual (NG/ No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired Union Iron Boiler [**5-0159**] **EU #001-9**: One 95 MMBtu/hr. Wabash dual (NG/No.2 fuel oil during curtailment/supply interruptions/startup/testing/training only) fired mobile boiler. [**5-1665**] *These boilers are exempt from the requirements as they are considered existing gas-fired boilers.* *[**Reference: §63.11195** - Are any boilers not subject to this subpart? (e) A gas-fired boiler as defined in this subpart]*

Table IV – 2a - MACT	
	"Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year." *"Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility."* **EU #001-10**: One Cleaver Brooks No. 2 oil fired mobile boiler rated at 6.695 MMBtu/hr. **[4-1980]**. **EU #360-3**: One Cleaver Brooks No. 2 oil fired mobile boiler rated at 8.4 MMBtu/hr. **[4-1974]**. Located throughout the campus *These boilers are subject to the requirements of new oil-fired boiler greater than 5 MMBtu/hr. heat input.* Located throughout the campus.
2a.1	**Applicable Standards/Limits:** Control of HAPs: **40 CFR Part 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources** **§63.11194** - What is the affected source of this subpart? (a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section. (1) The affected source of this subpart is the collection of all **existing** industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source. (2) The affected source of this subpart is each **new** or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source.

Table IV – 2a - MACT

§63.11196 - What are my compliance dates?
(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.
(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than ***March 21, 2014***.
(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than ***March 21, 2014.***
(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

§63.11201 - What standards must I meet?
(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in § 63.11237, during which time you must comply only with Table 2 to this subpart.

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices
As stated in § 63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

Your boiler is in this subcategory.	**You must meet the following.**
5. **New oil-fired** boilers with heat input capacity greater than 5 MMBtu/hr. that do not meet the	Conduct a tune-up of the boiler biennially

Table IV – 2a - MACT

	definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	as specified in §63.11223.

§63.11210 - What are my initial compliance requirements and by what date must I conduct them?

(**c**) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2), except as provided in paragraph (j) of this section.

(**g**) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial, or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

§63.11223 - How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

2a.2	**Testing Requirements**: Control of HAPs:

Table IV – 2a - MACT	
	(1) The Permittee must conduct a biennial performance tune-up no more than 25 months after the previous tune-up. For a new boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new boiler. **[Reference: 40 CFR §63.11223(b)]** (2) The Permittee must conduct a biennial tune-up of the boiler to demonstrate continuous compliance as specified below: (a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months). (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. (d) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available. (e) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. (f) Maintain onsite and submit, if requested by the Department, a biennial report containing the following information: i. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler. ii. A description of any corrective actions taken as a part of the tune-up of the boiler. iii. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that

Table IV – 2a - MACT	
	period. Units sharing a fuel meter may estimate the fuel use by each unit. (g) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. **[Reference: 40 CFR §63.11223(b)(1) through (7)]**
2a.3	**Monitoring Requirements:** Control of HAPs: The Permittee must operate and maintain, at all times, any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Reference: 40 CFR §63.11205(a)]**
2a.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** Control of HAPs: (1) The Permittee must keep a copy of each notification and report that is submitted to comply with 40 CFR Part 63, Subpart JJJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status that is submitted as required in 40 CFR §63.10(b)(2)(xiv). **[Reference: 40 CFR §63.11225(c)(1)]** (2) The Permittee must keep records to document conformance with the work practices, emission reduction measures, and management practices required by 40 CFR §63.11214 as follows: a. Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

Table IV – 2a - MACT	
	b. Records documenting the fuel type(s) used monthly by each boiler, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure. **[Reference 40 CFR §63.11225(c)(2)]** (3) The Permittee must keep records of the occurrence and duration of each malfunction of the boiler or of associated air pollution control equipment and monitoring equipment. **[Reference: 40 CFR §63.11225(c)(4)]** (4) The Permittee must keep records of actions taken during periods of malfunctions to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR §63.11205(a), including corrective actions to restore the malfunctioning boiler to its normal or usual manner of operation. **[Reference: 40 CFR §63.11225(c)(5)]** (5) The Permittee must keep the records in a form suitable and readily available for expeditious review. Each record must be kept for five (5) years following the date of each recorded action. The records must remain on site for at least two (2) years after the date of each recorded action. **[Reference: 40 CFR §63.11225(d)]**
2a.5	**Reporting Requirements:** Control of HAPs: (1) The Permittee must submit all applicable notifications in 40 CFR §63.7(b), §63.8(e), §63.9(b) through (e), and §63.9(g) and (h). **[Reference: 40 CFR §63.11225(a)(1)]** (2) The Permittee must submit the Notification of Compliance Status in accordance with 40 CFR §63.9(h) no later than 120 days after the applicable compliance date specified in 40 CFR §63.11196. In addition to the information required in 40 CFR §63.9(h)(2), your notification must include the following certifications of compliance, as applicable, and signed by a responsible official: a. "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler." b. "This facility has had an energy assessment performed according to §63.11214(c)." **[Reference: 40 CFR §63.11225(a)(4)(i)-(iii), 40 CFR §63.11214(b) and 40 CFR §63.11214(c)]**

Table IV – 2a - MACT

(3) By March 1 of each affected calendar year, the Permittee must prepare a biennial compliance certification report for the previous two (2) calendar years containing the information specified in 40 CFR §63.11225(b). The Permittee must submit the report by March 15 if the Permittee had any instance described by 40 CFR §63.11225(b)(3). The compliance report must contain the following information:

a. Company name and address.
b. Statement by a responsible official certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and requirements of 40 CFR 63, Subpart JJJJJJ.
c. If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, time periods during which the deviations occurred, and the corrective actions taken.

[Reference: 40 CFR §63.11225(b)(1) through (3)]

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

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3.0 **Emissions Unit Number(s): Misc Small Boilers, Hot Water heaters and furnaces**

Building	MDE Registration No.	Capacity
Ritchie Coliseum	5-0945 & 5-0946 - **EU #004-1 & EU #004-2**	(2) PVI natural gas, 1.0 MMBtu/hr.
Eppley Recreation Center	5-0947 - **EU #068-1**	PVI natural gas, 1.4 MMBtu/hr.
	5-1680 - **EU #068-7**	Therm natural gas, 2.0 MMBtu/hr.
	5-0949 - **EU #068-3**	Natural gas, 2.45 MMBtu/hr.
	5-1457 - **EU #068-4** 5-1458 - **EU #068-5**	(2) Therm natural gas, 2.0 MMBtu/hr.
Adele H. Stamp Student Union	5-1030 – **EU #163-1** 5-1029 – **EU #163-2**	(2) natural gas , 1.2 MMBtu/hr.
Maryland Stadium	5-0856 – **EU #361-1**	Jarco natural gas, 1.2 MMBtu/hr.
	5-0854 – **EU #361-2** 5-0855 – **EU #361-3**	(2) Jarco natural gas, 1.4 MMBtu/hr.

Table IV – 3

	Technology Advancement Program	5-0944 – **EU #387-1** 5-0943 – **EU #387-2**	(2) Cleaver Brooks, 3.0 MMBtu/hr.
	SCUB III	5-0942 – **EU #392-1** 5-0941 – **EU #392-2**	(2) Lochinvar natural gas, 1.44 MMBtu/hr.
	Research Greenhouse	5-1032 – **EU #398-1** 5-1033 - **EU #398-2**	(2) Hurst natural gas, 8.4 MMBtu/hr.
	Biosciences Research	5-1226 – **EU #413-1** 5-1227 - **EU #413-2** 5-1228 - **EU #413-3**	(3) Fulton natural gas, 1.26 MMBtu/hr.
	Chesapeake Building	5-1664-1 and 5-1664-2 – **EU #338-1**	(2) Trane natural gas, 1 MMBtu/hr.
	SCUB II	5-1635 – **EU #067-1** 5-1636 – **EU #067-2**	(2) PVI natural gas, 2.01 MMBtu/hr.
	Laboratory of Physical Science	5-1662-1 & 5-1662-2 – **EU #796-3 & EU #796-4**	(2) HB Smith natural gas, 2.403 MMBtu/hr.
	Gudelsky Vet Science	5-0980 – **EU #795-1**	Cleaver Brooks natural gas, 2.1 MMBtu/hr.
		5-0978 – **EU #795-2** 5-0979 – **EU #795-3**	(2) Cleaver Brooks natural gas, 8.4 MMBtu/hr.
	Maryland Fire and Rescue Institute	5-1674 – **EU #199-2**	Weil McLain natural gas, 1.38 MMBtu/hr.

3.1 **Applicable Standards/Limits:**

A. Control of Visible Emissions
COMAR 26.11.09.05 - Visible Emissions.
A. Fuel Burning Equipment.
(2) Areas III and IV. In Areas III and IV, a person may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers except that, for the purpose of demonstrating compliance using COM data, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.
(3) Exceptions. Section A(1) and (2) of this regulation do not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:
(a) The visible emissions are not greater than 40 percent opacity; and
(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period."

B. Control of Sulfur Oxides

Table IV – 3	
	COMAR 26.11.09.07A(2) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: **(b) Distillate fuel oil, 0.3 percent.**" C. Control of Nitrogen Oxides **COMAR 26.11.09.08B(5)** - Operator Training. "(**a**) For purposes of this regulation, the equipment operator to be trained may be the person who maintains the equipment and makes the necessary adjustments for efficient operation. (**b**) The operator training course sponsored by the Department shall include an in-house training course that is approved by the Department." **COMAR 26.11.09.08F**. - Requirements for Space Heaters. "(1) A person who owns or operates a space heater as defined in Regulation .01B of this chapter shall: (a) Submit to the Department a list of each affected installation on the premises and the types of fuel used in each installation; (b) Develop an operating and maintenance plan to minimize NO_x emissions based on the recommendations of equipment vendors and other information including the source's operating and maintenance experience; (c) Implement the operating and maintenance plan and maintain the plan at the premises for review upon request by the Department; (d) Require installation operators to attend in-State operator training programs once every 3 years on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and (e) Prepare and maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request. (2) A person who owns or operates an installation that no longer qualifies as a space heater shall inform the Department not later than 60 days after the date when the fuel-burning equipment did not qualify and shall meet the applicable fuel-burning equipment RACT requirement in this regulation."
3.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements.

Table IV – 3	
	B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides See Monitoring Requirements.
3.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall keep the equipment in good working order and properly maintained as to assure compliance with the visible emissions requirements. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain fuel supplier certifications stating the fuel oil is in compliance with the sulfur content in the fuel limitation. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall develop and maintain an operating and maintenance plan to minimize NO_x emissions . **[Reference: COMAR 26.11.09.08F(1)(b)]**
3.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain records of the results of visual emission observations for a period of at least 5 years. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitations for at least five years. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides

Table IV – 3	
	The Permittee shall maintain the following for a period of at least 5 years: (1) records of maintenance performed that relates to combustion performance in keeping with the requirements of an operations and maintenance plan; (2) record of training program attendance for each operator; (3) an operations manual and preventative maintenance plan; and (4) records of fuel use that demonstrate that the boiler meets the definition of a space heater. **[Reference: COMAR 26.11.09.08F & COMAR 26.11.03.06C]**
3.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall submit fuel certification report if requested by MDE. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall record a training program attendance for each operator to the Department upon request. **[Reference: COMAR 26.11.03.06C]**

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 4	
4.0	**Emissions Unit Number(s): Natural gas-fired and diesel-fired generators** **EU #001-6:** diesel fired Caterpillar: 1,109 bhp [9-1083] **EU #036-1:** natural gas Caterpillar: 780 kWe / 1,106 bhp [9-0898] **EU #039-1:** diesel fired Stamford: 400 kWe [9-1184] **EU #068-6:** diesel fired Caterpillar: 500 kWe [9-1176] **EU #142-2**: diesel fired Cummins: 775 kWe / 1,135 bhp [9-0900] **EU #228-1**: diesel fired John Deere: 617 bhp [9-1583].

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EU #360-1 & EU #360-2: (2) diesel fired Caterpillar: 500 kWe / 745 bhp [9-1178 & 9-1179]
EU#386-1: diesel fired Katolight: 500 kWe [9-1177]
EU #392-3: diesel fired Detroit: 835 kWe [9-1180]
EU #398-3: diesel fired Detroit: 450 kWe / 670 bhp [9-1191]
EU #405-1 & EU #405-2: (2) diesel fired Detroit: 700 kWe [9-1181 & 9-1182]
EU #413-4: diesel fired Detroit: 835 kWe / 1,120 bhp [9-1248]
EU #413-5: diesel fired Detroit: 835 kWe / 1,120 bhp [9-1183]
EU #795-4: diesel fired Caterpillar: 890 bhp [9-1175]

NSPS Subpart IIII		
Building	**MDE Registration No.**	**Capacity**
Atlantic Building	9-1537 - **EU #224-1**	Caterpillar 2,220 bhp
School of Public Health	9-1536 - **EU #255-1**	Kohler 401 kWe / 538 bhp
Cole Fieldhouse	9-1555 – **EU #162-1**	1,194 bhp
Laboratory of Physical Science	9-1546 - **EU #796-1** & 9-1547 - **EU #796-2**	(2) 1,111 kWe / 1.490 bhp
Patuxent Building	9-1545 - **EU #010-1**	685 bhp
Mobile	9-1517 - **EU #810-1**	500 kWe / 757 bhp
Physical Science Complex	9-1408 – **EU #415-1**	1,250 kWe /2,220 bhp
SCUB VI (known as V)	9-1296 - **EU #418-1**	600 kWe / 918 bhp
Pocomoke Building	9-1419 - **EU #007-1**	Generac 500 kWe / 757 bhp
E.A. Fernandez Building	9-1583 – **EU #228-1**	John Deere: 617-bhp

NSPS Subpart JJJJ		
Building	**MDE Registration No.**	**Capacity**
A. James Clark Hall	9-1495 - **EU #429-1** & 9-1496 - **EU #429-2**	(2) Caterpillar 750 kWe
Brendan Iribe Center for Computer	9-1516 - **EU #432-1**	Kohler 400 kWe / 536 bhp

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Science and Innovation		
Prince Frederick Hall	9-1420 - **EU #425-1**	Cummins 395 kWe / 530 bhp
Oakland Hall	9-1387 - **EU #419-1**	450 kWe / 701 bhp
SCUB Building II	9-1568 – **EU #067-3**	Caterpillar 636 bhp
Microbiology Building	9-1569 – **EU #231-1**	550 bhp
Yahentamitsi Dining Hall	9-1578 – **EU #436-1**	Kohler 684 bhp

4.1 **Applicable Standards/Limits:**

A. Control of Visible Emissions
COMAR 26.11.09.05 - Visible Emissions.
E. Stationary Internal Combustion Engine Powered Equipment.
(2) Emissions During Idle Mode. A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
(3) Emissions During Operating Mode. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
(4) Exceptions.
(a) Section E(2) of this regulation does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
(b) Section E(2) of this regulation does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
(i) Engines that are idled continuously when not in service: 30 minutes;
(ii) All other engines: 15 minutes.
(c) Section E(2) and (3) of this regulation do not apply while maintenance, repair, or testing is being performed by qualified mechanics."

B. Control of Sulfur Oxides
COMAR 26.11.09.07A(2) – Control of Sulfur Oxides from fuel burning equipment. "A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: In Areas III and IV: **(b) Distillate fuel oil, 0.3 percent.**"

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C. Control of Nitrogen Oxides

COMAR 26.11.09.08G. - Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent.

"(1) A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:

(a) Provide certification of the capacity factor of the equipment to the Department in writing;

(b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;

(c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;

(d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and

(e) Maintain a record of training program attendance for each operator at the site and make these records available to the Department upon request."

D. Operational Limit

Applies to ***EU #001-6*** *[Reg. No. 9-1083] only: diesel fired Caterpillar: 1109 hp (780 kW) emergency generator set.*

CPCN #8840 issued on October 25, 2000, amended on December 15, 2003, April 24, 2013, July 30, 2014, and July 1, 2015, which states that emissions from the emergency generator shall be *designed* not to exceed the following:

NO_X:	24.8 lb./hour
CO:	6.6 lb./hour
PM:	0.5 lb./hour
PM_{10}:	0.5 lb./hour
SO_X:	0.235 lb./hour
VOC:	0.7 lb./hour

Table IV – 4	
4.2	**Testing Requirements:** A. Control of Visible Emissions See Monitoring Requirements. B. Control of Sulfur Oxides See Monitoring Requirements. C. Control of Nitrogen Oxides The Permittee shall perform a combustion analysis and optimize combustion at least annually for any engine that operates more than 500 hours during a calendar year. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit See Monitoring Requirements.
4.3	**Monitoring Requirements:** A. Control of Visible Emissions The Permittee shall properly operate and maintain the engines in a manner to minimize visible emissions. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall obtain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitation. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall monitor the hours of operation of each installation and perform a combustion analysis at least once each year for any engine that exceeds 500 hours per year of operation and optimize combustion based on the analysis. **[Reference: COMAR 26.11.03.06C and COMAR 26.11.09.08G(1)(b)]** D. Operational Limit The Permittee shall operate and maintain each generator in accordance with the manufacturer recommendations and/or the facility's preventive maintenance plan. **[Reference: COMAR 26.11.03.06C]**

Table IV – 4	
4.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** A. Control of Visible Emissions The Permittee shall maintain on site an operations manual and preventive maintenance plan that relates to combustion performance and maintain records of preventive maintenance that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]** B. Control of Sulfur Oxides The Permittee shall retain fuel supplier certifications stating that the fuel oil is in compliance with the sulfur content in the fuel limitations for at least five years. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall maintain the following for a period of at least 5 years: (1) the results of the combustion analysis at the site and make these results available to the Department and the EPA upon request; (2) record of training program attendance for each operator; (3) records of hour of operation on a monthly basis for all engines. At the end of each month, the Permittee shall calculate the total hours for the calendar year. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit The Permittee shall maintain on site an operations manual and preventive maintenance plan that relates to combustion performance and maintain records of preventive maintenance that relates to combustion performance. **[Reference: COMAR 26.11.03.06C]**
4.5	**Reporting Requirements:** A. Control of Visible Emissions The Permittee shall report incidents of visible emissions in accordance with Permit Condition 4, Section III, "Report of Excess Emissions and Deviations." **[Reference: COMAR 26.11.03.06C]**

Table IV – 4	
	B. Control of Sulfur Oxides The Permittee shall submit fuel certification report if requested by MDE. **[Reference: COMAR 26.11.03.06C]** C. Control of Nitrogen Oxides The Permittee shall submit the following: (1) a list of operator training operator attendance to the Department upon request; and (2) results of the combustion analysis to the Department upon request whenever an engine operates more than 500 hours in a calendar year. **[Reference: COMAR 26.11.03.06C]** D. Operational Limit See Record Keeping Requirements.

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 4a

4a.0 **Emissions Unit Number(s): See Table below: NSPS Subpart IIII**

NSPS Subpart IIII		
Building	**MDE Registration No.**	**Capacity**
Atlantic Building	9-1537 - **EU #224-1**	2,220 bhp
School of Public Health	9-1536 - **EU #255-1**	401 kWe / 538 bhp
Cole Fieldhouse	9-1555 – **EU #162-1**	1,194 bhp
Laboratory of Physical Science	9-1546 - **EU #796-1** & 9-1547 - **EU #796-2**	(2) 1,111 kWe / 1.490 bhp
Patuxent Building	9-1545 - **EU #010-1**	685 bhp
Mobile	9-1517 - **EU #810-1**	500 kWe / 757 bhp
Physical Science Complex	9-1408 – **EU #415-1**	1,250 kWe /2,220 bhp
SCUB VI (known as V)	9-1296 - **EU #418-1**	600 kWe / 918 bhp
Pocomoke Building	9-1419 - **EU #007-1**	500 kWe / 757 bhp
E.A Fernandez Idea Factory	9-1583 – **EU #228-1**	617 bhp

Table IV – 4a	
	Miscellaneous Diesel-fueled Generators subject to NSPS 40 CFR 60 Subpart IIII. **Note:** Requirements below apply to diesel engines manufactured after April 1, 2006, with a piston displacement less than 10 liters per cylinder.
4a.1	**Applicable Standards/Limits:** **Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines** **§60.4200** - Am I subject to this subpart? (a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. (1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is: 2007 or later, for engines that are not fire pump engines. **§60.4205 -** What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine? (b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. **Note:** The Permittee shall satisfy the requirements above and §60.4202 by purchasing and installing engines certified at EPA Tier 2 or better. **§60.4207** - What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart? (b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters

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	per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.
4a.2	**Testing Requirements:** See Monitoring Requirements.
4a.3	**Monitoring Requirements:** **§60.4209 -** What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine? If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in § 60.4211. (a)If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine. (b)If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. **§60.4211** - What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine? (a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section: (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (2) Change only those emission-related settings that are permitted by the manufacturer; and (3) Meet the requirements of 40 CFR part 1068, as they apply to you. (**c**) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you

Table IV – 4a	
	are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section. (f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (1) There is no time limit on the use of emergency stationary ICE in emergency situations. (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2). (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner

Table IV – 4a

or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) –(iii) [Reserved]

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

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	(ii) [Reserved]
4a.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference: COMAR 26.11.03.06C(5)(g)]** (1) The Permittee shall the following maintain records on site for at least five (5) years and they shall be made available to the Department upon request: (a) The operating hours for each generator, (b) Monthly records of fuel use, (c) Reason for generator operation (i.e., maintenance or operational testing, power outage, etc.), (d) A copy of the generator's and operations and maintenance manual, and records of maintenance and repair performed. (2) The Permittee shall maintain on site for the life of the source the following records for the emergency diesel generator(s): (a) Documentation of the manufacture date of the diesel engine, if manufactured prior to April 1, 2006, and the manufacturer model year of the diesel engine; (b) The installation date of each emergency diesel generator; and (c) The certifications of compliance or manufacturer engine test data required by 40 CFR §60.4211 and §60.4214(b). (3) For any NSPS emergency diesel generator the Permittee shall for each fuel delivery obtain from the fuel supplier a fuel supplier certification consisting of the name of the oil supplier, the date of delivery, the amount of fuel delivered, and a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR §80.510. The Permittee shall maintain the required records on site for at least five (5) years. **[Reference: PTC 033-0010-9-1408, COMAR 26.11.03.06C, & 40 CFR 63, Subpart IIII]**
4a.5	**Reporting Requirements:** **§60.4214** - What are my notification, **reporting,** and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

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	(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purpose specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section. (1) The report must contain the following information: (i) Company name and address where the engine is located. (ii) Date of the report and beginning and ending dates of the reporting period. (iii) Engine site rating and model year. (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. (v)-(vi) [Reserved] (vii) Hours spent for operation for the purposes specified in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

Table IV – 4b

4b.0 **Emissions Unit Number(s): See Table below: NSPS JJJJ**

NSPS Subpart JJJJ		
Building	**MDE Registration No.**	**Capacity**
A. James Clark Hall	9-1495 - **EU #429-1** & 9-1496 - **EU-#429-2**	(2) Caterpillar 750 kWe
Brendan Iribe Center for Computer Science and Innovation	9-1516 - **EU #432-1**	Kohler 400 kWe / 536-bhp
Prince Frederick Hall	9-1420 - **EU #425-1**	Cummins 395 kWe / 530-bhp
Oakland Hall	9-1387 - **EU #419-1**	450 kWe / 701 bhp
SCUB II	9-1568 – **EU #067-3**	Caterpillar 636-bhp

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Microbiology Building	9-1569 – **EU #231-1**	550-bhp
Yahentamitsi Dining Hall	9-1578 – **EU #436-1**	Kohler 684-bhp

Spark Ignition (SI) Generators subject to NSPS 40 CFR 60 Subpart JJJJ

4b.1 **Applicable Standards/Limits:**

40 CFR 60 Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

§60.4233 - What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.

Emission Standards for Owners and Operators

Table 1 to Subpart JJJJ of Part 60 - NO_X, CO, and VOC Emission Standards for..., and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards [a]					
			g/HP-hr.			ppmvd at 15% O_2		
			NO_X	CO	VOC [d]	NO_X	CO	VOC [d]
Emergency	HP≥130		2.0	4.0	1.0	160	540	86

a Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O_2.
b Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2a do not have to comply with the CO emission standards of Table 1 of this subpart.
c The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_X+ HC.
d For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

§60.4234 - How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?

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	Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in § 60.4233 over the entire life of the engine.
4b.2	**Testing Requirements:** ***For EU S419-1 only*** **§60.4244** – What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine? Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.
4b.3	**Monitoring Requirements:** **§60.4237-** What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine? (a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter. **§60.4243 -** What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine? (a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008 and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section. (1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subpart A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your

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	stationary SI internal combustion engine will not be considered out of compliance. (**b**) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in § 60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section. (1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section. (**d**) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in nonemergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (1) There is no time limit on the use of emergency stationary ICE in emergency situations. (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (d)(2)(i) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(2). (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards

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	require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (d)(2) of this section. Except as provided in paragraph (d)(3)(i) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (D) The power is provided only to the facility itself or to support the local transmission and distribution system. (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. (ii) [Reserved]

Table IV – 4b	
	(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of § 60.4233.
4b.4	**Record Keeping Requirements:** **Note** : All records must be maintained for a period of at least 5 years and be made available to the Department upon request. **[Reference : COMAR 26.11.03.06C(5)(g)]** Notification, Reports, and Records for Owners and Operators **§60.4245** - What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine? Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements. **(a)** Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section. (1) All notifications submitted to comply with this subpart and all documentation supporting any notification. (2) Maintenance conducted on the engine. (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable. (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to § 60.4243(a)(2), documentation that the engine meets the emission standards. **(b)** For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all

Table IV – 4b	
	stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(c)** Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in § 60.4231 must submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section. (1) Name and address of the owner or operator; (2) The address of the affected source; (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; (4) Emission control equipment; and (5) Fuel used. (d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in § 60.4244 within 60 days after the test has been completed. **(e)** If you own or operate an emergency stationary SI ICE with a maximum engine power more than 100 HP that operates for the purpose specified in § 60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (e)(1) through (3) of this section. (1) The report must contain the following information: (i) Company name and address where the engine is located. (ii) Date of the report and beginning and ending dates of the reporting period.

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	(iii) Engine site rating and model year. (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. (v) Hours operated for the purposes specified in § 60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(2)(ii) and (iii). (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4243(d)(2)(ii) and (iii). (vii) Hours spent for operation for the purposes specified in § 60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. (2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. (3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.
4b.5	**Reporting Requirements:** See Record Keeping Requirements.

"A permit shield shall cover the applicable requirements identified for the emission unit(s) listed in the table above."

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 53 Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

[For Areas III and IV]

The *affected fuel burning units* are subject to the following requirements:

COMAR 26.11.09.05A(2), which establishes that the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers.

Exceptions: COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

(a) The visible emissions are not greater than 40 percent opacity; and

(b) The visible emissions do not occur for more than 6 consecutive minutes in any sixty-minute period.

[For Distillate Fuel Oil]

COMAR 26.11.09.07A(2)(b), which establishes that the Permittee may not burn, sell, or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent.

(2) No. 66 Stationary internal combustion engines with an output less than 500 brake horsepower (373 kilowatts) and which are not used to generate electricity for sale or for peak or load shaving;

The *affected units* are subject to the following requirements:

(A) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(B) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(C) Exceptions:

(i) COMAR 26.11.09.05E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(ii) COMAR 26.11.09.05E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
(a) Engines that are idled continuously when not in service: 30 minutes
(b) all other engines: 15 minutes.

(iii) COMAR 26.11.09.05E(2) & (3) do not apply while maintenance, repair or testing is being performed by qualified mechanics.

(3) ✓ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(4) ✓ Water cooling towers and water-cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;

(5) No. 33 Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

The *affected units* are subject to COMAR 26.11.19.09D, which requires that the Permittee control emissions of volatile organic

compounds (VOC) from cold degreasing operations by meeting the following requirements:

(a) COMAR 26.11.19.09D(2)(b), which establishes that the Permittee shall not use any VOC degreasing material that exceeds a vapor pressure of 1 mm Hg at 20 ° C;

(b) COMAR 26.11.19.09D(3)(a—d), which requires that the Permittee implement good operating practices designed to minimize spills and evaporation of VOC degreasing material. These practices, which shall be established in writing and displayed such that they are clearly visible to operators, shall include covers (including water covers), lids, or other methods of minimizing evaporative losses, and reducing the time and frequency during which parts are cleaned;

(c) COMAR 26.11.19.09D(4), which prohibits the use of any halogenated VOC for cold degreasing.

The Permittee shall maintain on site for at least five (5) years, and shall make available to the Department upon request, the following records of operating data:

(a) Monthly records of the total VOC degreasing materials used; and

(b) Written descriptions of good operating practices designed to minimize spills and evaporation of VOC degreasing materials.

(6) ✓ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;

(7) ✓ Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity, or any combination of these;

(8) ✓ Confection cookers where the products are edible and intended for human consumption;

(9) ✓ Die casting machines;

(10) ✓ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;

(11) ✓ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

(12) ✓ Equipment for washing or drying products fabricated from metal or glass, provided that no VOC is used in the process and that no oil or solid fuel is burned;

(13) ✓ Containers, reservoirs, or tanks used exclusively for electrolytic plating work, or electrolytic polishing, or electrolytic stripping of brass, bronze, cadmium, copper, iron, lead, nickel, tin, zinc, and precious metals;

(14) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Dipping operations for applying coatings of natural or synthetic resins that contain no VOC;

(b) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(c) No. 7 Storage of lubricating oils;

(d) No. 91 Unheated storage of VOC with an initial boiling point of 300 °F (149 °C) or greater;

(e) No. 60 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel;

(f) No. 4 Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(g) No. 50 The storage of VOC normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings and having individual capacities of 2,000 gallons (7.6 cubic meters) or less;

(15) ✓ Gaseous fuel-fired or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials;

(16) Crucible furnaces, pot furnaces, or induction furnaces, with individual capacities of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, or any fluxing is conducted using chloride, fluoride, or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

(a) ✓ Aluminum or any alloy containing over 50 percent aluminum, if no gaseous chloride compounds, chlorine, aluminum chloride, or aluminum fluoride is used;

(b) ✓ Magnesium or any alloy containing over 50 percent magnesium;

(c) ✓ Lead or any alloy containing over 50 percent lead;

(d) ✓ Tin or any alloy containing over 50 percent tin;

(e) ✓ Zinc or any alloy containing over 50 percent zinc;

(f) ✓ Copper;

(g) ✓ Precious metals;

(17) ✓ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;

(18) ✓ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(19) ✓ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(20) ✓ Firing and testing of military weapons and explosives;

(21) ✓ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(22) ✓ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(23) ✓ Laboratory fume hoods and vents;

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

1. Applicable Regulations:

   COMAR 26.11.06.08 - Nuisance.
   "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

   COMAR 26.11.06.09 - Odors.
   "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

   COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

   COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health

2. Record Keeping and Reporting:

   The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

   (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

   (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

3. Specific Requirements for Charbroilers Only

Equipment Unit	Registration Number
Grills – Holstein (2)	8-0425
Grills – Belson (10)	8-0425
EU #162-2	8-0435
EU #163-3	8-0424
EU #251-1	8-0329
EU #166-1	8-0438
EU #360-4	8-0227
EU #360-5	8-0228
EU #360-6	8-0229
EU #436-2	8-0432
EU #436-3	8-0432
EU #436-4	8-0432
EU #436-5	8-0432
EU #436-6	8-0432

(a) If the charbroiler is located within 300 feet of any property line of any habitable dwelling:

(1) The Permittee shall limit visible emissions to 10 percent opacity or less.

(2) The Permittee shall install a control device approved by the Department, if the installation cannot meet the 10 percent opacity limit without controls.

(b) If the charbroiler is located more than 300 feet from the property line of any habitable dwelling, the Permittee shall limit visible emissions to 30 percent opacity or less.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.2

GENERAL PERMIT FOR DISCHARGES FROM
STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES

STATE DISCHARGE PERMIT NO. 12-SW-3281
NPDES PERMIT NO. MDR003281

Maryland
Department of
the Environment

Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

GENERAL PERMIT FOR DISCHARGES FROM STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES

DISCHARGE PERMIT NO. 12-SWA **NPDES PERMIT NO. MDR0000**

Effective Date: January 1, 2014 **Expiration Date:** December 31, 2018

Modification Date: **December 7, 2018**

APPENDICIES

You are only permitted to discharge under this permit after notifying and getting approval from the Department.

PART I. APPLICABILITY

By this permit the Maryland Department of the Environment (the Department) authorizes the discharge of stormwater associated with industrial activity to waters of the state. This authorization is only for operators located in the state of Maryland, who have submitted a notice of intent (NOI) and received written approval from the Department to discharge in accordance with the eligibility requirements and other conditions in this permit and consistent with your NOI, as on file with the Department. This authorization is pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and the provisions of the Federal Clean Water Act (CWA), 33 U.S.C. §1251 *et seq.* and implementing regulations 40 CFR Parts 122, 123, 124, and 125. "You" and "Your" are used in this permit to refer to the permittee or the permit applicant, as the context indicates, and that party's facility or responsibilities.

A. Geographic Coverage

This permit applies to facilities operating within the state of Maryland.

B. Facilities Covered

To be eligible to discharge under this permit you must either (1) have been covered under previous permit 02-SW or (2) have a stormwater discharge associated with industrial activity, as defined in Appendix E, from a primary industrial activity included in Appendix A or (3) be notified by the Department that you are eligible for coverage under Sector AD: Non-Classified Facilities, as defined in Appendix A or (4) be notified by the Department that you are eligible for coverage as described in Part I.E.4.

C. Limitations on Coverage

The following stormwater discharges are not eligible for coverage under this permit. Additional limitations on coverage for each sector covered under this permit are listed in Appendix D. You must determine which sector(s) your industrial activities are defined as in Appendix A to determine which additional limitations from Appendix D apply.

1. Stormwater discharges associated with construction activity, as defined in Appendix E and 40 CFR 122.26;

2. Stormwater discharges subject to effluent limitations guidelines (see Part I.G.2);

3. Stormwater discharges that are mixed with non-stormwater, other than those non-stormwater discharges listed in Part I.E.3;

4. Stormwater discharges containing the following toxic pollutants, which are limited by effluent standards in 40 CFR Subchapter D Part 129: Aldrin/Dieldrin, DDT, Endrin, Toxaphene, Benzidine, or Polychlorinated Biphenyls (PCBs);

5. Stormwater discharges for which a National Pollutant Discharge Elimination System (NPDES) permit has been terminated (other than at your request) or denied, or those for which the Department requires an individual permit to address stormwater discharges or an alternative general permit (Part I.G.2.b);

6. New discharger discharging to water quality "impaired waters," as defined in Appendix E, are not eligible for coverage under this permit unless you:

- **a.** prevent all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retain documentation of procedures taken to prevent exposure onsite with your SWPPP; or
- **b.** document that the pollutant(s) for which the waterbody is impaired is not present at your site,

and retain documentation of this finding with your SWPPP; or

c. in advance of submitting your NOI, provide to the Department data to support a showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data onsite with your SWPPP. To do this, you must provide data and other technical information to the Department sufficient to demonstrate:

i.) For discharges to waters without a EPA approved or established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; or

ii.) For discharges to waters with an EPA approved or established TMDL, that there are sufficient remaining wasteload allocations in an EPA approved or established TMDL to allow your discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

You are eligible to discharge to impaired waters if you receive an affirmative determination from the Department that your discharge will not contribute to the existing impairment, in which case you must maintain such determination onsite with your SWPPP.

D. Prohibited Stormwater Discharges

If you are covered under this permit, a stormwater discharge to waters of the State that contributes to a violation of a water quality standard is a permit violation and subject to corrective actions (see Part IV).

E. Eligible Discharges

Unless otherwise ineligible under Part I.C, the following discharges may be covered under this permit:

1. Stormwater discharges associated with industrial activity for any primary industrial activities and co-located industrial activities if that activity is listed in Appendix A, or discharges previously covered under permit 02-SW;

2. Industrial stormwater discharges per the Department's discretion under Sector AD in Appendix A, which includes established Sector AD.a and Sector AD.b, or on a site specific basis as determined by the Department;

3. Non-stormwater discharges from:

a. water used to fight active fires (*not from fire system cleaning or testing),*
b. pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
c. landscape watering, only if all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
d. routine external building wash down that does not use detergents and any dislodged paint chips are filtered;
e. uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
f. irrigation drainage;
g. uncontaminated ground water or spring water;
h. foundation or footing drains where flows are not contaminated with process materials; and
i. incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains).

4. Stormwater discharges under a separate individual or general permit (except MS4) may also

obtain limited coverage under this permit specific to Part III.A "Chesapeake Bay Restoration Requirements" in lieu of the Department modifying or issuing a separate permit that would otherwise implement requirements equivalent to those in Part.III.A.

F. No Exposure Certification

If you are eligible for coverage by this permit, and meet the requirements for a no exposure exclusion from permitting under 40 CFR 122.26(g), you may file a No Exposure Certification. Upon written notice from the Department that you have met the requirements, you are no longer required to have a permit.

- To qualify for this certification, you must first verify that there is no potential for the stormwater discharged from your facility to waters of the State to be exposed to pollutants in accordance with the criteria established by the Department on form MDE/WMA/PER.067 (found on MDE's website at http://www.mde.state.md.us/ or at the link http://9nl.at/MD-NEC).
- You shall also obtain written certification by either a Professional Engineer, a Certified Professional in Storm Water Quality (CPSWQ), a Registered Architect, or a Landscape Architect that you meet the requirements of no exposure.
- If you qualify, you will submit the completed and appropriately signed form to the Department, along with the required written certification according to the deadlines of this permit (Part II.B).
- The exemption is non-transferable and is only valid while this permit is in effect at which point a new exemption is required. However you must submit a No Exposure Certification to the Department at least once every five years.
- You must notify the Municipal Separate Storm Sewer System (MS4) if your facility is exempted from obtaining an NPDES permit for stormwater associated with industrial activity. This exemption does not preclude the MS4 authority from imposing requirements for restoration of impervious surfaces at the facility.

G. Alternative Permit Coverage

The Department may require you to obtain, or you may also request, an individual permit or coverage under another general permit as described below, even though you may be eligible for coverage under this permit. If the Department requires you to apply for and obtain an alternative permit and you do not apply as required, the Department may terminate your coverage under this permit. This termination is effective at the end of the day that the Department specified for the application or Notice of Intent (NOI) to be submitted, after which you must cease discharges that were covered by this permit.

1. If the Department determines that a discharge may cause water quality standards to be exceeded in the receiving water, then the Department may require you to take additional actions. You may be required to obtain an individual NPDES discharge permit or coverage under another general permit. The Department may process an NOI as an application for an individual permit if site specific conditions do not allow the facility to be covered under the general permit without compromising water quality. This could occur if, for example, a permittee proposes to discharge to impaired waters, with or without an existing Total Daily Maximum Load (TMDL), or for discharges to high quality waters.

2. If any stormwater discharges at your facility are subject to effluent limitations guidelines or new source performance standards under 40 CFR Subchapter N, then you must apply for an individual NPDES permit or coverage under an industry-specific general permit for those stormwater discharges. This permit may cover parts of your facilities not covered by effluent limitation guidelines or new source performance standards.

a. Certain stormwater discharges from the following industries are subject to effluent limitation guidelines and are therefore not covered by this permit:

40 CFR 411 – Cement Manufacturing	40 CFR 418 – Fertilizer Manufacturing

40 CFR 419 – Petroleum Refining	40 CFR 423 – Steam Electric Power Generating
40 CFR 429 – Timber Products Processing	40 CFR 440 – Ore Mining and Dressing
40 CFR 443 – Paving and Roofing Material (tars & asphalt)	40 CFR 445 – Landfills

For a complete list of current effluent guidelines by industry, see the indicated 40 CFR part on the Environmental Protection Agency's (EPA) website for Industrial Regulations (*http://www.epa.gov/waterscience/guide/industry.html*). If your industry is included in this list then you should review the applicable 40 CFR part to determine if you are subject to effluent limitation guidelines for stormwater.

b. If the Department has issued an industry-specific general permit addressing stormwater and wastewater discharges from your industrial activity, you should apply for coverage (including stormwater) under that permit. Currently, those specific permits are:

i.) General Discharge Permit For Discharges from Mineral Quarries, Borrow Pits, and Concrete and Asphalt Plants: (General Permit No. 10-MM or replacement),

ii.) General Permit for Discharges from Surface Coal Mines and Related Facilities: (General Discharge Permit No. 06-CM or replacement),

iii.) General Permit for Discharges from Marinas including Boat Yards and Yacht Basins (Maryland General Permit No. 10-MA or replacement), and

iv.) General Discharge Permit for Animal Feeding Operations (General Permit No. 09-AF/MDG01 or replacement).

3. You may request to be excluded from coverage under this permit by applying for an individual state or NPDES discharge permit or submitting an NOI for coverage under another general permit. The Department may grant your request if the Department determines your reasons are adequate. If you are issued an individual NPDES permit or apply for coverage under an industry-specific general permit, the Department may terminate your coverage under this permit.

H. Continuation of an Expired General Permit

Unless your permit or authorization is revoked or terminated by the Department, or you are required to and fail to provide control measure verification (Part III.A.3.b), the terms and conditions of this permit and its authorized dischargers are automatically continued and remain fully effective and enforceable upon expiration of this permit until the date(s) specified under a reissued general permit.

PART II. AUTHORIZATION UNDER THIS PERMIT

A. How to Obtain Authorization

If you are eligible for coverage under this permit, per PART I, to obtain authorization you must
• Select, design, install, and implement control measures in accordance with Part III.A and Part III.B to meet numeric and non-numeric effluent limits;
• Submit a complete and accurate Notice of Intent (NOI) or Permit Transfer Request with Permit Fee as indicated below; and
• Develop and submit to the Department, a Stormwater Pollution Prevention Plan (SWPPP) according to the requirements in Part III.C and, where applicable, Part III.A.2 of this permit.

Based on a review of your NOI or Transfer Request, the Department may delay your authorization for further review, notify you that additional effluent limitations are necessary, or deny coverage under this permit and require submission of an application for an individual NPDES permit. In these instances, the Department will notify you in writing of the delay, of the need for additional effluent limits, or of the request for submission of an individual NPDES permit application.

Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

1. Notice of Intent (NOI) and Transfer Requests

a. Notice of Intent (NOI)

You must complete all information required on this permit's corresponding NOI form (MDE-WMA-PER004), or an equivalent electronic form provided by the Department. Detailed instructions are included on the NOI form. If you operate multiple facilities you must submit an NOI for each noncontiguous site.

You are required to provide the following information on the appropriate NOI form.

- Facility Operator Information including your name, mailing address, email address, telephone number, IRS Employer Identification Number (EIN) and Worker's Comp Insurance company and policy.
- Facility Information including the facility location, including physical address and coordinates in degrees decimal; the primary and any subsequent co-located Standard Industrial Classification (SIC) codes relevant to this permit, verification if this is a new discharger or if there is any preexisting NPDES permit number for stormwater coverage, the total acres of property at that address and whether the facility is presently inactive and unstaffed.
- Information on the receiving waters of the industrial stormwater. Identify the receiving water body(s) and 8 digit identifier for your discharges, including whether they qualify as high quality Tier 2, and identification of any impairments. Specify the MS4 jurisdiction you operate in.
- Identify who has prepared the Stormwater Pollution Prevention Plan (SWPPP), including email and phone number, along with how you have provided the SWPPP to the Department.
- Identify if your facility is subject to the Chesapeake Bay Restoration requirements, quantifying the total impervious surface area (square feet), the untreated impervious surface area (in square feet) and the impervious surface area subject to 20% restoration requirement (in acres).
- Identify which industry sector benchmarks apply to the operation.
- Selection of either annual payments, or an upfront payment for 5 years and annual payments thereafter, or if you are exempt.
- Provide the signatory name, title and contact information and space for the actual signature. Provide the NOI preparer information, including phone number and email address.

b. Transfer of Authorization.

For transfer of ownership, you can complete the Permit Transfer Request Form for General NPDES Permits referred to as MDE/WMA/PER.079 found on the Department's website or at http://9nl.at/MD-Transfer. Detailed instructions are included with the form. If you operate multiple facilities you must submit a Transfer Request for each noncontiguous site. The authorization under this permit is not transferable to any person except in accordance with this section. Authorization to discharge under this permit may be transferred to another person if:

- The current permittee notifies the Department in writing of the proposed transfer.
- A written agreement, indicating the specific date of the proposed transfer of permit coverage and acknowledging the responsibilities of the current and new permittee for compliance with the terms and conditions of this permit, is submitted to the Department.
- The new permittee either confirms in writing that the type of discharge, number of outfalls, and other information given on the original NOI remain correct or updates this information.
- The new permittee confirms in writing that either they will follow the existing stormwater pollution prevention plan or that they have developed a new plan.

- Neither the current permittee nor the new permittee receives notification from the Department, within 30 days of receipt of items above, of intent to terminate coverage under this permit.

2. Permit Fee

a. You must submit the initial permit fee to the Department with the NOI form for the fee in effect at the time that the payment is due as specified in COMAR 26.08.04.09-1(C)(1)(a).

b. Make the initial fee payable to the Maryland Department of the Environment and send it together with the completed NOI to:

Maryland Department of the Environment
P.O. Box 2057
Baltimore, MD 21203-2057

c. If you pay the NOI fee by a check that does not clear for any reason, you will have 30 calendar days to make proper payment, including any interest and other charges. If payment is not received by the 31st calendar day, your coverage under this permit must be considered void from the outset. You should save the cancelled check, a copy of the completed NOI, and the letter confirming your authorization from the Department. These documents must be provided to the Department upon request.

d. A new owner of a facility as a result of a transfer of ownership is responsible for any fees unpaid by the former owner.

3. SWPPP

Proper formats for submitting your SWPPP are provided below.

a. You should not include any confidential information in your submitted SWPPP, which will be a public document available for review by the public.

b. You must submit an electronic copy of the SWPPP to the Department and have a hard copy available onsite. Your electronic copy (PDF, JPEG or Word) of the SWPPP must be provided to the Department by one of these methods.

i.) Including a file on electronic media (CD, DVD, USB drive, or other approved media) along with your mailed copy of the NOI.

ii.) Emailing the file to swppp.permit@maryland.gov when you send your NOI to the Department. The email cannot exceed 25 MB and so you may need to use more than one email to deliver the entire file. The email subject line should include "12SW", your previous registration number (if you did have previous coverage under 02SW) and your facility name.

iii.) Posting a copy of the SWPPP using your NetDMR account when you send your NOI to the Department.

iv.) Providing the Department a link (URL) to your document on your NOI, which provides access to your SWPPP on a publicly available company website.

v.) Other electronic means that you make accessible to the Department such as a link to DropBox, Google Drive, SkyDrive, etc.

B. Deadlines for Coverage

You will be in violation of state and federal requirements to obtain a permit and subject to enforcement action by the Department if you fail to submit a i) No Exposure Certification, or ii) an NOI, SWPPP and fee payment or iii) transfer request in a timely manner as provided in the following table. Late NOIs will be accepted, but authorization to discharge will not be retroactive.

Category	Coverage Submittal Deadline
Existing Dischargers – in operation as of Jan 2014 and previously authorized for coverage under 02-SW, that are not	Within 6 months after the effective date of this permit. Authorization to discharge under 02-SW continues in the interim.

subject to Chesapeake Bay Restoration Requirements (Part III.A).	
Existing Dischargers – in operation as of Jan 2014 and previously authorized for coverage under 02-SW that are subject to Chesapeake Bay Restoration Requirements (Part III.A).	Within 1 year after the effective date of this permit. Authorization to discharge under 02-SW continues in the interim.
New Dischargers or New Sources	A minimum of 60 days prior to commencing discharge.
New Owner/Operator of Existing Discharger - transfer of ownership and/or operation of a facility whose discharge is authorized under this permit	A minimum of 30 days prior to date that the transfer will take place to the new owner/operator.
Other Eligible Dischargers – in operation prior to permit effective date, but not covered under the 02-SW or another NPDES permit.	Immediately, to minimize the time discharges from the facility will continue to be unauthorized.

C. Required Signatures

1. Certification

Any person signing documents in accordance with part II.C.2 and II.C.3 above must include the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2. All applications, including NOIs, transfer requests, and No Exposure Certifications must be signed by a Signatory as follows:

a. *For a corporation*: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

i.) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

ii.) the manager of one or more properties belonging to the owner, provided the manager is authorized to make management decisions which govern the operation of the regulated facility having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. *For a partnership or sole proprietorship:* By a general partner or the proprietor, respectively; or

c. *For a municipality, State, Federal, or other public agency:* By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

i.) the chief executive officer of the agency; or

ii.) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of the EPA).

3. Your SWPPP, including changes to your SWPPP to document any corrective actions taken as required by Part IV, and all reports submitted to the Department, must be signed by a person described in Part II.C.2 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. the authorization is made in writing by a Signatory;

b. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. the signed and dated written authorization is included in the SWPPP and made available to the Department upon request.

4. If an authorization for a representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of PART II.C.3 must be submitted to the Department prior to submitting or with any reports, information or applications that must be signed by a duly authorized representative.

D. Failure to Notify

If you (1) engage in an activity covered under this permit, (2) fail to notify the Department of your intent (Part II.A) to be covered under this permit within the deadlines established in this permit (Part II.B) , and (3) discharge to waters of the state without an individual NPDES discharge permit, then you are in violation of the Federal Clean Water Act and of the Environment Article, Annotated Code of Maryland, and may be subject to penalties.

E. Additional Notification

If stormwater from your facility discharges into a Municipal Separate Storm Sewer System (MS4) you must notify the MS4 that you are registered under this permit if the system is regulated by a NPDES permit. If the MS4 notifies you of additional requirements that you must meet to discharge into that system then you must comply with those requirements to stay eligible for this permit.

F. Changes in Permit Coverage

Certain planned changes in stormwater discharge or termination of permit coverage, both described below in this section, require notification to the Department's Water Permits Program at this address:

Maryland Department of the Environment
Wastewater Permits Program
1800 Washington Blvd, Ste 455
Baltimore, MD 21230

1. Planned Changes

You must give written notice to Department's Water Permits Program as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2. Termination of Permit Coverage
   a. Submitting a Notice of Termination
   To terminate permit coverage, you must submit a complete and accurate Notice of Termination (NOT) http://www.mde.maryland.gov/programs/Permits/WaterManagementPermits/Documents/GDP%20Stormwater/MDE-WMA-PER005.pdf to the Water Permits Program. Your authorization to discharge under this permit terminates at midnight of the day that a complete Notice of Termination is processed and acknowledged by the Department. If you submit a Notice of Termination without meeting one or more of the conditions identified in Part I.H.2, then your Notice of Termination is not valid. You are responsible for meeting the terms of this permit until your authorization is terminated.
   b. When to Submit a Notice of Termination
   You must submit a Notice of Termination within 30 days after one or more of the following conditions have been met:
      i.) All operations at your facility have permanently ceased and there will be no further exposure of stormwater to any industrial activity, process, material or transport at the facility , and you have already implemented necessary sediment and erosion controls as required by Part III.B.1.b.v; or
      ii.) You move your operation to a new location (After submitting an NOT you must then apply for coverage at the new location per Part II.); or
      iii.) A new owner or operator has taken over responsibility for the facility; or
      iv.) You have obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit, unless the Department has required that you obtain such coverage under Part I.E.4, in which case coverage under this permit will terminate automatically.

   c. The Department may terminate your coverage under this general permit if the Department finds good cause to do so.

PART III. STORMWATER MANAGEMENT REQUIREMENTS

A. Chesapeake Bay Restoration Requirements

You must comply with the requirements in this section if you meet ALL of these criteria:

- your facility is within the Chesapeake Bay Watershed;
- your facility is 5 acres or greater in size;
- any portion of your facility is located within a Phase I or Phase II municipal separate storm sewer system (MS4) jurisdiction; and
- your facility is not owned by or leased from an entity that is permitted as an MS4.

All facilities not owned by or leased from an entity that is permitted as an MS4, including those smaller than 5 acres, have the option to perform restoration to create marketable credits in accordance with any final Maryland Water Quality Trading Program regulations (COMAR 26.08.11). (Refer to Appendix G).

1. Control Measures for Nutrient Reduction
   a. You must select, design, install and implement restoration of 20% of the untreated impervious surface area at your facility or equivalent control measures for the reduction of nutrients.
      i.) Restoration of impervious surfaces and allowed equivalent control measures are defined in paragraph "c" below.
      ii.) "Untreated" means not meeting the definition of treatment in Appendix E, "Treatment of

Impervious Surfaces." The amount of required restoration is determined from the impervious areas within your permitted industrial area as defined in paragraph "b" below. However the control measures may be implemented outside this industrial area, including but not limited to restoration of parking lots within your entire facility, or projects offsite in coordination with your local stormwater authority as described in paragraphs "c" or "d" below.

iii.) The control measures must be fully implemented within the time frame described in paragraph "e" below and must be consistent with other MDE policies as described in paragraphs "f" and "g" below.

b. The total area of untreated impervious surfaces that existed at your facility on January 1, 2006, as determined to the best of your ability, shall be your baseline for determining the applicable amount of control measures. For the purposes of this permit requirement, impervious surfaces are those surfaces that do not allow stormwater to infiltrate into the ground and may include any driveway, road or parking lot that is paved (concrete, asphalt) or used for vehicular storage or traffic, any building or storage facility rooftop, any water resistant material covers, any sidewalks/paths, any decks, any paved storage areas, any tanks or containment structures or any surfaces that are paved or covered for other reasons. These impervious surfaces also must collect or convey stormwater discharges associated with industrial activity (as defined in Appendix E "Stormwater Discharges Associated with Industrial Activity"), for your primary industrial or co-located industrial activities at your facility.

c. Control measures must be designed and implemented using any combination of the following three methods. Any treatment of impervious surfaces added since January 1, 2006 may be counted towards meeting the 20% requirement.

i.) Practices found in the Design Manual (as defined in Appendix E, "Design Manual"), or other Proprietary Practices (as defined in Appendix E, "Proprietary Practices") approved by the Department. Restoration of impervious surfaces is defined as the treatment of untreated impervious surfaces with structural or non-structural stormwater management practices using structural best management practices (BMPs) found in the Design Manual, or through other Proprietary Practices approved by the Department, based upon designs that treat the volume from one inch of rainfall. Successful implementation of these structural BMPs in the industrial environment also requires some flexibility to accommodate site specific conditions. Restoration opportunities should be pursued where they make sense and where engineering adjustments allow for the successful functioning of any BMP used. The sources of pollutants that may impede the practices may require specific consideration such as pretreatment.

ii.) Practices found in the Accounting Guidance (as defined in Appendix E, "Accounting Guidance"). This nutrient accounting guidance provides several approved equivalent controls used by municipalities ranging from street sweeping to septic system upgrades, which can be considered by industrial facilities. In addition, this guidance addresses situations where site constraints prevent the capture of the full one inch or Water Quality Volume (WQv) treatment, and in these situations the impervious area considered as treated shall be pro-rated based on the total volume treated. The total impervious surface area draining to a BMP may be considered treated when the full WQv is provided for one inch of rainfall; otherwise, proportional treatment will be granted based on the percentage of the WQv captured. For example, if only a half inch of rainfall is treated, then only one half of the impervious surface area in the drainage area shall be considered treated.

iii.) Other equivalent control measures. Measures that achieve reduction of 5.4 lbs total nitrogen (TN) per year shall be considered equivalent to restoration of one acre of impervious surface area. The equivalent measures may include any of these options.

- New controls required by this permit for erosion and sediment control, or for reduced use of fertilizer. Refer to EPA Chesapeake Bay Program Office Phase 5.3 Community

Watershed Model, dated December 2010, for guidance on evaluating reductions. This is referred to by document number "EPA 903S10002 - CBP/TRS-303-10" and can be found at the website "http://ches.communitymodeling.org/models/CBPhase5/documentation.php". New erosion and sediment control reduction efficiencies are found in this document under "6.7.3 Erosion and Sediment Control" and reduced use of fertilizer load reductions are found under "6.7.10 Urban Nutrient Management".

- New controls to achieve the benchmarks for nitrogen required by this permit, if benchmarks are applicable for your facility. The control design and resulting TN reductions must be fully documented and approved by the Department.
- Reducing an existing TN load allocation under an individual NPDES permit, issued to the permittee.

d. You must implement the control measures (Part III.A.1.c) at your facility(s) unless infeasible (as defined in Appendix E, "Infeasible"). If it is infeasible to implement any or all of these practices at your facility(s), you may satisfy the restoration requirement applicable until you obtain permit coverage under the terms of any renewal of this permit by the Department by working through your local stormwater jurisdiction to implement project(s) offsite or through trading to acquire credits, but only as authorized under, and in accordance with the Maryland Water Quality Trading Program regulations (COMAR 26.08.11). If you intend to trade to meet these requirements, you must

i.) notify the Department and address all applicable regulatory requirements, including all reporting and notification requirements under Appendix G of this permit;

ii.) translate the restoration requirements from impervious acres to Total Nitrogen (TN), Total Phosphorus (TP) and Sediment (TSS), using the calculation method prescribed by COMAR 26.08.11; and

iii.) complete the acquisition of verified credits no later than 3 months (end of March) following the end of the calendar year in which the credits are applicable.

e. For facilities that were registered for coverage under the 02-SW, the control measures must be implemented within five (5) years of the permit effective date. For all other permittees, the control measures must be implemented within four (4) years from the date you file an NOI, and this deadline will continue into the next General Permit issued by the State if the General Permit renewal occurs prior to your implementation deadline.

f. The reduction of nutrients associated with compliance with the 20% restoration requirement shall not generate any marketable credits. Reductions beyond the requirements in this permit may be eligible as marketable credits in accordance with Maryland Water Quality Trading Program regulations (COMAR 26.08.11).

g. This requirement must be implemented in a manner that is consistent with any other permits, schedules or requirements by the Department for the control or mitigation of pollutants at the site.

2. Nutrient Control Measure Planning and SWPPP Documentation

For those facilities that were entirely developed or entirely redeveloped after 2002, such that all impervious surfaces have been treated with stormwater BMPs in the Design Manual, you must complete only step "a" and step "b" below and document the results in your SWPPP. For all other facilities, you must develop a plan by completing all the following steps and document in your SWPPP (required in Part III.C.4 of this permit) the results of each step.

a. Identify all impervious surfaces that are subject to this permit, as defined in Part III.A.1.a, and calculate the total impervious surface area for your facility.

b. Identify the impervious surface area treated with existing stormwater best management practices (BMPs) that provide the full one inch or WQv treatment (as defined in Appendix E, "Treatment of Impervious Surfaces").

c. Identify the impervious surface area partially treated by existing stormwater best management

practices (BMPs) that don't provide the full one inch or WQv treatment. Convert the partially treated area total to its equivalent fully treated area total by applying a proportional factor based on the percentage of the WQv captured. This result is the "adjusted partially treated area." For example, if only a half inch of rainfall is treated, then only one half of the impervious surface area in the drainage area shall be considered treated.

d. Subtract the treated area result in "b" above and the adjusted partially treated area result in "c" above from the total impervious surface area result in "a" above. The resulting value represents the untreated impervious surface area.

e. Multiply the untreated impervious surface area (result in "d" above) by 20% to calculate the impervious surface area subject to the 20% control measure requirement. Convert this area to acres by dividing your square feet of impervious area by 43,560.

f. Determine all of your available options as follows:

i.) restoration control measures using the Design Manual and/or Proprietary Practices as referenced in Part III.A.1.c.i;

ii.) control measure alternatives through the Accounting Guidance as referenced in Part III.A.1.c.ii; and

iii.) equivalent control measures as referenced in Part III.A.1.c.iii.

g. Evaluate and then select practices from the options (identified in "f" above) that you will implement to comply with the control measure requirement of this permit (result in "e" above).

h. If after evaluating your potential options for nutrient reductions, you determine it is infeasible to meet the nutrient reduction requirements at your facility, provide your rationale and describe your alternate plan and schedule consistent with Part III.A.1.d for coordinating with the local jurisdiction to implement equivalent off-site projects.

i. Document your selection of BMPs and equivalent measures, including calculations that show your approach will achieve the nutrient reduction requirement.

j. Provide a schedule and basis for all options you selected that cannot be implemented within 30 days of registration under this permit.

k. Specify appropriate routine maintenance schedules for all new and existing BMPs. Include in your plan a procedure for inspection and documentation of those inspections for all structural, nonstructural and other equivalent control measures.

l. Modify the resulting plan as needed to keep implementation on pace to meet the permit deadline in Part III.A.1.e.

3. Nutrient Control Measure Verification

a. When the required selection of BMPs and equivalent measures have been implemented, you shall obtain written certification by either a Professional Engineer (PE), a Certified Professional in Storm Water Quality (CPSWQ), a Registered Architect, or a Landscape Architect. The certification shall be kept with your SWPPP and be accessible to the Department upon request.This certification is to provide verification that:

- the type and capacity of the control(s) specified in the SWPPP meet the current design standards specified in the Design Manual, approved Proprietary Practices specification or Accounting Guidance satisfying the permit restoration requirements;
- all equivalent measures specified in the SWPPP have been implemented to achieve the planned nutrient reduction levels;
- all structural BMPs in the SWPPP are properly maintained in accordance with approved design plans;
- all BMPs are supported by procedures in the SWPPP for required inspections and testing;
- all BMPs are fully implemented; and

- the professional signing the verification has visited and examined the facility.

b. For facilities that were registered for coverage under the 02-SW, you must provide an updated SWPPP and complete the Nutrient Reduction Progress Report Form, provided in Appendix F, and send both documents to the Department one (1) year prior to the expiration date of this permit (December 31, 2017). For all other permittees, you must provide an updated SWPPP and complete the Nutrient Reduction Progress Report Form, provided in Appendix F, and send both documents to the Department within four (4) years from the date you file an NOI.

4. Ongoing Requirements:

a. For those facilities that have certified their implementation of the Chesapeake Bay Restoration requirements of this permit (see paragraph 2), and for those facilities who have reached their required deadline for certification, you must continue to maintain structural practices, and/or continue to perform any non-structural requirements (such as street sweeping or trading), yearly as required by this permit, as long as this permit remains effective (or administratively extended).

b. Operators seeking to achieve nutrient reduction via trading must continue to provide additional information verification of compliance annually. (Refer to Appendix G).

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B. Control Measures and Effluent Limits

In the technology-based limits included in Part III.B.1 and in Appendix D, the term "minimize" means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

1. Control Measures

Considering the control measure selection and design considerations, you must select, design, install, and implement control measures (including best management practices) to meet the nonnumeric effluent limits, as described below. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer's specifications. Note that you may deviate from such manufacturer's specifications where you provide justification for such deviation and include documentation of

your rationale in the part of your SWPPP that describes your control measures. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges, you must modify these control measures as expeditiously as practicable. Regulated stormwater discharges from your facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at your facility.

a. *Control Measure Selection and Design Considerations*

You must consider the following when selecting and designing control measures:

i.) preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;

ii.) using control measures in combination is more effective than using control measures in isolation for minimizing pollutants in your stormwater discharge;

iii.) assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

iv.) minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;

v.) attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;

vi.) conserving and/or restoring riparian buffers will help protect streams from stormwater runoff and improve water quality; and

vii.) using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

b. *Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT)*

i.) *Minimize Exposure.* You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). You must store solid chemical products, chemical solutions, paints, oils, solvents, acids, caustic solutions and waste materials under cover on an impervious surface. In minimizing exposure, you should pay particular attention to the following:

- use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);
- clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;
- use spill/overflow protection equipment;
- drain fluids from equipment and vehicles prior to onsite storage or disposal;
- perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
- ensure that all washwater drains to a proper collection system (i.e., not the stormwater drainage system).

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit. These wastewaters must be covered under a separate NPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or disposed of otherwise in accordance with applicable law.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters or if discharges are authorized under another NPDES permit.

ii.) *Good Housekeeping.* You must keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers. A good practice for ensuring housekeeping activities are performed at regular intervals would be keeping a schedule for routine grounds maintenance and cleanup.

iii.) *Maintenance.* You must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters. You must maintain all stormwater control measures used to restore impervious surfaces. You must also maintain all control measures that are used to achieve the effluent limits required by this permit in effective operating condition. Particular care should be taken to inspect compaction dumpsters to prevent debris around or under the dumpster as well as prevent hydraulic fluid leakage. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If you find that your control measures need to be replaced or repaired, you must make the necessary repairs or modifications as expeditiously as practicable.

iv.) *Spill Prevention and Response Procedures.* You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. These procedures are complementary to and do not replace any requirements of RCRA (42 U.S.C. §6901), the Department's Land Management Administration Oil Control Program, NFPA 30 Flammable and Combustible Liquids Code or the Spill Prevention, Control and Countermeasure (SPCC) Plan (as a requirement of 40 CFR § 112), At a minimum, you must implement:

- Procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Quarterly inspection procedures for containers that are susceptible to spillage or leakage (e.g., used oil) to ensure the containment structures have no leaks/cracks, and that the outlets are properly sealed. Check that plugs are properly affixed, that valves are in working condition, and that neither are leaking;
- Procedure for the discharge of any stormwater from a containment structure, requiring that a sample is taken to ensure that no visible or odorous pollutants are discharged. If a sample contains a visible sheen, floating solids or a noxious smell, then you must discharge the remaining wastewater to a sanitary sewer system or haul it to a recycler or TSDF (Treatment Storage & Disposal Facilities) or disposal facility;
- Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your stormwater pollution prevention team as described in Part III.C.1; and
- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part

302, occurs during a 24-hour period, you must notify the Department's Emergency Spill Response number at (866) 633-4686 and EPA's National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC, metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as you have knowledge of the discharge. Local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

v.) *Erosion and Sediment Controls.* You must stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions you must take to meet this limit, you must place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Department's Soil Erosion & Sediment Control resources (found at http://9nl.at/MD-SEC), EPA's internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific Industrial Stormwater Fact Sheet Series, (www.epa.gov/npdes/stormwater/msgp), National Menu of Stormwater BMPs (www.epa.gov/npdes/stormwater/menuofbmps), and National Management Measures to Control Nonpoint Source Pollution from Urban Areas (www.epa.gov/owow/nps/urbanmm/index.html).

vi.) *Management of Runoff.* You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Department's Design Manual, EPA's internet-based resources relating to runoff management, including the sector-specific Industrial Stormwater Fact Sheet Series, (www.epa.gov/npdes/stormwater/msgp), National Menu of Stormwater BMPs (www.epa.gov/npdes/stormwater/menuofbmps), and National Management Measures to Control Nonpoint Source Pollution from Urban Areas (www.epa.gov/owow/nps/urbanmm/index.html).

vii.) *Salt Storage Piles or Piles Containing Salt.* You must enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES or State discharge permit.

viii.) *Sector Specific Non-Numeric Effluent Limits.* Appendix A of this permit identifies your specific Industry Sector. You must achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Appendix D: Sector-Specific Requirements for Industrial Activity.

ix.) *Employee Training.* You must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your stormwater pollution prevention team described in Part III.C.1, below. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. As part of the employee training program you must address, at a minimum, the following activities (as applicable): used oil management, spent solvent and paint management, disposal of spent abrasives (e.g., blasting materials, etc.), spill prevention and control, fueling procedures,

general good housekeeping practices (e.g., dumpster/debris removal), used battery management, waste recycling (e.g., metals, plastics), used container controls (e.g., re-banding barrels, plugging drums), etc. The Department recommends training be conducted at least annually (or more often if employee turnover is high).

x.) *Non-Stormwater Discharges.* You must eliminate non-stormwater discharges not authorized by a NPDES or State discharge permit. See Part I.E.3 for a list of non-stormwater discharges authorized by this permit.

xi.) *Waste, Garbage and Floatable Debris.* You must ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged. The Department recommends practices including placing garbage or recycling containers at traffic areas, and identifying a schedule for personnel to walk site for trash and litter daily/weekly/monthly, etc.

xii.) *Dust Generation and Vehicle Tracking of Industrial Materials.* You must minimize generation of dust and offsite tracking of raw, final, or waste materials.

2. Water Quality-Based Effluent Limitations

a. *Water Quality Standards*

Your discharge must be controlled as necessary to meet applicable water quality standards. The Department expects that compliance with the other conditions in this permit will control discharges as necessary to meet applicable water quality standards. There shall be no discharge that causes visible oil sheen, and no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour of point of discharge. If at any time you become aware, or the Department determines, that your discharge causes or contributes to an exceedance of applicable water quality standards, then you must (1) take corrective action, (2) document the corrective actions, and (3) report the corrective actions to the Department's Water Management Administration Compliance Program as required by Part IV. Additionally, if information in your NOI or required reports or if information from other sources indicates that your discharge is not controlled as necessary to meet applicable water quality standards, the Department may impose additional water quality-based limitations on a site-specific basis or require you to obtain coverage under an individual permit.

b. *Discharges to Water Quality Impaired Waters*

If you discharge to an impaired water, the Department will inform you if any additional monitoring, limits or controls are necessary for your discharge to be consistent with the assumptions of any available wasteload allocation in an EPA Approved TMDL, or if coverage under an individual permit is necessary in accordance with Part I.G.

c. *Tier 2 Antidegradation Requirements for New or Increased Dischargers*

If you are a new discharger or are required to notify the Department of a modified discharge (Part II.F.1), and you discharge directly to waters designated by the State as Tier 2 for antidegradation purposes under 40 CFR 131.12(a), the Department may notify you that additional analyses, control measures, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part I.G.

d. *Criteria Selection*

Any additional numerical water quality based limits for any specific discharger under Part III.B.2 of the permit shall be based solely on Maryland's Numeric Water Criteria for Designated Uses in COMAR 26.08.02.03-3 and Maryland's Criteria for Toxic Substances in Surface Waters in COMAR 26.08.02.03-2, applied at end of pipe, or the applicable wasteload allocation in a final approved TMDL. For any additional control requested by the Department you must include a plan to implement BMPs to address the pollutant of concern in your SWPPP.

C. Stormwater Pollution Prevention Plan (SWPPP) Requirements

The SWPPP is intended to document the selection, design, and installation of control measures. The SWPPP does not contain effluent limitations; the limitations are contained in Part III.A, and Part III.B of the permit, and, for some Industry Sectors, Appendix D of the permit.

Upon registration under this Permit, if you are also subject to other individual NPDES permits or have coverage under an industry-specific general permit for the discharge of stormwater associated with industrial activity, then the requirements of this permit supersede the SWPPP requirements of the other permit(s). All other requirements of the other permit(s) remain in full effect.

Your SWPPP must contain all of the following elements, as described below. You must also meet all of this section's additional SWPPP requirements.

- Stormwater pollution prevention team (see Part III.C.1);
- Site description (see Part III.C.2);
- Summary of potential pollutant sources (see Part III.C.3);
- Description of control measures (see Part III.C.4);
- Schedules and procedures (see Part III.C.5); and
- Signature requirements (see Part III.C.6).

1. Stormwater Pollution Prevention Team

You must identify the staff members (by name or title) that comprise the facility's stormwater pollution prevention team as well as their individual responsibilities. Your stormwater pollution prevention team is responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

2. Site Description

Your SWPPP must include the following:

a. *Activities at the Facility.* Provide a description of the nature of the industrial activities at your facility.

b. *General location map.* Provide a general location map (e.g., U.S. Geological Survey (USGS) quadrangle map) with enough detail to identify the location of your facility. Ideally this map will extend one-quarter of a mile beyond the property boundaries of the facility and identify any water body where discharge is conveyed. At least one public roadway must be identified on the map.

c. *Site map.* Provide a map showing:

i.) the size of the property in acres;

ii.) the location and extent of significant structures and impervious surfaces

iii.) the location and extent for planned restoration of impervious surfaces, or other nutrient reduction control measures;

iv.) directions of stormwater flow (use arrows);

v.) locations of all existing structural control measures or BMPs;

vi.) locations of all receiving waters in the immediate vicinity of your facility, indicating if any of the waters are impaired and, if so, whether the waters have TMDLs established for them;

vii.) locations of all stormwater conveyances including ditches, pipes, and swales;

viii.) locations of potential pollutant sources identified under Part III.C.3;

ix.) locations where significant spills or leaks identified under Part III.C.3 have occurred;

x.) locations of all stormwater monitoring points;

xi.) locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall No. 1, No. 2, etc), indicating if you are treating one or more outfalls as substantially identical, and an approximate outline of the areas draining to each outfall;

xii.) municipal separate storm sewer systems, where your stormwater discharges to them;

xiii.) locations and descriptions of all non-stormwater discharges identified under Part I.E.3;

xiv.) locations of the following activities where such activities are exposed to precipitation:

- fueling stations;
- vehicle and equipment maintenance and/or cleaning areas;
- loading/unloading areas;
- locations used for the treatment, storage, or disposal of wastes;
- liquid storage tanks;
- processing and storage areas;
- immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
- transfer areas for substances in bulk; and
- machinery;
- manufacturing buildings and

xv.) locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.

3. Summary of Potential Pollutant Sources

You must document areas at your facility where industrial materials or activities are exposed to stormwater and from which allowable non-stormwater discharges are released. Industrial materials or activities include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products. Material handling activities include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each area identified, the description must include:

a. *Activities in the area.* A list of the industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).

b. *Pollutants.* A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list must include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to stormwater in the 3 years prior to the date you prepare or amend your SWPPP.

c. *Spills and Leaks.* You must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You must document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance, in the 3 years prior to the date you prepare or amend your SWPPP. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and Countermeasure (SPCC) plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112.

Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of

the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

d. *Non-Stormwater Discharges.* You must document that you have evaluated for the presence of non-stormwater discharges and that all unauthorized discharges have been eliminated. Documentation of your evaluation must include:

i.) The date of any evaluation;

ii.) A description of the evaluation criteria used;

iii.) A list of the outfalls or onsite drainage points that were directly observed during the evaluation;

iv.) The different types of non-stormwater discharge(s) and source locations; and

v.) The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, wash water is collected and hauled away, or an NPDES permit application was submitted for an unauthorized cooling water discharge.

e. *Salt Storage.* You must document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.

f. *Visual Monitoring History.* You must summarize what you have observed as potential problems from stormwater during the previous permit term.

4. Description of Control Measures to Meet Technology- and Water Quality-Based Effluent Limits
You must document the location and type of control measures you have installed and implemented at your site to achieve the non-numeric effluent limits in Part III.B.1.b and, where applicable, in Appendix D Sector-Specific Requirements for Industrial Activity, and the water quality-based effluent limits in Part III.B.2, and describe how you are addressing the control measure selection and design considerations, if applicable, in Part III.A.1.a. This documentation must describe how the control measures at your site address both the pollutant sources identified in Part III.C.3 and any stormwater run-on that commingles with any discharges covered under this permit.

5. Schedules and Procedures

a. Pertaining to Control Measures Used to Comply with the Effluent Limits in Part III.B. The following must be documented in your SWPPP:

i.) *Good Housekeeping (See Part III.B.1.b.ii or Appendix D)* – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers;

ii.) *Maintenance (See Part III.B.1.b.iii or Appendix D)* – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;

iii.) *Spill Prevention and Response Procedures (See Part III.B.1.b.iv or Appendix D)* – Procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by a NPDES permit for the facility, provided that you keep a copy of that other plan onsite and make it available for review consistent with Part III.C.8; and

iv.) *Employee Training (See Part III.B.1.b.ix or Appendix D)* – The SWPPP must identify how often training will take place. All training must be held at least once per calendar year (or more often if employee turnover is high).

b. *Pertaining to Inspection and Monitoring*

i.) You must document in your SWPPP your procedures for performing, as appropriate, the three types of inspections specified by this permit, including:

- Routine facility inspections (see Part V.A.1);
- Quarterly visual assessment of stormwater discharges (see Part V.A.3); and
- Comprehensive site inspections (see Part V.A.2).

ii.) For each type of inspection performed, your SWPPP must identify:

- Person(s) or positions of person(s) responsible for inspection; and
- Specific items to be covered by the inspection, including schedules for specific outfalls.

iii.) If benchmark monitoring is required for your industry or industries, per Appendix D your SWPPP must document:

- Locations where samples are collected, including any determination that two or more outfalls are substantially identical;
- Parameters for sampling and the frequency of sampling for each parameter;
- Schedules for monitoring at your facility;
- Any numeric control values (benchmarks, TMDL-related requirements, or other requirements) applicable to discharges from each outfall; and
- Procedures (e.g., responsible staff, logistics, laboratory to be used, etc.) for gathering storm event data, as specified in Part V.C.

iv.) You must document the following in your SWPPP if you plan to use the substantially identical outfall exception for your quarterly visual assessment requirements in Part V.A.3 or your benchmark monitoring requirements in Part V.B:

- Location of each of the substantially identical outfalls;
- Description of the general industrial activities conducted in the drainage area of each outfall;
- Description of the control measures implemented in the drainage area of each outfall;
- Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges;
- An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%); and
- Why the outfalls are expected to discharge substantially identical effluents.

v.) If you are invoking the exception for inactive and unstaffed sites relating to routine facility inspections and quarterly visual assessments, you must include in your SWPPP the information to support this claim as required by Parts V.A.4. If you are invoking the exception for inactive and unstaffed sites for benchmark monitoring, you must include in your SWPPP the information to support this claim as required by Part V.B.5.

6. Signature Requirements

You must sign and date your SWPPP in accordance with Part II.C, including the date of signature.

7. Required SWPPP Modifications

You must modify your SWPPP whenever necessary to address any of the triggering conditions for corrective action in Part IV and to ensure that they do not reoccur, or to reflect changes implemented when a review following the triggering conditions in Part IV.B indicates that changes to your control measures are necessary to meet the effluent limits in this permit. Changes to your SWPPP document must be made in accordance with the corrective action deadlines in Parts IV.C and IV.D, and must be signed and dated in accordance with Part II.C.

8. Documentation Requirements

You must retain a copy of the current SWPPP required by this permit at your facility, and it must be immediately available to the Department. The Department encourages you to post your SWPPP online and provide the website address on your NOI. You are required to keep the

following inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit:

- **a.** A copy of the NOI submitted to the Department along with any correspondence exchanged between you and the Department specific to coverage under this permit;
- **b.** A copy of this permit (an electronic copy easily available to SWPPP personnel is also acceptable);
- **c.** A copy of the relevant portion of any other facility document referred to in your SWPPP, such as a Spill Prevention, Control and Countermeasure (SPCC) Plan;
- **d.** Descriptions and dates of any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants to waters of the U.S., through stormwater or otherwise; the circumstances leading to the release and actions taken in response to the release; and measures taken to prevent the recurrence of such releases (see Part III.B.1.b.iv);
- **e.** Records of employee training, including date training received (see Part III.B.1.b.ix);
- **f.** Documentation of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance/repair schedules (see Part III.B.1.b.iii);
- **g.** All inspection reports, including the Routine Facility Inspection documentation (see Part V.A.1), the Quarterly Visual Monitoring Form in Appendix B, and the Comprehensive Site Inspection reports (see Part V.A.2);
- **h.** Description of any deviations from the schedule for visual assessments and/or monitoring, and the reason for the deviations (e.g., adverse weather or it was impracticable to collect samples within the first 30 minutes of a measurable storm event) (see Parts V.C.5);
- **i.** Description of any corrective action taken at your site, including triggering event and dates when problems were discovered and modifications occurred;
- **j.** Documentation of any benchmark exceedances and how they were responded to, including either (1) corrective action taken, (2) a finding that the exceedence was due to natural background pollutant levels, or (3) a finding that no further pollutant reductions were technologically available and economically practicable and achievable in light of best industry practice consistent with Part V.B.3;
- **k.** Documentation to support any determination that pollutants of concern are not expected to be present above natural background levels if you discharge directly to impaired waters, and that such pollutants were not detected in your discharge or were solely attributable to natural background sources.
- **l.** Schedule of compliance for nutrient control measure planning per Part III.A.2.

If during the term of this permit, your site becomes inactive, you must contact the Department immediately and provide, in writing, the date of inactivity, the facility contact phone number and the location of the SWPPP and additional documentation. These must be made available during normal working hours. Note inactivity does not refer to seasonal closures.

D. Additional Requirements for Facilities Subject To SARA Title III, Section 313 Requirements

If you are subject to SARA Title III, Section 313 (42 U.S.C.11023) reporting requirements, in your SWPPP you must, in addition to the requirements of this Part, provide additional narrative on the preventive measures used to eliminate the exposure of these chemicals to stormwater run-on or run-off. To identify if your facility is subject to this requirement, visit the Maryland Department of the Environment's Community Right-to-Know website (*http://www.mde.state.md.us*). A list of the Section 313 chemicals can be found at the EPA's LIST OF LISTS Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act (*http://www.epa.gov/*). Additionally, SARA Title III, Section 313 water priority chemicals are often identified on Material Data Safety Sheets (MSDS).

Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

PART IV. CORRECTIVE ACTIONS

A. Conditions Requiring Review and Revision to Eliminate Problem

If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated in the future:

1. an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit) occurs at your facility;

2. a discharge violates a numeric effluent limit;

3. you become aware, or the Department determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;

4. an inspection or evaluation of your facility by a Department official, determines that modifications to the control measures are necessary to meet the non-numeric effluent limits in this permit; or

5. you find in your routine facility inspection (Part V.A.1), quarterly visual assessment (Part V.A.3), or comprehensive site inspection (Part V.A.2) that your control measures are not being properly operated and maintained.

B. Conditions Requiring Review to Determine if Modifications Are Necessary

If any of the following conditions occur, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit:

1. construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged; or

2. the average of 4 quarterly sampling results exceeds an applicable benchmark. If less than 4 benchmark samples have been taken, but the results are such that an exceedence of the 4 quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than 4 times the benchmark level) this is considered a benchmark exceedence, triggering this review.

C. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in parts IV.A and IV.B within 24 hours of making such discovery. Subsequently, within 14 days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency, or if no corrective action is needed, the basis for that determination. Specific documentation required within 24 hours and 14 days is detailed in part IV.D. If you determine that changes are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. In the event that a deficiency cannot be addressed fully within 30 days, you must call the Department Compliance program and make the Department aware of the situation. These time intervals are not grace periods, but are schedules considered reasonable for documenting your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

D. Corrective Action Report

1. Within 24 hours of discovery of any condition listed in parts IV.A and IV.B, you must document the following information:
   - **a.** identification of the condition triggering the need for corrective action review;
   - **b.** description of the problem identified; and
   - **c.** date the problem was identified.

2. Within 14 days of discovery of any condition listed in parts IV.A and IV.B, above, you must document the following information:
   - **a.** summary of corrective action taken or to be taken (or, for triggering events identified in Part IV.B where you determine that corrective action is not necessary, the basis for this determination);
   - **b.** notice of whether SWPPP modifications are required as a result of this discovery or corrective action;
   - **c.** date corrective action initiated; and
   - **d.** date corrective action completed or expected to be completed.

3. You must include this documentation with the annual report required in Part V.A.2.b.

E. Effect of Corrective Action

If the event triggering the review is a permit violation (e.g., non-compliance with an effluent limit), correcting it does not remove the original violation. Additionally, failing to take corrective action in accordance with this section is an additional permit violation. The Department may consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

F. Substantially Identical Outfalls

If the event triggering corrective action is linked to an outfall that represents other substantially identical outfalls, your review must assess the need for corrective action for each outfall represented by the outfall that triggered the review. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event.

PART V. INSPECTIONS, MONITORING, AND REPORTING

A. Site Inspections and Evaluations

You must conduct the following inspections or evaluations at your facility in accordance with the monitoring procedures outlined in Part V.C. You must keep a copy of the documentation from all inspections and evaluations onsite with your SWPPP per Part III.C.8.g.

1. <u>Routine Facility Inspection</u>

   At least once per quarter, you must conduct a site assessment that will review the effectiveness of the SWPPP. At least once each calendar year, the routine facility inspection must be conducted during a period when a stormwater discharge is happening. The facility inspections must be documented with a checklist or other summary signed in accordance with Part II.C.2 of this permit, by qualified personnel, with at least one member of your stormwater pollution prevention team participating. The checklist must include a certification that the site is in compliance with the SWPPP and this permit, or a record of the deficiencies and necessary follow up actions. Refer to Part IV.C Corrective Action Deadlines and Part IV.D. Corrective Action Report for appropriate time frames.

2. Comprehensive Site Compliance Evaluation

You must conduct comprehensive site compliance evaluations once a year. The evaluations must be performed by qualified personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility and who can evaluate the effectiveness of all existing BMPs. The personnel conducting the evaluations may be either facility employees (such as pollution prevention team members) or contractors you hire. If a scheduled compliance evaluation overlaps with a routine facility inspection, the annual compliance evaluation may be used as one of the four routine facility inspections.

a. Evaluations must include all areas where industrial materials or activities are exposed to stormwater, at a minimum:

i.) Industrial materials, residue or trash that may have or could come into contact with stormwater;

ii.) Leaks or spills from industrial equipment, drums, barrels, tanks or other containers that have occurred within the past three years;

iii.) Offsite tracking of industrial or waste materials or sediment where vehicles enter or exit the site;

iv.) Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;

v.) Evidence of, or the potential for, pollutants entering the drainage system;

vi.) Evidence of pollutants discharging to surface waters at all facility outfalls;

vii.) The condition of and around any outfall, including flow dissipation measures to prevent scouring;

viii.) Training performed, inspections completed, maintenance performed, quarterly visual examinations, and effective operation of BMPs (including those required for Chesapeake Bay Restoration); and

ix.) Visual and analytical monitoring results from the past year.

b. A report must be written summarizing the scope of the evaluation, name(s) of personnel performing the evaluation, the date of the evaluation, and all observations relating to the implementation of the SWPPP. Based on the results of the evaluation, the SWPPP must be modified as necessary. Refer to Part IV.C Corrective Action Deadlines and Part IV.D. Corrective Action Report for appropriate time frames.

3. Quarterly Visual Inspections

You are required to begin visual inspections in the first full quarter after you have been notified that you are covered by this permit. For example, if you obtain permit coverage in June, then your first monitoring quarter is July 1 - September 30 of that year. Once each quarter, you must collect a stormwater sample from each outfall (except in adverse weather conditions, substantially identical outfalls, or inactive and unstaffed sites as noted below) and assess the sample visually. Samples may be taken during any precipitation event (except as noted in Areas Subject to Snow below) where there is a measurable discharge and must be sampled within the first 30 minutes of the storm event. In the case of snowmelt, samples must be taken during a period with a measurable discharge from your site. These samples are not required to be collected consistent with 40 CFR 136 procedures but should be collected in such a manner that the samples are representative of the stormwater discharge.

a. The Quarterly Visual Monitoring Form found in Appendix B of this permit must be completed for each sample.

b. Adverse Weather Conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions. When adverse weather conditions prevent the collection of samples during the quarter, a substitute sample must be taken during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter must be included in SWPPP records.

c. *Areas Subject to Snow:* In areas subject to snow, at least one quarterly visual assessment must capture snowmelt discharge. The assessment should identify the date when the sample was taken.

d. *Substantially identical outfalls:* If your facility has two or more outfalls that you believe discharge substantially identical effluents, as documented in Part III.C.5.b, you may conduct quarterly visual assessments of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform visual assessments on a rotating basis of each substantially identical outfall throughout the period of your coverage under this permit. If stormwater contamination is identified through visual assessment performed at a substantially identical outfall, you must assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

4. Inactive and Unstaffed Sites Exceptions to Routine Facility Inspections.

The requirement to conduct routine facility inspections and visual monitoring on a quarterly basis does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. Such a facility is only required to conduct an annual comprehensive site inspection in accordance with the requirements of Part V.A.2. To invoke this exception, you must maintain a statement in your SWPPP pursuant to Part III.C.5.b.v indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement must be signed and certified in accordance with Part II.C. If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately resume quarterly facility inspections. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must include the same signed and certified statement as above and retain it with your records pursuant to Part III.C.5.b.v.

B. Industry Specific Benchmarks Monitoring Requirements

This permit stipulates pollutant benchmark concentrations that may be applicable to your discharge. The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are primarily for your use to determine the overall effectiveness of your control measures and to assist you in knowing when additional corrective action(s) may be necessary to comply with the effluent limitations in Part III.B. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity. Benchmark monitoring, if required, must be conducted according to test procedures approved under 40 CFR Part 136.

1. Applicability of Benchmark Monitoring

You must monitor for any benchmark parameters specified for the industrial sector(s), both primary industrial activity and any co-located industrial activities, applicable to your discharge. Your industry-specific benchmark concentrations are listed in the sector-specific sections of Appendix D. If your facility is in one of the industrial sectors subject to benchmark concentrations that are hardness-dependent, you are required to submit to the Department with your first benchmark discharge monitoring report (Part V.B.4) a hardness value, established consistent with the procedures in Appendix C, which is representative of your receiving water.

Samples must be analyzed consistent with 40 CFR Part 136 analytical methods and using test procedures with quantitation limits at or below benchmark values for all benchmark parameters for which you are required to sample.

2. Benchmark Monitoring Schedule
You must conduct benchmark monitoring quarterly for four (4) full quarters, starting the first full monitoring period (found in Part V.C.7) that occurs, six (6) months after registering under this permit. For example, if you obtain permit coverage in June, six months later is December, then your first monitoring period is Jan 1 – March 31.

3. Required Responses to Benchmark Monitoring Results

a. *Data not exceeding benchmarks:*
After collection of 4 quarterly samples, if the average of the 4 monitoring values for any parameter does not exceed the benchmark, you have fulfilled your monitoring requirements for that parameter for the permit term. For averaging purposes, use a value of zero for any individual sample parameter, analyzed using procedures consistent with Part V.B.1, which is determined to be less than the method detection limit. For sample values that fall between the method detection level and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value halfway between zero and the quantitation limit. If you have met the requirements and plan to stop benchmark monitoring for a parameter, you must provide written notification to the Department's Compliance Program of this determination with your benchmark monitoring report and modify your SWPPP.

b. *Data exceeding benchmarks:*
After collection of 4 quarterly samples, if the average of the 4 monitoring values for any parameter exceeds the benchmark, you must review the selection, design, installation, and implementation of selected control measures to determine if modifications are necessary to meet the effluent limits in this permit, and either:

i.) Make the necessary modifications and continue quarterly monitoring until you have completed 4 additional quarters of monitoring for which the average does not exceed the benchmark; or

ii.) Make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the technology-based effluent limits or are necessary to meet the water-quality-based effluent limitations in Part III.B of this permit, in which case you must continue monitoring once per year. You must also document your rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with your SWPPP. You must provide written notification to the Department's Compliance Program of this determination with your next benchmark monitoring report.

In accordance with Part V.B, you must review your control measures and perform any required corrective action immediately (or document why no corrective action is required), without waiting for the full 4 quarters of monitoring data, if an exceedance of the 4 quarter average is mathematically certain. If after modifying your control measures and conducting 4 additional quarters of monitoring, your average still exceeds the benchmark (or if an exceedance of the benchmark by the 4 quarter average is mathematically certain prior to conducting the full 4 additional quarters of monitoring), you must again review your control measures and take one of the two actions above.

c. *Natural Background Pollutant Levels:*
Following the first 4 quarters of benchmark monitoring (or sooner if the exceedance is triggered by less than 4 quarters of data, see above), if the average concentration of a pollutant exceeds a benchmark value, and you determine that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, you are not required to perform corrective action or additional benchmark monitoring provided that:

i.) The average concentration of your benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background;

ii.) You must document and maintain with the SWPPP your supporting rationale for

concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. You must include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your stormwater discharge; and

iii.) You notify the Departments Compliance Program on your final quarterly benchmark monitoring report that the benchmark exceedances are attributable solely to natural background pollutant levels.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring.

4. Submitting Benchmark Discharge Monitoring Reports (DMRs)

You must summarize and submit benchmark monitoring information electronically using NetDMR once you are granted access to this tool, unless you demonstrate a reasonable basis that precludes the use of NetDMR. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

a. NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. You must apply for access to NetDMR at www.epa.gov/netdmr and register for a NetDMR Webinar, unless you are able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs ("opt-out request"). Before you can submit official DMRs using NetDMR you must attend a training Webinar and successfully set-up and submit test monitoring results electronically. You must complete all requirements to gain access to NetDMR within six (6) months of authorization under this permit, including applying for access within one (1) month of being registered.

b. Opt-out requests must be submitted in writing to the Department for written approval at least sixty (60) days prior to the date you would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department unless the permittee submits a renewed opt-out request and such request is approved by the Department. All opt-out requests and subsequent hardcopy DMRs should be sent to the following addresses with "Attn: DMRs":

Maryland Department of the Environment
WMA – Compliance Program
1800 Washington Blvd., Suite 425
Baltimore, MD 21230

c. If you are required to do benchmark monitoring for specific pollutants you must report the quarterly measurements no later than 28 days following the Monitoring Period (Part V. C.7), and according to the other Monitoring Procedures (Part V.C).

5. Exception for Inactive and Unstaffed Sites

The requirement for benchmark monitoring does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must do the following:

- Maintain a statement onsite with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Part II.C; and
- If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies

and you must immediately begin complying with the applicable benchmark monitoring requirements under Part V.B as if you were in your first year of permit coverage. You must indicate in your first benchmark monitoring report that your facility has materials or activities exposed to stormwater or has become active and/or staffed.

- If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must provide written notification to the Department's Compliance Program of this change in your next benchmark monitoring report. You may discontinue benchmark monitoring once you have notified the Department, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

6. Substantially identical outfalls

If your facility has two or more outfalls that you believe discharge substantially identical effluents, as documented in Part III.C.5.b, you may benchmark monitoring of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform benchmark monitoring on a rotating basis of each substantially identical outfall throughout the period you are required to under this permit. If stormwater contamination is identified through benchmark monitoring performed at a substantially identical outfall, you must assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

C. Monitoring Procedures

You must collect and analyze stormwater samples and document monitoring activities for visual and benchmark monitoring consistently with the procedures described in this section and the industry specific benchmark monitoring requirements.

1. Monitored Outfalls

You must conduct monitoring as required by this permit at each outfall authorized by this permit, except when an outfall is exempt from monitoring as a substantially identical outfall. If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas, you may monitor the effluent of just one of the outfalls and report that the results also apply to the substantially identical outfall(s). As required in Part III.C.5, your SWPPP must identify each outfall authorized by this permit and describe the rationale for any substantially identical outfall determinations.

2. Commingled Discharges

If discharges authorized by this permit commingle with discharges not authorized under this permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable. The following are some examples of mixed water source situations that should not be sampled.

- **a.** A common ditch that carries stormwater from properties upstream. In this case, the stormwater from the permitted facility is mixed with other water. You should find a location or locations where your facility's stormwater alone can be sampled.
- **b.** A partially submerged storm sewer pipe where it discharges into the receiving water body. In this case, this final discharge point should not be used as a sampling point because the stormwater flow is mixed with the receiving water.
- **c.** A manhole that carries stormwater not only from the permitted facility but from other stormwater sources as well. If taking a grab sample from a manhole, you should make sure

that the flow in that pipe is entirely from your facility.

3. Measurable Storm Events
All required monitoring must be performed on a storm event that results in an actual discharge from your site ("measurable storm event") that follows the preceding measurable storm event by at least 72 hours (3 days). The 72-hour (3-day) storm interval does not apply if you are able to document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. In the case of snowmelt, the monitoring must be performed at a time when a measurable discharge occurs at your site.

For each monitoring event, except snowmelt monitoring, you must identify the date and duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event. For snowmelt monitoring, you must identify the date of the sampling event.

4. Sample Type
You must take a minimum of one grab sample from a discharge resulting from a measurable storm event as described above. Samples must be collected within the first 30 minutes of a measurable storm event. However, the Department does not advocate impractical or potentially unsafe sampling methods during periods of adverse weather conditions. Therefore, if it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge.

5. Adverse Weather Conditions
When adverse weather conditions, as described in Part V.A.3.b, prevent the collection of samples according to the relevant monitoring schedule, you must take a substitute sample during the next qualifying storm event. Adverse weather does not exempt you from having to file a benchmark monitoring report in accordance with your sampling schedule. You must keep a record with your SWPPP of any failure to monitor as specified, indicating the basis for not sampling during the usual reporting period.

6. Representative Sampling
You must take all required samples and measurements at times to be representative of the quantity and quality of the discharges during the specified monitoring periods. At a minimum, samples must be taken once every quarter unless otherwise specified.

The sampling and analytical methods used must conform to procedures for the analysis of pollutants as identified in 40 CFR 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" except for visual monitoring which is not subject to 40 CFR 136, or unless otherwise specified.

7. Monitoring Periods
Visual (Part V.A.3) and benchmark (Part V.B.2) monitoring are required on a quarterly basis, following these 3-month intervals:
a. January 1 – March 31;
b. April 1 – June 30;
c. July 1 – September 30; and
d. October 1 – December 31.

8. Data Recording Requirements
If you are required to perform monitoring, you must record the following information for each sample:
a. The exact place, date, and time of sampling or measurement;
b. The person(s) who performed the sampling or measurement;
c. The dates and times the analyses were performed;
d. The person(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of all required analyses.

D. Hazardous Substances or Oil in Stormwater Discharge(s) Reporting

1. This permit does not authorize the discharge of hazardous substances or oil resulting from an onsite spill.

2. You must prevent the discharge of hazardous substances or oil in the stormwater discharge(s) from your facility in accordance with your SWPPP. This permit does not relieve you of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. If a spill or discharge of hazardous substances or oil occurs you must do the following:
a. Notify the Department by calling its Emergency Response Division at (866) 633-4686 and notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, at (202) 426-2675 in accordance with the requirements of COMAR 26.10.01.03, 40 CFR 117 and 40 CFR 302 respectively as soon as he or she has knowledge of the discharge;
b. Submit to the Department a written description within 10 working days of knowledge of the incident including: the type and estimate of the amount of material released, the date it occurred, the circumstances leading to it, and steps to be taken in accordance with Part V.C.1.c, below, and any other information as required by COMAR 26.10.01.03; and
c. Modify the SWPPP within 14 calendar days of knowledge of the incident to (1) provide a description of the release, the circumstances leading to it, and the date it occurred and (2) identify measures to prevent the reoccurrence of respond to such releases and modify the plan where appropriate.

E. Records Retention

You must retain all records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and original recordings from continuous monitoring instrumentation, for a minimum of five (5) years. This period shall be extended automatically during the course of litigation, or when requested by the Department.

PART VI. STANDARD PERMIT CONDITIONS

A. Compliance with this General Permit and Water Pollution Abatement Statutes

You must comply at all times with the terms and conditions of this permit, the provisions of the Environmental Article, Title 7, Subtitle 2 and Title 9, Subtitles 2 and 3 of the Annotated Code of Maryland, and the Clean Water Act, 33 U.S.C. § 1251 et seq. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act.

As detailed in Part IV (Corrective Actions) of this permit, failure to take any required corrective actions constitute an independent, additional violation of this permit and the Clean Water Act. As such, any actions and time periods specified for remedying noncompliance do not absolve parties of the initial underlying noncompliance. However, where corrective action is triggered by an event that

does not itself constitute permit noncompliance, such as an exceedance of an applicable benchmark, there is no permit violation provided you take the required corrective action within the relevant deadlines established in Part IV.C.

B. Civil and Criminal Liability

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve you from any civil or criminal responsibilities, liabilities, and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local or other state law or regulation.

C. Action on Violations

The issuance or reissuance of this permit does not constitute a decision by the State not to proceed in an administrative, civil, or criminal action for any violations of State law or regulations occurring before the issuance or re-issuance of this permit, nor a waiver of the State's right to do so.

D. Civil Penalties for Violations of Permit Conditions

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act or in a permit issued under Section 404 of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. Statutory penalties of the CWA are subject to the Civil Monetary Penalty Inflation Adjustment Rule published in the federal register 2009.

E. Criminal Penalties for Violations of Permit Conditions

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that:

1. Any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.

2. Any person who knowingly violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.

3. Any person who knowingly violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, is subject to a fine of not more than $250,000 or imprisonment of not more than fifteen (15) years, or both. A person that is a corporation, must, upon conviction, be subject to a penalty of not more than $1,000,000.

4. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or

method required to be maintained under the Act, is subject to a fine of not more than $10,000 or by imprisonment for not more than two (2) years, or by both.

F. Penalties for Falsification and Tampering

Per the Environment Article, §9-343, Annotated Code of Maryland, any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. Per the federal Clean Water Act, any person who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under the Act, or who knowingly makes any false statement, representation, or certification in any records or other documents submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or by both.

G. Right of Entry

You must permit the Secretary of the Department, the Regional Administrator for the EPA, or their authorized representatives, upon the presentation of credentials, to:

1. enter upon your premises where a discharges' source is located or where any records are required to be kept under the terms and conditions of this permit;

2. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

3. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;

4. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit;

5. sample, at reasonable times, any discharge of pollutants; and

6. take photographs (which may require direction for reasons of national security).

H. Property Rights/Compliance with Other Requirements

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

I. Duty to Provide Information

You must provide within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit to the Department. You must also provide copies of records required to be kept by this permit to the Department, upon request.

J. Submitting Additional or Corrected Information

When you become aware that you failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Department, you must submit the facts or

information to the Department within 30 days.

K. Availability of Reports

Except for data determined to be confidential under the Maryland Public Information Act and/or Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data must be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

L. Removed Substances

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters or facility operations, must be disposed of in a manner to prevent any wastes or runoff from wastes from contacting waters of the State.

M. Facility Operation and Maintenance

You must at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used to achieve compliance with the conditions of the permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or a similar system that you have installed only when the operation is necessary to achieve compliance with the conditions of the permit.

N. Toxic Pollutants

You must comply with effluent standards or prohibitions for toxic pollutants established under the Federal Clean Water Act, or under Section 9-314 and Sections 9-322 to 9-328 of the Environment Article, Annotated Code of Maryland. You must be in compliance within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

O. Oil and Hazardous Substances Prohibited

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve you from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland.

Permittees may be subject to additional requirements and regulations dictated by the Department's Oil Control Program and Emergency Planning and Community Right-to-Know Act (EPCRA) (40 CFR 116). Any requirements listed in this permit which control grease, oil or fuel are to address potential pollutants not governed directly by Oil Pollution Prevention (40 CFR 112), as the handling and storage of fuel and other petroleum products has a potential to cause negative impacts to waters of the state.

P. Water Construction and Obstruction

This permit does not authorize you to construct or place physical structures, facilities, or debris or undertake related activities in any waters of the State.

Q. Permit Modification

The Department may revoke this permit or modify this permit to include different limitations and requirements, in accordance with the procedures contained in COMAR 26.08.04.10 and 40 C.F.R. §§ 122.62, 122.63, 122.64 and 124.5.

This permit must be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation issued or approved:

1. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or

2. controls any pollutant not limited in this permit. This permit, as modified or reissued under this section, must also contain any other requirements of the Act then applicable.

R. Total Maximum Daily Load (TMDL)
The permit may be reopened in accordance with Maryland's Administrative Procedures Act to incorporate future Total Maximum Daily Load requirements.

S. Severability
The provisions of this permit are severable. If any provisions of this permit must be held invalid for any reason, the remaining provisions must remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances must not be affected.

PART VII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

On September 5, 1974, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters under Section 402 of the Federal Clean Water Act, 33 U.S.C. Section 1342.

On September 30, 1990, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a general permit program.

Under the approvals described above, this general discharge permit is both a State of Maryland general discharge permit and a NPDES general permit.

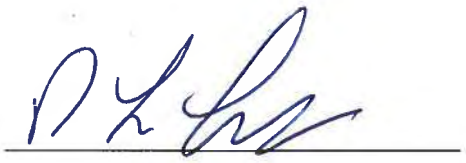
Jay G. Sakai, Director
Water Management Administration

Modification "A" Approval

On September 5, 1974, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters under Section 402 of the Federal Clean Water Act, 33 U.S.C. Section 1342.

On September 30, 1990, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a general permit program.

Under the approvals described above, this general discharge permit is both a State of Maryland general discharge permit and a NPDES general permit.



D. Lee Currey, Director
Water and Science Administration

Appendix A:
Industry Specific Sectors

These Industry Sector descriptions are categorized by Standard Industrial Classification (SIC), and in a few cases by "Activity Code". More detailed descriptions of the SIC codes can be found at Department of Labor's - Occupation, Safety and Health Administration (OSHA) website (http://www.osha.gov/pls/imis/sicsearch.html). References to "sectors" in this permit (e.g., sector-specific monitoring requirements) refer to these groupings.

SIC Code or Activity Code	Activity Represented
SECTOR A: TIMBER PRODUCTS	
2421	General Sawmills and Planing Mills
2491	Wood Preserving
2411	Log Storage and Handling
2426	Hardwood Dimension and Flooring Mills
2429	Special Product Sawmills, Not Elsewhere Classified
2431-2439 (except 2434, see Sector W)	Millwork, Veneer, Plywood, and Structural Wood
2448	Wood Pallets and Skids
2449	Wood Containers, Not Elsewhere Classified
2451, 2452	Wood Buildings and Mobile Homes
2493	Reconstituted Wood Products
2499	Wood Products, Not Elsewhere Classified
2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS	
2631	Paperboard Mills
2611	Pulp Mills
2621	Paper Mills
2652-2657	Paperboard Containers and Boxes
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS	
2873-2879	(Subsector C1) Agricultural Chemicals
2812-2819	(Subsector C2) Industrial Inorganic Chemicals
2841-2844	(Subsector C3) Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
2861-2869	Industrial Organic Chemicals
2891-2899	Miscellaneous Chemical Products
3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
2911	Petroleum Refining
SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS	
2951, 2952	Asphalt Paving and Roofing Materials (except Bituminous concrete)
2992, 2999	Miscellaneous Products of Petroleum and Coal

SIC Code or Activity Code	Activity Represented
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS	
3251-3259	Structural Clay Products
3261-3269	Pottery and Related Products
3274-3275	Lime & Gypsum Products
3211	Flat Glass
3221, 3229	Glass and Glassware, Pressed or Blown
3231	Glass Products Made of Purchased Glass
3241	Hydraulic Cement
3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS	
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
3321-3325	Iron and Steel Foundries
3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
3363-3369	Nonferrous Foundries (Castings)
3331-3339	Primary Smelting and Refining of Nonferrous Metals
3341	Secondary Smelting and Refining of Nonferrous Metals
3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)	
	(Reserved)
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES	
	(Reserved)
SECTOR I: OIL AND GAS EXTRACTION AND REFINING	
1311	Crude Petroleum and Natural Gas
1321	Natural Gas Liquids
1381-1389	Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING	
	(Reserved)
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES	
HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
SECTOR L: LANDFILLS AND LAND APPLICATION SITES	
LF, 4953	(Subsector L1) All Landfills with a refuse disposal permit or Land Application Sites with a marginal land permit
	(Subsector L2) All Landfills with a refuse disposal permit or Land Application Sites with a marginal land permit, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
	(Subsector L3) All Landfills without a refuse disposal permit or Land Application Sites without a marginal land permit that have been notified by the Department that coverage is needed, or the facility was covered under the 02-SW permit
SECTOR M: AUTOMOBILE SALVAGE YARDS	
5015	Automobile Salvage Yards

SIC Code or Activity Code	Activity Represented
SECTOR N: SCRAP RECYCLING FACILITIES	
5093	(Subsector N1) Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
	(Subsector N2) Source-separated Recycling Facility "Source-Separated Recycling" are facilities that only receive recyclable materials separated at the source from solid waste, primarily from non-industrial and residential sources (i.e., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans); including recycling facilities commonly referred to as material recovery facilities (MRF). Additional separation of the collected recyclables can occur at the facility and still considered source-separated recycling, if the stream of material was separated at the source of any trash, commonly called single stream recycling in the state.
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES	
SE	Steam Electric Generating Facilities, including coal handling sites
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING	
4011, 4013	Railroad Transportation *
4111-4173	Local and Highway Passenger Transportation *
4212-4231 (except 4221-4226)	Motor Freight Transportation and Warehousing *
4311	United States Postal Service *
5171	Petroleum Bulk Stations and Terminals *
	* Only those facilities which have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations are included for the facilities specified above in this Sector.
4221-4226	Storage facilities must include stormwater discharges from all areas (except access roads and rail lines) where material handling, equipment, or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to stormwater. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate produce, finished product, by-product, or waste product.
SECTOR Q: WATER TRANSPORTATION	
4412-4499 (except 4493)	Water Transportation Facilities
	Only those facilities listed which have vehicle maintenance shops or equipment cleaning operations are included in this sector. The facility associated with industrial activity are those portions involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations.
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS	
3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES	
4512-4581	Air Transportation Facilities
	Only those facilities listed which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations are included in this sector. The facility associated with industrial activity are those portions involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations or airport deicing operations.

SIC Code or Activity Code	Activity Represented
SECTOR T: TREATMENT WORKS	
TW, 4952	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA .
SECTOR U: FOOD AND KINDRED PRODUCTS	
2041-2048	(Subsector U1) Grain Mill Products
2074-2079	(Subsector U2) Fats and Oils Products
2011-2015	Meat Products
2021-2026	Dairy Products
2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
2051-2053	Bakery Products
2061-2068	Sugar and Confectionery Products
2082-2087	Beverages
2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS	
2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
3131-3199	Leather and Leather Products
SECTOR W: FURNITURE AND FIXTURES	
2434	Wood Kitchen Cabinets
2511-2599	Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING	
2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES	
3011	Tires and Inner Tubes
3021	Rubber and Plastics Footwear
3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
3081-3089	Miscellaneous Plastics Products
3931	Musical Instruments
3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
3991-3999	Miscellaneous Manufacturing Industries

SIC Code or Activity Code	Activity Represented
SECTOR Z: LEATHER TANNING AND FINISHING	
3111	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS	
3411-3499	Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services.
3911-3915	Jewelry, Silverware, and Plated Ware
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY	
3511-3599 (except 3571-3579 see Sector AC)	Industrial and Commercial Machinery
3711-3799 (except 3731, 3732 see Sector R)	Transportation Equipment
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS	
3571-3579	Computer and Office Equipment
3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
3612-3699	Electronic and Electrical Equipment and Components
SECTOR AD.a: DEPARTMENT OF PUBLIC WORKS AND HIGHWAY MAINTENANCE FACILITIES	
DPW, HM, 1611, 1622, 1623, 1629	Department of Public Works (DPW) and Highway Maintenance (HM) facilities that have operations including vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations and salt storage for road deicing activities. Department of public works and highway maintenance facilities where no vehicle repair is occurring are not required to apply for coverage. NOTE: Coverage under this permit is not required for a municipally owned and operated facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 02-SW permit.
SECTOR AD.b: SCHOOL BUS MAINTENANCE FACILITIES	
82xx	School Bus Maintenance facilities that have operations including vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication), and equipment cleaning operations. NOTE: Coverage under this permit is not required for a municipally owned and operated facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 02-SW permit.
SECTOR AD: NON-CLASSIFIED FACILITIES	
AD	Other stormwater discharges to waters of the state designated by the Department as needing a permit (see 40 CFR 122.26.(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Department may assign a facility to Sector AD.

Appendix B:
Quarterly Visual Monitoring

Quarterly Visual Monitoring Form

Fill out a separate form for each outfall sampled.

Sample Location					
Quarter / Year:		**Date / Time Collected:**		**Date / Time Examined:**	
Qualifying Storm Event?	Yes No	**Runoff Source:**	Rainfall Snowmelt		
Collector's Name & Title					
Examiner's Name & Title					

Parameter	Parameter Description	Parameter Characteristics
1. Color	Does the stormwater appear to have any color? **Yes** **No (Clear)**	If Yes, describe: *Yellow Brown Red Gray Other*:
2. Clarity	Is the stormwater clear? **Yes** **No**	If not clear, which of the following best describes the clarity of the stormwater? *Suspended Solids Milky/Cloudy Opaque Other:*
3. Oil Sheen	Can you see a rainbow effect or sheen on the water surface? **Yes** **No**	Which best describes the sheen? *Rainbow sheet Floating oil globules Other:*
4. Odor	Does the sample have an odor? **Yes** **No**	If Yes, describe: *Chemical Musty Rotten Eggs Sewage Sour Milk Oil/Petroleum Other:*
5. Floating Solids	Is there anything on the surface of the sample? **Yes** **No**	If Yes, describe: *Suds Oily Film Garbage Sewage Water Fowl Excrement Other:*
6. Suspended Solids	Is there anything suspended in the sample? **Yes** **No**	Describe:
******Leave sample undisturbed for 30 minutes.******		
7. Settled Solids	Is there anything settled on the bottom of the sample? **Yes** **No**	Describe: (*note type, size and material after sample is not disturbed for 30 minutes)*
8. Foam	Does foam or material form on the top of the sample surface if you shake it? **Yes** **No**	Describe:

9. If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.

Stormwater Collector's Signature and Date:

Stormwater Examiner's Signature and Date:

Note – Sample should be collected and analyzed in a colorless glass or plastic bottle.

Instructions for Completing the Visual Monitoring Form

Per PART V. INSPECTIONS, MONITORING, AND REPORTING, you must collect a stormwater sample from each outfall once each quarter for the entire permit term and conduct a visual assessment of each sample. You must follow the monitoring procedures outlined in Part V.C. These samples should be collected in such a manner that they are representative of the stormwater discharge from that outfall. Each assessment must be kept onsite with your SWPPP and available for inspection and review by the Department at anytime.

First, fill out all information on the top of the visual monitoring form. A qualifying storm event is any storm where there is a measurable discharge. Then, take a grab sample in a clear container. Evaluate the sample in a well-lit area for the following parameters:

1. **Color:** Record the best description of the sample color in the appropriate space on the form.
2. **Clarity**: This parameter refers to how cloudy the sample is. It is *usually* an indication of fewer pollutants in the water if the sample is clear or transparent. If the clarity has changed since the last sample, try to identify what might have caused this to happen.
   - **Clear** – Sample doesn't block any light; can be seen through regardless of color.
   - **Cloudy** – Sample blocks some light; objects not clear but can be identified looking through the sample.
   - **Very Cloudy** – Sample blocks most light; objects cannot be identified looking through the sample.
   - **Opaque** – Sample blocks all light; objects cannot be seen when looking through the sample.
3. **Oil Sheen:** Record whether or not an oil sheen is present. If a film of iridescent color is noted on the surface of the sample or a rainbow effect appears to be floating on the surface of the water, this usually indicates oil is present.
4. **Odor:** If sample has no odor other than natural rainwater or snowmelt, write "NO" on the visual monitoring form. Note the presence of any of the following odors if detected, such as gasoline, diesel, oil, solvents (WD-40, other petroleum products, etc.), garbage, fishy, sweet/sugary, any other unusual odors not normally present in clean runoff from the area sampled.
5. **Floating Solids:** A contaminated flow may contain solids or liquids floating on the surface. Identifying floatables can aid in finding the source of the contamination. Examples of floatables are spoiled food products, oils, plant parts, solvents, sawdust, foams and fuel. Give a general description of the type of floating solids present (wood chips, leaf debris, algae, etc) in the general comments section for each sample. Identify amount of floating solids as described below.
   - **High** – More than 20% of the surface of the sample is covered with floating solids.
   - **Moderate** – Less than 20% of the surface of the sample is covered with floating solids.
   - **Slight** – Only a few floating particles observed on the surface of the sample.
   - **None** – No floating solids present on the surface of the sample.
6. **Suspended solids:** Record whether or not suspended solids are present in the sample. Suspended solids are particles floating inside the column of water, not on top, and may contribute to changes in water color or clarity. Cracked or deteriorated concrete or peeling surface paint at an outfall usually indicates the presence of severely contaminated discharges. Contaminants causing this type of damage are usually very acidic or basic.

---------- WAIT 30 MINUTES ----------

Leave the sample undisturbed for 30 minutes to allow the water and anything in it to settle.

7. **Settled Solids:** After 30 minutes has passed, give a general description of the type of settled solids present (sand, decayed plant matter, rust particles, etc.) in the general comments section.
8. **Foam:** After completing #7, shake the bottle gently. Record foam results on the form as they most closely match one of the descriptions listed below.
   - **None** – Most bubbles break down within ten (10) seconds of shaking; only a few large bubbles persist longer than ten (10) seconds.
   - **Moderate** – Many small bubbles are present but these bubbles persist for less than two (minutes) after shaking.
   - **High** – Many small bubbles are present and they persist longer than two (2) minutes after shaking.
9. Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample. This should include the identified source if there are visible indicators present in the sample. The person performing test must sign and date each form**.**

Appendix C:
Calculating Hardness in Receiving Water for Hardness Dependent Metals

Calculating Hardness in Receiving Waters for Hardness Dependent Metals

Overview - For any sectors required to conduct benchmark samples for a hardness-dependent metal, per Appendix D, the following table includes 'hardness ranges' from which benchmark values are determined. To determine which hardness range to use, you must collect data on the hardness of your receiving water(s). Once the site-specific hardness data have been collected, the corresponding benchmark value for each metal is determined by comparing where the hardness data fall within 25 mg/L ranges, as shown in Table Appendix C-1. If the hardness is 100 mg/L, the metal benchmark values are still valid.

Table Appendix C-1. Hardness Ranges to Be Used to Determine Benchmark Values for Cadmium, Copper, Lead, Nickel, Silver, and Zinc.

All Units mg/L	Benchmark Values (mg/L, total)					
	Cadmium	Copper	Lead	Nickel	Silver	Zinc
0-25 mg/L	0.0005	0.0038	0.014	0.15	0.0007	0.04
25-50 mg/L	0.0008	0.0056	0.023	0.20	0.0007	0.05
50-75 mg/L	0.0013	0.0090	0.045	0.32	0.0017	0.08
75-100 mg/L	0.0018	0.0123	0.069	0.42	0.0030	0.11
100-125 mg/L	0.0023	0.0156	0.095	0.52	0.0046	0.13
125-150 mg/L	0.0029	0.0189	0.122	0.61	0.0065	0.16
150-175 mg/L	0.0034	0.0221	0.151	0.71	0.0087	0.18
175-200 mg/L	0.0039	0.0253	0.182	0.80	0.0112	0.20
200-225 mg/L	0.0045	0.0285	0.213	0.89	0.0138	0.23
225-250 mg/L	0.0050	0.0316	0.246	0.98	0.0168	0.25
250+ mg/L	0.0053	0.0332	0.262	1.02	0.0183	0.26

How to Determine Hardness for Hardness-Dependent Parameters.
You may select one of three methods to determine hardness, including; individual grab sampling, grab sampling by a group of operators which discharge to the same receiving water, or using third-party data. Regardless of the method used, you are responsible for documenting the procedures used for determining hardness values. Once the hardness value is established, you are required to include this information in your first benchmark report submitted to the Department so that the Department can make appropriate comparisons between your benchmark monitoring results and the corresponding benchmark. You must retain all report and monitoring data in accordance with Part III.C.8 of the permit. The three method options for determining hardness are detailed in the following sections.

1. *Permittee Samples for Receiving Stream Hardness*
This method involves collecting samples in the receiving water and submitting these to a laboratory for analysis. If you elect to sample your receiving water(s) and submit samples for analysis, hardness must be determined from the closest intermittent or perennial stream downstream of your point of discharge. The sample can be collected during either dry or wet weather. Collection of the sample during wet weather is more representative of conditions during storm water discharges; however, collection of in-stream samples during wet weather events may be impracticable or present safety issues.
Hardness must be sampled and analyzed using approved methods as described in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

2. *Group Monitoring for Receiving Stream Hardness*
You can be part of a group of permittees discharging to the same receiving waters and collect samples that are representative of the hardness values for all members of the group. In this scenario, hardness of the receiving water must be determined using 40 CFR Part 136 procedures and the results shared by group members. To use the same results, hardness measurements must be taken on a stream reach within a reasonable distance of the discharge points of each of the group members.

3. *Collection of Third-Party Hardness Data*
You can submit receiving stream hardness data collected by a third party provided the results are collected consistent with the approved 40 CFR Part 136 methods. These data may come from a local water utility, previously conducted stream reports, TMDLs, peer reviewed literature, other government publications, or data previously collected by the permittee. Data should be less than 10 years old.

Water quality data for many of the nation's surface waters are available on-line or by contacting EPA or a state environmental agency. EPA's data system STORET, short for STOrage and RETrieval, is a repository for receiving water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Similarly, state environmental agencies and the U.S. Geological Service (USGS) also have water quality data available that, in some instances, can be accessed online. "Legacy STORET" codes for hardness include: 259 hardness, carbonate; 260 hardness, noncarbonated; and 261 calcium + magnesium, while more recent, "Modern STORET" data codes include: 00900 hardness, 00901 carbonate hardness, and 00902 noncarbonate hardness; or the discrete measurements of calcium (00915) and magnesium (00925) can be used to calculate hardness. Hardness data historically has been reported as "carbonate," "noncarbonate," or "Ca + Mg." If these are unavailable, then individual results for calcium (Ca) and magnesium (Mg) may be used to calculate hardness using the following equation:

$$\text{mg/L } CaCO_3 = 2.497\ (\text{Ca mg/L}) + 4.118\ (\text{Mg mg/L})$$

When interpreting the data for carbonate and non-carbonate hardness, note that total hardness is equivalent to the sum of carbonate and noncarbonate hardness if both forms are reported. If only carbonate hardness is reported, it is more than likely that noncarbonate hardness is absent and the total hardness is equivalent to the available carbonate hardness.

Appendix D:
Sector-Specific Requirements for Industrial Activity

You must comply with Appendix D sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Appendix Table of Contents

Sector A – Timber Products.

A.1 Covered Stormwater Discharges.

The requirements in Sector A apply to stormwater discharges associated with industrial activity from Timber Products facilities as identified by the SIC Codes specified under Sector A in Appendix A of the permit.

A.2 Limitation on Coverage.

A.2.1 *Prohibition of Discharges.* (See also Part I.C Limitations on Coverage) Not covered by this permit: stormwater discharges from areas where there may be contact with the chemical formulations sprayed to provide surface protection. These discharges must be covered by a separate NPDES/State discharge permit.

A.2.2 Intentionally Left Blank

A.3 Additional Technology-Based Effluent Limits.

A.3.1 *Good Housekeeping.* (See also Part III.B.1.b.ii) In areas where storage, loading and unloading, and material handling occur, perform good housekeeping to limit the discharge of wood debris, minimize the leachate generated from decaying wood materials, and minimize the generation of dust.

A.4 Additional SWPPP Requirements.

A.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas.

A.4.2 *Inventory of Exposed Materials.* (See also Part III.C.3) Where such information exists, if your facility has used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving, document in your SWPPP the following: areas where contaminated soils, treatment equipment, and stored materials still remain and the management practices employed to minimize the contact of these materials with stormwater runoff.

A.4.3 *Description of Stormwater Management Controls.* (See also Part III.C.4) Document measures implemented to address the following activities and sources: log, lumber, and wood product storage areas; residue storage areas; loading and unloading areas; material handling areas; chemical storage areas; and equipment and vehicle maintenance, storage, and repair areas. If your facility performs wood surface protection and preservation activities, address the specific control measures, including any BMPs, for these activities.

A.5 Additional Inspection Requirements.

See also Part V.A. If your facility performs wood surface protection and preservation activities, inspect processing areas, transport areas, and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with stormwater discharges.

A.6 Intentionally Left Blank

A.7 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas are required to meet specific effluent limits (40 CFR Part 429, Subpart I) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector B – Paper and Allied Products.

B.1 Covered Stormwater Discharges.

No additional requirements apply to stormwater discharges associated with industrial activity from Paper and Allied Products Manufacturing facilities, as identified by the SIC Codes specified under Sector B in Appendix A of the permit.

B.2 Intentionally Left Blank

Sector C – Chemical and Allied Products Manufacturing, and Refining.

C.1 Covered Stormwater Discharges.

The requirements in Sector C apply to stormwater discharges associated with industrial activity from Chemical and Allied Products Manufacturing, and Refining facilities, as identified by the SIC Codes specified under Sector C in Appendix A of the permit.

C.2 Limitations on Coverage.

C.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not covered by this permit: non-stormwater discharges containing inks, paints, or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill, including materials collected in drip pans; washwater from material handling and processing areas; and washwater from drum, tank, or container rinsing and cleaning.

C.3 Sector-Specific Benchmarks

Tables 1and 2 identifies benchmarks that may apply to your specific subsectors of Sector C. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 1 - Subsector C1 Benchmarks (Agricultural Chemicals for SIC 2873-2879)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Lead[1]	0.082	mg/L	1/quarter	Grab
Total Iron	1.0	mg/L	1/quarter	Grab
Total Zinc[1]	0.12	mg/L	1/quarter	Grab
Phosphorus	2.0	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table 2 - Subsectors C2 (Industrial Inorganic Chemicals for SIC 2812-2819) and C3 (Soaps, Detergents, Cosmetics and Perfumes for SIC 2841 – 2844) Benchmarks

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab

C.4 Effluent Limitations Based on Effluent Limitations Guidelines (Limitation)

Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874) required to meet specific effluent limits (40 CFR Part 418, Subpart A) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector D – Asphalt Paving and Roofing Materials and Lubricant Manufacturing.

D.1 Covered Stormwater Discharges.

The requirements in Sector D apply to stormwater discharges associated with industrial activity from Asphalt Paving and Roofing Materials and Lubricant Manufacturing facilities, as identified by the SIC Codes specified under Sector D in Appendix A of the permit.

D.2 Limitations on Coverage.

The following stormwater discharges associated with industrial activity are not authorized by this permit (See also Part I.C Limitations on Coverage)

D.2.1 Discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products, that are subject to nationally established effluent limitation guidelines found in 40 CFR Part 419 (Petroleum Refining); or

D.2.2 Discharges from oil recycling facilities; or

D.2.3 Discharges associated with fats and oils rendering.

D.2.4 Discharges from bituminous concrete manufacturing facilties. These discharges are covered by a separate general permit, Maryland General Permit No. 10-MM or replacement.

D.3 Intentionally Left Blank

D.4 Effluent Limitations Based on Effluent Limitations Guidelines.
Discharges from asphalt emulsion facilities are required to meet specific effluent limits (40 CFR Part 443, Subpart A) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector E – Glass, Clay, Cement, Concrete, and Gypsum Products.

E.1 Covered Stormwater Discharges.

The requirements in Sector E apply to stormwater discharges associated with industrial activity from Glass, Clay, Cement, Concrete, and Gypsum Products facilities, as identified by the SIC Codes specified under Sector E in Appendix A of the permit.

E.2 Additional Technology-Based Effluent Limits.

E.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) With good housekeeping, prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust, or other significant material in stormwater from paved portions of the site that are exposed to stormwater. Consider sweeping regularly or using other equivalent measures to minimize the presence of these materials. Indicate in your SWPPP the frequency of sweeping or equivalent measures. Determine the frequency based on the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week if cement, aggregate, kiln dust, fly ash, or settled dust are being handled or processed. You must also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, or buildings, or under other covering.

E.3 Additional SWPPP Requirements.

E.3.1 *Drainage Area Site Map*. (See also Part III.C.2) Document in the SWPPP the locations of the following, as applicable: bag house or other dust control device; recycle/sedimentation pond, clarifier, or other device used for the treatment of process wastewater; and the areas that drain to the treatment device.

E.3.2 *Certification.* (See also Part III.C.3.d : Non-Stormwater Discharges) For facilities producing ready-mix concrete, concrete block, brick, or similar products applying for coverage under this permit, include in the non-stormwater discharge certification a description of measures that ensure that process waste waters resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with NPDES/State discharge permit requirements or are recycled.

E.4 Intentionally Left Blank

E.5 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges from material storage piles at cement manufacturing facilities are required to meet specific effluent limits (40 CFR Part 411, Subpart C) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector F – Primary Metals.

F.1 Covered Stormwater Discharges.

The requirements in Sector F apply to stormwater discharges associated with industrial activity from Primary Metals facilities, as identified by the SIC Codes specified under Sector F in Appendix A of the permit.

F.2 Additional Technology-Based Effluent Limits

F.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) As part of your good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and, where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

F.3 Additional SWPPP Requirements.

F.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in the SWPPP where any of the following activities may be exposed to precipitation or surface runoff: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operations, etc., and could result in a discharge of pollutants to waters of the United States.

F.3.2 *Inventory of Exposed Material.* (See also Part III.C.3) Include in the inventory of materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities are possible

F.4 Additional Inspection Requirements. (See also Part V.A) As part of conducting your quarterly routine facility inspections, address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material losses due to wind or stormwater runoff.

F.5 Intentionally Left Blank

Sector G – Not currently covered in this permit.

Sector H – Not currently covered in this permit.

Sector I – Oil and Gas Extraction.

I.1 Covered Stormwater Discharges.

The requirements in Sector I apply to stormwater discharges associated with industrial activity from Oil and Gas Extraction facilities as identified by the SIC Codes specified under Sector I in Appendix A of the permit.

Discharges of stormwater runoff from field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are exempt from NPDES/ State discharge permit coverage unless, in accordance with 40 CFR 122.26(c)(1)(iii), the facility:

- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or
- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- Contributes to a violation of a water quality standard.

Any stormwater discharges that require permit coverage as a result of meeting one of the conditions of 122.26(c)(1)(iii) may be covered under this permit unless otherwise required to obtain coverage under an alternative NPDES/State discharge general permit or an individual NPDES/State discharge permit as specified in Part I.C Limitations on Coverage.

I.2 Limitations on Coverage.

I.2.1 *Stormwater Discharges Subject to Effluent Limitation Guidelines.* This permit does not authorize stormwater discharges from petroleum drilling operations that are subject to nationally established effluent limitation guidelines found at 40 CFR Part 435, respectively.

I.2.2 *Non-Stormwater Discharges. (See also* Part C.3.d: Non-Stormwater Discharges) Discharges of vehicle and equipment washwater, including tank cleaning operations, are not authorized by this permit. Alternatively, washwater discharges must be authorized under a separate NPDES/State discharge permit, or be discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.

I.3 Additional Technology-Based Effluent Limits.

I.3.1 *Vegetative Controls.* Implement vegetative practices designed to preserve existing vegetation, where attainable, and revegetate open areas as soon as practicable after grade drilling. Consider the following (or equivalent measures): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, and tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

I.4 Additional SWPPP Requirements.

I.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: Reportable Quantity (RQ) releases; locations used for the treatment, storage, or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for “No Discharge” in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the “No Discharge” requirements.

I.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Also document in your SWPPP the following sources and activities that have potential pollutants associated with them: chemical, cement, mud, or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the reportable quantity (RQ) release that triggered the permit application requirements: the nature of the release (e.g., spill of oil from a drum storage area), amount of oil or hazardous substance released, amount of substance recovered, date of the release, cause of the release (e.g., poor handling techniques and lack of containment in the area), areas affected by the release (i.e., land and water), procedure to clean up release, actions or procedures implemented to prevent or improve response to a release, and remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).

I.4.3 *Erosion and Sedimentation Control.* (See also Part III.B.1.b.v) Unless covered by the current Construction General Permit (CGP), the additional documentation requirements for sediment and erosion controls for well drillings and sand/shale mining areas include the following:

I.4.3.1 *Site Description.* Also include a description in your SWPPP of the nature of the exploration activity, estimates of the total area of site and area disturbed due to exploration activity, an estimate of runoff coefficient of the site, a site drainage map, including approximate slopes, and the names of all receiving waters.

I.4.3.2 *Vegetative Controls.* Document vegetative practices used consistent with Part I.3.1 in the SWPPP.

I.5 Additional Inspection Requirements.

All erosion and sedimentation control measures must be inspected every 7 days.

Sector J – Not currently covered in this permit.

Sector K – Hazardous Waste Treatment, Storage, or Disposal Facilities.

K.1 Covered Stormwater Discharges.

The requirements in Sector K apply to stormwater discharges associated with industrial activity from Hazardous Waste Treatment, Storage, or Disposal facilities (TSDFs) as identified by the Activity Code specified under Sector K in Appendix A of the permit.

K.2 Industrial Activities Covered by Sector K.

This permit authorizes stormwater discharges associated with industrial activity from facilities that treat, store, or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA and disposal facilities that have been properly closed and capped, although considered inactive.

K.3 Limitations on Coverage.

Prohibition of Non-Stormwater Discharges. (See also Part I.C Limitations on Coverage) The following are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory-derived wastewater, and contact washwater from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility. Note: Any leachate for this sector is considered a wastewater and any stormwater discharge combined with this leachate/wastewater is not authorized under this permit.

K.4 Definitions.

K.4.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part K.4.5. Some specific areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

K.4.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

K.4.3 *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, but that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, salt bed formation, underground mine, or cave as these terms are defined in 40 CFR 257.2, 258.2, and 260.10.

K.4.4 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category), all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated stormwater, and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

K.4.5 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part K.4.4. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

K.5 Intentionally Left Blank

K.6 Effluent Limitations Based on Effluent Limitations Guidelines.
Discharges from hazardous waste landfills that are required to meet specific effluent limits (40 CFR Part 445, Subpart A) are not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector L – Landfills and Land Application Sites.

L.1 Covered Stormwater Discharges.

The requirements in Sector L apply to stormwater discharges associated with industrial activity from Landfills and Land Application Sites as identified by the Activity Code specified under Sector L in Appendix A of the permit.

L.2 Industrial Activities Covered by Sector L.

This permit may authorize stormwater discharges for Sector L facilities associated with waste disposal at landfills and land application sites that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA. This permit does not cover discharges from landfills that receive only municipal wastes.

L.3 Limitations on Coverage.

L.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following discharges are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory wastewater, and contact washwater from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

L.4 Definitions.

L.4.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

L.4.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

L.4.3 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate; gas collection condensate; drained free liquids; laboratory-derived wastewater; contaminated stormwater; and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

L.4.4 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

L.5 Additional Technology-Based Effluent Limits.

L.5.1 *Preventive Maintenance Program.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, maintain the following: all elements of leachate collection and treatment systems, to prevent commingling of leachate with stormwater; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary), to minimize the effects of settlement, sinking, and erosion. Note: Any leachate for this sector is considered a wastewater and any stormwater discharge combined with this leachate/wastewater is not authorized under this permit.

L.5.2 *Erosion and Sedimentation Control.* (See also Part III.B.1.b.v) Provide temporary stabilization (e.g., temporary seeding, mulching, and placing geotextiles on the inactive portions of stockpiles) for the following: materials stockpiled for daily, intermediate, and final cover; inactive areas of the landfill; landfills that have

gotten final covers but where vegetation has yet to establish itself; and land application sites where waste application has been completed but final vegetation has not yet been established.

L.5.3 *Unauthorized Discharge Test Certification.* (See also Part III.C.3.d: Non-Stormwater Discharges) The discharge test and certification must also be conducted for the presence of leachate and vehicle washwater.

L.6 Additional SWPPP Requirements.

L.6.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, and leachate collection and handling systems.

L.6.2 *Summary of Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide, and pesticide application; earth and soil moving; waste hauling and loading or unloading; outdoor storage of significant materials, including daily, interim, and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; and failure or leaks from leachate collection and treatment systems.

L.7 Additional Inspection Requirements. (See also Part V.A)

L.7.1 *Inspections of Active Sites.* Except in arid and semi-arid climates, inspect operating landfills and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized; active land application areas, areas used for storage of material and wastes that are exposed to precipitation, stabilization, and structural control measures; leachate collection and treatment systems; and locations where equipment and waste trucks enter and exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is arid or semi-arid, conduct inspections at least once every month.

L.7.2 *Inspections of Inactive Sites.* Inspect inactive landfills and land application sites at least quarterly. Qualified personnel must inspect landfill stabilization and structural erosion control measures, leachate collection and treatment systems, and all closed land application areas.

L.8 Additional Post-Authorization Documentation Requirements.

L.8.1 *Recordkeeping and Internal Reporting.* Keep records with your SWPPP of the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.

L.9 Sector-Specific Benchmarks

Tables 3 and 4 identify benchmarks that may apply to your specific subsectors of Sector L. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 3 - Subsector L1 Benchmarks - Landfills and Land Application Sites

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Table 4 - Subsector L2 Benchmarks - Landfills and Land Application Sites, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Iron	1.0	mg/L	1/quarter	Grab

L.10. Effluent Limitations Based on Effluent Limitations Guidelines.
Discharges from non-hazardous waste landfills are required to meet specific effluent limits (40 CFR Part 445, Subpart B) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector M – Automobile Salvage Yards.

M.1 Covered Stormwater Discharges.

The requirements in Sector M apply to stormwater discharges associated with industrial activity from Automobile Salvage Yards as identified by the SIC Code specified under Sector M in Appendix A of this permit.

M.2 Additional Technology-Based Effluent Limits.

M.2.1 *Spill and Leak Prevention Procedures.* (See also Part III.B.1.b.iv) Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as feasible), or employ some other equivalent means to prevent spills and leaks. You must establish clean-up mechanisms and procedures for all fluids (e.g. anti-freeze, used, oil, used fuel, etc.) for all locations that vehicles will be drained of fluids or any equipment receives fluids, and ensure all batteries from vehicles are protected from exposure to stormwater upon arrival at the site.

M.2.2 *Employee Training.* (See also Part III.B.1.b.ix) If applicable to your facility, address the following areas (at a minimum) in your employee training program: proper handling (collection, storage, clean up, and disposal) of oil, used mineral spirits, anti-freeze, mercury switches, and solvents. Also address leak detection and proper clean up procedures of all fluids.

M.2.3 *Management of Runoff.* (See also Part III.B.1.b.vi) Consider the following management practices: berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks, and above-ground liquid storage; installation of detention ponds; and installation of filtering devices and oil and water separators.

M.3 Additional SWPPP Requirements.

M.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify locations used for dismantling, storage, and maintenance of used motor vehicle parts. Also identify where any of the following may be exposed to precipitation or surface runoff: dismantling areas, parts (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers) storage areas, and liquid storage tanks and drums for fuel and other fluids. Note: To avoid groundwater contamination, draining must occur on impervious areas.

M.3.2 *Potential Pollutant Sources.* (See also Part III.C.3) Assess the potential for the following to contribute pollutants to stormwater discharges: vehicle storage areas, dismantling areas, parts storage areas (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers), and fueling stations. Facilities that crush vehicles produce a residual fluid that contains petroleum, metal and glass fines. These byproducts will need to be identified as potential pollutants and measures shall be identified to ensure they do not commingle with stormwater. Fluids collected must be handled appropriately.

M.4 Additional Inspection Requirements. (See also Part V.A) Immediately (or as soon thereafter as feasible) inspect vehicles arriving at the site for leaks, and address leaks when identified. Inspect quarterly for signs of leakage all equipment containing oily parts, hydraulic fluids, any other types of fluids, or mercury switches. Also, inspect quarterly for signs of leakage all vessels and areas where hazardous materials and general automotive fluids are stored, including, but not limited to, mercury switches, brake fluid, transmission fluid, radiator water, and antifreeze.

M.5 Sector-Specific Benchmarks. Permittee may be subject to requirements for more than one sector/subsector.

Table 5 - Sector M Benchmarks (Automobile Salvage Yards)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab
Total Aluminum	0.75	mg/L	1/quarter	Grab
Total Iron	1.0	mg/L	1/quarter	Grab
Total Lead[1]	0.082	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector N – Scrap Recycling and Waste Recycling Facilities.

N.1 Covered Stormwater Discharges.

The requirements in Sector N apply to stormwater discharges associated with industrial activity from Scrap Recycling and Waste Recycling facilities as identified by the SIC Code specified under Sector N in Appendix A of the permit.

N.2 Limitation on Coverage.

N.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Non-stormwater discharges from turnings containment areas are not covered by this permit (see also Part N.3.2.3). Discharges from containment areas in the absence of a storm event are prohibited unless covered by a separate NPDES/State discharge permit.

N.3 Additional Technology-Based Effluent Limits.

N.3.1 *Scrap and Waste Recycling Facilities (Non-Source Separated, Nonliquid Recyclable Materials).* Requirements for facilities that receive, process, and do wholesale distribution of nonliquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). These facilities may receive both nonrecyclable and recyclable materials.

N.3.1.1 *Inbound Recyclable and Waste Material Control Program.* Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials. Following are some control measure options: (a) provide information and education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles before delivery to your facility; (b) establish procedures to minimize the potential of any residual fluids from coming into contact with precipitation or runoff; (c) establish procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage, and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in Part N.3.2.6); (d) provide training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials, including: education on draining and proper disposal of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles when not completed by suppliers; and (e) establish procedures to ensure that liquid wastes, including used oil, are stored in materially compatible and non-leaking containers and are disposed of or recycled in accordance with the Resource Conservation and Recovery Act (RCRA).

N.3.1.2 *Scrap and Waste Material Stockpiles and Storage (Outdoor).* Minimize contact of stormwater runoff with stockpiled materials, processed materials, and nonrecyclable wastes. Following are some control measure options: (a) permanent or semi-permanent covers; (b) sediment traps, vegetated swales and strips, catch basin filters, and sand filters to facilitate settling or filtering of pollutants; (c) dikes, berms, containment trenches, culverts, and surface grading to divert runoff from storage areas; (d) silt fencing/bio-logs; and (e) oil and water separators, sumps, and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).

N.3.1.3 *Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage).* Minimize contact of surface runoff with residual cutting fluids by: (a) storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or (b) establishing dedicated containment areas for all turnings that have been exposed to cutting fluids. Any containment areas must be constructed of concrete, asphalt, or other equivalent types of impermeable material and include a barrier (e.g., berms, curbing, elevated pads) to prevent contact with stormwater run-on. Stormwater runoff from these areas can be discharged, provided that any runoff is first collected and treated by an oil and water separator or its equivalent. You

must regularly maintain the oil and water separator (or its equivalent) and properly dispose of or recycle collected residual fluids.

N.3.1.4 *Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage).* Minimize contact of residual liquids and particulate matter from materials stored indoors or under cover with surface runoff. Following are some control measure options: (a) good housekeeping measures, including the use of dry absorbents or wet vacuuming to contain, dispose of, or recycle residual liquids originating from recyclable containers, or mercury spill kits for spills from storage of mercury switches; (b) not allowing washwater from tipping floors or other processing areas to discharge to the storm sewer system; and (c) disconnecting or sealing off all floor drains connected to the storm sewer system.

N.3.1.5 *Scrap and Recyclable Waste Processing Areas.* Minimize surface runoff from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with runoff (i.e., through good housekeeping, preventive maintenance, etc.). Following are some control measure options: (a) regularly inspect equipment for spills or leaks and malfunctioning, worn, or corroded parts or equipment; (b) establish a preventive maintenance program for processing equipment; (c) use dry-absorbents or other cleanup practices to collect and dispose of or recycle spilled or leaking fluids or use mercury spill kits for spills from storage of mercury switches; (d) on unattended hydraulic reservoirs over 150 gallons in capacity, install protection devices such as low-level alarms or equivalent devices, or secondary containment that can hold the entire volume of the reservoir; (e) containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials; (f) oil and water separators or sumps; (g) permanent or semi-permanent covers in processing areas where there are residual fluids and grease; (h) retention or detention ponds or basins; sediment traps, and vegetated swales or strips (for pollutant settling and filtration); (i) catch basin filters or sand filters.

N.3.1.6 *Scrap Lead-Acid Battery Program.* Properly handle, store, and dispose of scrap lead-acid batteries. Following are some control measure options (a) segregate scrap lead-acid batteries from other scrap materials; (b) properly handle, store, and dispose of cracked or broken batteries; (c) collect and dispose of leaking lead-acid battery fluid; (d) minimize or eliminate (if possible) exposure of scrap lead-acid batteries to precipitation or runoff; and (e) provide employee training for the management of scrap batteries.

N.3.1.7 *Spill Prevention and Response Procedures.* (See also Part III.B.1.b.iv)Install alarms and/or pump shutoff systems on outdoor equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used. Use a mercury spill kit for any release of mercury from switches, anti-lock brake systems, and switch storage areas.

N.3.1.8 *Supplier Notification Program.* As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or will be accepted only under certain conditions.

N.3.2 Waste Recycling Facilities (Liquid Recyclable Materials).

N.3.2.1 *Waste Material Storage (Indoor).* Minimize or eliminate contact between residual liquids from waste materials stored indoors and from surface runoff. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and Countermeasure (SPCC) plans required under 40 CFR Part 112. Following are some control measure options (a) procedures for material handling (including labeling and marking); (b) clean up spills and leaks with dry absorbent materials, a wet vacuum system; (c) appropriate maintained containment structures (trenching, curbing, gutters, etc.); and (d) a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas, and properly maintained for continued operation. Drainage should be discharged to an appropriate treatment facility or sanitary sewer system, or otherwise disposed of properly.

These discharges may require coverage under a separate NPDES/ State discharge wastewater permit or industrial user permit under the pretreatment program.

N.3.2.2 *Waste Material Storage (Outdoor).* Minimize contact between stored residual liquids and precipitation or runoff. The plan may refer to applicable portions of other existing plans, such as SPCC plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. Following are some control measure options (a) appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank, with sufficient extra capacity for precipitation; (b) drainage control and other diversionary structures; (c) corrosion protection and/or leak detection systems for storage tanks; and (d) dry-absorbent materials or a wet vacuum system to collect spills.

N.3.2.3 *Trucks and Rail Car Waste Transfer Areas.* Minimize pollutants in discharges from truck and rail car loading and unloading areas. Include measures to clean up minor spills and leaks resulting from the transfer of liquid wastes. Following are two control measure options: (a) containment and diversionary structures to minimize contact with precipitation or runoff, and (b) dry clean-up methods, wet vacuuming, roof coverings, or runoff controls.

N.3.3 *Recycling Facilities (Source-Separated Materials).* The following identifies considerations for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.

N.3.3.1 *Inbound Recyclable Material Control.* Minimize the chance of accepting nonrecyclables (e.g., hazardous materials) that could be a significant source of pollutants by conducting inspections of inbound materials. Following are some control measure options: (a) providing information and education measures to inform suppliers of recyclables about acceptable and non-acceptable materials, (b) training drivers responsible for pickup of recycled material, (c) clearly marking public drop-off containers regarding which materials can be accepted, (d) rejecting nonrecyclable wastes or household hazardous wastes at the source, and (e) establishing procedures for handling and disposal of nonrecyclable material.

N.3.3.2 *Outdoor Storage.* Minimize exposure of recyclables to precipitation and runoff. Use good housekeeping measures to prevent accumulation of particulate matter and fluids, particularly in high traffic areas. Following are some control measure options (a) provide totally enclosed drop-off containers for the public; (b) install a sump and pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; (c) provide dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); (d) divert surface water runoff away from outside material storage areas; (e) provide covers over containment bins, dumpsters, and roll-off boxes; and (f) store the equivalent of one day's volume of recyclable material indoors.

N.3.3.3 *Indoor Storage and Material Processing.* Minimize the release of pollutants from indoor storage and processing areas. Following are some control measure options (a) schedule routine good housekeeping measures for all storage and processing areas, (b) prohibit tipping floor washwater from draining to the storm sewer system, and (c) provide employee training on pollution prevention practices.

N.3.3.4 *Vehicle and Equipment Maintenance.* Following are some control measure options for areas where vehicle and equipment maintenance occur outdoors (a) prohibit vehicle and equipment washwater from discharging to the storm sewer system, (b) minimize or eliminate outdoor maintenance areas whenever possible, (c) establish spill prevention and clean-up procedures in fueling areas, (d) avoid topping off fuel tanks, (e) divert runoff from fueling areas, (f) store lubricants and hydraulic fluids indoors, and (g) provide employee training on proper handling and storage of hydraulic fluids and lubricants.

N.4 Additional SWPPP Requirements.

N.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: scrap and waste material

storage, outdoor scrap and waste processing equipment; and containment areas for turnings exposed to cutting fluids.

N.4.2 *Maintenance Schedules/Procedures for Collection, Handling, and Disposal or Recycling of Residual Fluids at Scrap and Waste Recycling Facilities.* If you are subject to Part N.3.1.3, your SWPPP must identify any applicable maintenance schedule and the procedures to collect, handle, and dispose of or recycle residual fluids.

N.5 Additional Inspection Requirements.

N.5.1 Inspections for Waste Recycling Facilities. The inspections must be performed quarterly, pursuant to Part V.A, and include, at a minimum, all areas where waste is generated, received, stored, treated, or disposed of and that are exposed to either precipitation or stormwater runoff.

N.6 Sector-Specific Benchmarks for Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling. Permittee may be subject to requirements for more than one sector.

Table 6 - Subsector N1 Benchmarks (Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Chemical Oxygen Demand (COD)	120	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab
Total Recoverable Aluminum	0.75	mg/L	1/quarter	Grab
Total Recoverable Iron	1.0	mg/L	1/quarter	Grab
Total Lead[1]	0.082	mg/L	1/quarter	Grab
Total Zinc[1]	0.12	mg/L	1/quarter	Grab
Total Copper[1]	0. 014	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector O – Steam Electric Generating Facilities.

O.1 Covered Stormwater Discharges.

The requirements in Sector O apply to stormwater discharges associated with industrial activity from Steam Electric Power Generating Facilities as identified by the Activity Code specified under Sector O in Appendix A.

O.2 Industrial Activities Covered by Sector O.

This permit authorizes stormwater discharges from the following industrial activities at Sector O facilities:

O.2.1 steam electric power generation using coal, natural gas, oil, nuclear energy, etc., to produce a steam source, excluding coal handling areas;

O.2.2 Intentionally Left Blank

O.2.3 dual fuel facilities that could employ a steam boiler.

O.3 Limitations on Coverage.

O.3.1 *Prohibition of Non-Stormwater Discharges.* Non-stormwater discharges subject to effluent limitations guidelines are not covered by this permit.

O.3.2 *Prohibition of Stormwater Discharges.* Stormwater discharges from the following are not covered by this permit:

O.3.2.1 ancillary facilities (e.g., fleet centers and substations) that are not contiguous to a stream electric power generating facility;

O.3.2.2 gas turbine facilities (providing the facility is not a dual-fuel facility that includes a steam boiler), and combined-cycle facilities where no supplemental fuel oil is burned (and the facility is not a dual-fuel facility that includes a steam boiler); and

O.3.2.3 cogeneration (combined heat and power) facilities utilizing a gas turbine; and

O.3.2.4 coal pile runoff, including effluent limitations established by 40 CFR Part 423.

O.4 Additional Technology-Based Effluent Limits. The following good housekeeping measures are required in addition to Part III.B.1.b.ii:

O.4.1 *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.

O.4.2 *Delivery Vehicles.* Minimize contamination of stormwater runoff from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.

O.4.3 *Fuel Oil Unloading Areas.* Minimize contamination of precipitation or surface runoff from fuel oil unloading areas. Consider using containment curbs in unloading areas, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and using spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).

O.4.4 *Chemical Loading and Unloading.* Minimize contamination of precipitation or surface runoff from chemical loading and unloading areas. Consider using containment curbs at chemical loading and unloading

areas to contain spills, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and loading and unloading in covered areas and storing chemicals indoors.

O.4.5 *Miscellaneous Loading and Unloading Areas.* Minimize contamination of precipitation or surface runoff from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.

O.4.6 *Liquid Storage Tanks.* Minimize contamination of surface runoff from above-ground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent measures.

O.4.7 *Large Bulk Fuel Storage Tanks.* Minimize contamination of surface runoff from large bulk fuel storage tanks. Consider containment berms (or their equivalent). You must also comply with applicable State and Federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.

O.4.8 *Spill Reduction Measures.* Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.

O.4.9 *Oil-Bearing Equipment in Switchyards.* Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.

O.4.10 *Residue-Hauling Vehicles.* Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles as soon as identified that are without load covering or adequate gate sealing, or with leaking containers or beds and prior to allowing them to transfer material.

O.4.11 *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before departure of each loaded vehicle.

O.4.12 *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

O.4.13 *Landfills, Scrap yards, Surface Impoundments, General Refuse Sites.* Minimize the potential for contamination of runoff from these areas.

O.5 Additional SWPPP Requirements.

O.5.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).

O.5.2 *Documentation of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures implemented to meet the effluent limits in Part O.4.

O.6 Additional Inspection Requirements.

O.6.1 *Comprehensive Site Compliance Inspection.* (See also Part V.A) As part of your inspection, inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

O.7 Intentionally Left Blank

O.8 Effluent Limitations Based on Effluent Limitations Guidelines.
Discharges from coal storage piles at Steam Electric Generating Facilities are required to meet specific effluent limits (40 CFR Part 423) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector P – Land Transportation and Warehousing.

P.1 Covered Stormwater Discharges.

The requirements in Sector P apply to stormwater discharges associated with industrial activity from Land Transportation and Warehousing facilities as identified by the SIC Codes specified under Sector P in Appendix A of the permit.

P.2 Limitation on Coverage.

P.2.1 *Prohibited Discharges* (See also Part I.C Limitations on Coverage) This permit does not authorize the discharge of vehicle/equipment/surface washwater, including tank cleaning operations. Such discharges must be authorized under a separate NPDES/State discharge permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or recycled on-site.

P.3 Additional Technology-Based Effluent Limits.

P.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) In addition to the Good Housekeeping requirements in Part III.B.1, you must do the following. Recommended control measures are discussed as indicated:

P.3.1.1 *Vehicle and Equipment Storage Areas.* Minimize the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance. Consider the following (or other equivalent measures): use of drip pans under vehicles/equipment, indoor storage of vehicles and equipment, installation of berms or dikes, use of absorbents, roofing or covering storage areas, and cleaning pavement surfaces to remove oil and grease.

P.3.1.2 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or other equivalent measures): Covering the fueling area; using spill/overflow protection and cleanup equipment; minimizing stormwater run-on/runoff to the fueling area; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

P.3.1.3 *Material Storage Areas.* Maintain all material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., “Used Oil,” “Spent Solvents,” etc.). Consider the following (or other equivalent measures): storing the materials indoors; installing berms/dikes around the areas; minimizing runoff of stormwater to the areas; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

P.3.1.4 *Vehicle and Equipment Cleaning Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment cleaning. Consider the following (or other equivalent measures): performing all cleaning operations indoors; covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the stormwater drainage system); treating and/or recycling collected washwater, or other equivalent measures.

P.3.1.5 *Vehicle and Equipment Maintenance Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment maintenance. Consider the following (or other equivalent measures): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to stormwater drainage systems; using dry cleanup methods; treating and/or recycling collected stormwater runoff, minimizing run on/runoff of stormwater to maintenance areas.

P.3.1.6 *Locomotive Sanding (Loading Sand for Traction) Areas.* Consider the following (or other equivalent measures): covering sanding areas; minimizing stormwater run on/runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by stormwater.

P.3.2 *Employee Training.* (See also Part III.B.1.b.ix) Train personnel at least once a year and address the following activities, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.

P.4 Additional SWPPP Requirements.

P.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: Fueling stations; vehicle/equipment maintenance or cleaning areas; storage areas for vehicle/equipment with actual or potential fluid leaks; loading/unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; and storage areas.

P.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Assess the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: Onsite waste storage or disposal; dirt/gravel parking areas for vehicles awaiting maintenance; illicit plumbing connections between shop floor drains and the stormwater conveyance system(s); and fueling areas. Describe these activities in the SWPPP.

P.4.3 *Description of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures you implement consistent with Part P.3.

P.4.4 *Vehicle and Equipment Washwater Requirements.* (See also Part III.C.3.d: Non-Stormwater Discharges) If applicable, attach to or reference in your SWPPP, a copy of the NPDES/State discharge permit issued for vehicle/equipment washwater or, if an NPDES/ State discharge permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a local pretreatment program, attach a copy to your SWPPP. In any case, implement all non-stormwater discharge permit conditions or pretreatment conditions in your SWPPP. If washwater is handled in another manner (e.g., hauled offsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in the plan.

P.5 Additional Inspection Requirements. (See also Part V.A) Inspect all the following areas/activities: storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas.

Sector Q – Water Transportation.

Q.1 Covered Stormwater Discharges.

The requirements in Sector Q apply to stormwater discharges associated with industrial activity from Water Transportation facilities as identified by the SIC Codes specified under Sector Q in Appendix A of the permit. Note that marinas (SIC 4493) are covered by a separate general permit, Maryland General Permit No. 10-MA or replacement.

Q.2 Limitations on Coverage.

Q.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Not covered by this permit: bilge and ballast water, sanitary wastes, pressure wash water, and cooling water originating from vessels.

Q.3 Additional Technology-Based Effluent Limits.

Q.3.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to the requirements of Part III.B.1.b.ii:

Q.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate NPDES/State discharge permit. Collect or contain the discharges from the pressures washing area so that they are not co-mingled with stormwater discharges authorized by this permit.

Q.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharge into receiving waters or the storm sewer systems. Consider containing all blasting and painting activities or use other measures to minimize the discharge of contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

Q.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. Specify which materials are stored indoors, and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

Q.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

Q.3.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing runoff of stormwater to material handling areas.

Q.3.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following

removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, and fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding and making absorbent materials and oil containment booms readily available to clean up or contain any spills.

Q.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

Q.3.3 *Preventive Maintenance.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

Q.4 Additional SWPPP Requirements.

Q.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance and repair; vessel maintenance and repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

Q.4.2 *Summary of Potential Pollutant Sources.* (See also Part III.C.3) Document in the SWPPP the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting.)

Q.5 Additional Inspection Requirements.

(See also Part V.A) Include the following in all quarterly routine facility inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Q.6 Intentionally Left Blank

Sector R – Ship and Boat Building and Repair Yards.

R.1 Covered Stormwater Discharges.

The requirements in Sector R apply to stormwater discharges associated with industrial activity from Ship and Boat Building and Repair Yards as identified by the SIC Codes specified under Sector R in Appendix A of the permit.

R.2 Limitations on Coverage.

R.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Discharges containing bilge and ballast water, sanitary wastes, pressure wash water, and cooling water originating from vessels are not covered by this permit.

R.3 Additional Technology-Based Effluent Limits.

R.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

R.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharged water must be permitted as a process wastewater by a separate NPDES/State discharge permit.

R.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharging into the receiving water or the storm sewer systems. Consider containing all blasting and painting activities, or use other measures to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

R.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

R.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

R.3.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater run-on to material handling areas.

R.3.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Clean accessible areas of the drydock prior to flooding and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to clean up and contain any spills.

R.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

R.3.4 *Preventive Maintenance.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

R.4 Additional SWPPP Requirements.

R.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance or repair; vessel maintenance or repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; treatment, storage, and waste disposal areas; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

R.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).

R.4.3 *Documentation of Good Housekeeping Measures.* Document in your SWPPP any good housekeeping measures implemented to meet the effluent limits in Part R.3.

R.4.3.1 *Blasting and Painting Areas.* Document in the SWPPP any standard operating practices relating to blasting and painting (e.g., prohibiting uncontained blasting and painting over open water or prohibiting blasting and painting during windy conditions, which can render containment ineffective).

R.4.3.2 *Storage Areas.* Specify in your SWPPP which materials are stored indoors, and consider containment or enclosure for those stored outdoors.

R.5 Additional Inspection Requirements.

(See also Part V.A) Include the following in all quarterly routine facility inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Sector S – Air Transportation.

S.1 Covered Stormwater Discharges.

The requirements in Sector S apply to stormwater discharges associated with industrial activity from Air Transportation facilities identified by the SIC Codes specified under Sector S in Appendix A of the permit.

S.2 Limitation on Coverage

S.2.1 *Limitations on Coverage.*

S.2.1.1 This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: “deicing” will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and/or deicing activities.

S.2.1.2 Existing and new primary airports with 1,000 or more annual jet departures ("non-propeller aircraft") that generate wastewater associated with airfield pavement deicing using urea-containing deicers must meet a numeric effluent limits for ammonia and are therefore not covered under this general permit.

S.2.2 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage and Part S.3) This permit does not authorize the discharge of aircraft, ground vehicle, runway and equipment washwaters; nor the dry weather discharge of deicing chemicals. Such discharges must be covered by separate NPDES/ State discharge permit(s). Note that a discharge resulting from snowmelt is not a dry weather discharge.

S.3 Additional Technology-Based Effluent Limits.

S.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

S.3.1.1 Aircraft, Ground Vehicle and Equipment Maintenance Areas. Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

S.3.1.2 Aircraft, Ground Vehicle and Equipment Cleaning Areas. (See also Part S.3.6) Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.

S.3.1.3 Aircraft, Ground Vehicle and Equipment Storage Areas. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and minimize the contamination of stormwater runoff from these storage areas. Consider the following control measures, including any BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.

S.3.1.4 Material Storage Areas. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., “used oil,” “Contaminated Jet A,” etc.). Minimize contamination of precipitation/runoff from these areas. Consider the following control measures (or their

equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.

S.3.1.5 Airport Fuel System and Fueling Areas. Minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following control measures (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff.

S.3.1.6 Source Reduction. Minimize, and where feasible eliminate, the use of urea and glycol-based deicing chemicals, in order to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

S.3.1.6.1 Runway Deicing Operation: Minimize contamination of stormwater runoff from runways as a result of deicing operations. Evaluate whether over-application of deicing chemicals occurs by analyzing application rates, and adjust as necessary, consistent with considerations of flight safety. Also consider these control measure options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup.

S.3.1.6.2 Aircraft Deicing Operations. Minimize contamination of stormwater runoff from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. This evaluation should be carried out by the personnel most familiar with the particular aircraft and flight operations in question (versus an outside entity such as the airport authority). Consider using alternative deicing/anti-icing agents as well as containment measures for all applied chemicals. Also consider these control measure options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.

S.3.1.7 Management of Runoff. (See also Part III.C.4) Where deicing operations occur, implement a program to control or manage contaminated runoff to minimize the amount of pollutants being discharged from the site. Consider these control measure options (or their equivalents): a dedicated deicing facility with a runoff collection/ recovery system; using vacuum/collection trucks; storing contaminated stormwater/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of stormwater contamination. Used deicing fluid should be recycled whenever possible.

S.3.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December- February, October - March, etc.) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season.

S.4 Additional SWPPP Requirements.

An airport authority and tenants of the airport are encouraged to work in partnership in the development of a SWPPP. If an airport tenant obtains authorization under this permit and develops a SWPPP for discharges

from his own areas of the airport, prior to authorization, that SWPPP must be coordinated and integrated with the SWPPP for the entire airport. Tenants of the airport facility include air passenger or cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity.

S.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

S.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) In your inventory of exposed materials, describe in your SWPPP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If you use deicing chemicals, you must maintain a record of the types (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of your knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion with any comprehensive airport SWPPPs.

S.4.3 *Vehicle and Equipment Washwater Requirements.* Attach to or reference in your SWPPP, a copy of the NPDES/State discharge permit issued for vehicle/equipment washwater or, if an NPDES/State discharge permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a local pretreatment program, include a copy in your SWPPP. In any case, if you are subject to another permit, describe your control measures for implementing all non-stormwater discharge permit conditions or pretreatment requirements in your SWPPP. If washwater is handled in another manner (e.g., hauled offsite, retained onsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in your SWPPP.

S.4.4 *Documentation of Control Measures Used for Management of Runoff:* Document in your SWPPP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

S.5 Additional Inspection Requirements.

S.5.1 *Inspections.* (See also Part V.A) At a minimum conduct routine facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. The Director may specifically require you to increase inspection frequencies.

S.5.2 *Comprehensive Site Inspections.* (See also Part V.A) Using only qualified personnel, conduct your annual site inspection during periods of actual deicing operations, if possible. If not practicable during active deicing because of weather, conduct the inspection during the season when deicing operations occur and the materials and equipment for deicing are in place.

S.6 Intentionally Left Blank

Sector T – Treatment Works.

T.1 Covered Stormwater Discharges.

The requirements in Sector T apply to stormwater discharges associated with industrial activity from Treatment Works as identified by the Activity Code specified under Sector T in Appendix A of the permit.

T.2 Industrial Activities Covered by Sector T.

The requirements listed under this part apply to all existing point source stormwater discharges associated with the following activities:

T.2.1 Treatment works treating domestic sewage, or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge; that are located within the confines of a facility with a design flow of 1.0 million gallons per day (MGD) or more; or are required to have an approved pretreatment program under 40 CFR Part 403.

T.2.2 The following are not required to have permit coverage: farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located within the facility, or areas that are in compliance with Section 405 of the CWA.

T.3 Limitations on Coverage.

T.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Sanitary and industrial wastewater and equipment and vehicle washwater are not authorized by this permit.

T.4 Additional Technology-Based Effluent Limits.

T.4.1 *Control Measures.* (See also Part III.C.4) In addition to the other control measures, consider the following: routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

T.4.2 *Employee Training.* (See also Part III.B.1.b.ix) At a minimum, training must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

T.5 Additional SWPPP Requirements.

T.5.1 *Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

T.5.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads and rail lines.

T.5.3 *Wastewater and Washwater Requirements.* Keep a copy of all your current NPDES/ State discharge permits issued for wastewater and industrial, vehicle and equipment washwater discharges or, if an NPDES/ State discharge permit has not yet been issued, a copy of the pending application(s) with your SWPPP. If the washwater is handled in another manner, the disposal method must be described and all pertinent documentation must be retained onsite.

T.6 Additional Inspection Requirements.

(See also Part V.A) Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

Sector U – Food and Kindred Products.

U.1 Covered Stormwater Discharges.

The requirements in Sector U apply to stormwater discharges associated with industrial activity from Food and Kindred Products facilities as identified by the SIC Codes specified in Appendix A of the permit.

U.2 Limitations on Coverage.

U.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following discharges are not authorized by this permit: discharges containing boiler blowdown, cooling tower overflow and blowdown, ammonia refrigeration purging, and vehicle washing and clean-out operations.

U.3 Additional Technology-Based Limitations.

U.3.1 *Employee Training.* (See also Part III.B.1.b.ix) Address pest control in your employee training program.

U.4 Additional SWPPP Requirements.

U.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of the following activities if they are exposed to precipitation or runoff: vents and stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

U.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides) used on plant grounds.

U.5 Additional Inspection Requirements.

(See also Part V.A) Inspect on a quarterly basis, at a minimum, the following areas where the potential for exposure to stormwater exists: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

U.6 Sector-Specific Benchmarks

These tables are for two subsectors of Food and Kindred Products. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table 7 - Subsector U1. Grain Mill Products (SIC 2041-2048)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Table 8 - Subsector U2. Fats and Oils Products (SIC 2074-2079)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Biochemical Oxygen Demand (BOD_5)	30	mg/L	1/quarter	Grab
Chemical Oxygen Demand (COD)	120	mg/L	1/quarter	Grab
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Sector V – Textile Mills, Apparel, and Other Fabric Products.

V.1 Covered Stormwater Discharges.

The requirements in Sector V apply to stormwater discharges associated with industrial activity from Textile Mills, Apparel, and Other Fabric Product manufacturing as identified by the SIC Codes specified under Sector V in Appendix A of the permit.

V.2 Limitations on Coverage.

V.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not authorized by this permit: discharges of wastewater (e.g., wastewater resulting from wet processing or from any processes relating to the production process), reused or recycled water, and waters used in cooling towers. If you have these types of discharges from your facility, you must cover them under a separate NPDES/State discharge permit.

V.3 Additional Technology-Based Limitations.

V.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

V.3.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, and dyes) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums or containers, ensure that the drums and containers are clean (consider triple-rinsing) and that there is no contact of residuals with precipitation or runoff. Collect and dispose of washwater from these cleanings properly.

V.3.1.2 *Material Handling Areas.* Minimize contamination of stormwater runoff from material handling operations and areas. Consider the following (or their equivalents): use of spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of material may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals, dyes, or wastewater.

V.3.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing run-on of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

V.3.1.4 *Above-Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; including measures for tanks, piping and valves explicitly in your SPCC program; minimizing runoff of stormwater from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

V.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): use of reused and recycled waters, solvents management, proper disposal of dyes, proper disposal of petroleum products and spent lubricants, spill prevention and control, fueling procedures, and general good housekeeping practices.

V.4 Additional SWPPP Requirements.

V.4.1 *Potential Pollutant Sources. (See also Part III.C.3) Document in your SWPPP the following additional sources* and activities that have potential pollutants associated with them: industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and

sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).

V.4.2 *Description of Good Housekeeping Measures for Material Storage Areas.* Document in the SWPPP your containment area or enclosure for materials stored outdoors in connection with Part V.3.1.1 above.

V.5 Additional Inspection Requirements.

(See also Part V.A) Inspect, at least monthly, the following activities and areas (at a minimum): transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, and all structural and nonstructural management practices.

Sector W – Furniture and Fixtures.

W.1 Covered Stormwater Discharges.

The requirements in Sector W apply to stormwater discharges associated with industrial activity from Furniture and Fixtures facilities as identified by the SIC Codes specified under Sector W in Appendix A of the permit.

W.2 Additional SWPPP Requirements.

W.2.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed of; access roads; and rail spurs.

Sector X – Printing and Publishing.

X.1 Covered Stormwater Discharges.

The requirements in Sector X apply to stormwater discharges associated with industrial activity from Printing and Publishing facilities as identified by the SIC Codes specified under Sector X in Appendix A of the permit.

X.2 Additional Technology-Based Effluent Limits.

X.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

X.2.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, hazardous waste, empty drums, portable and mobile containers of plant debris, wood crates, steel racks, and fuel oil) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.

X.2.1.2 *Material Handling Area.* Minimize contamination of stormwater runoff from material handling operations and areas (e.g., blanket wash, mixing solvents, loading and unloading materials). Consider the following (or their equivalents): using spill and overflow protection, covering fueling areas, and covering or enclosing areas where the transfer of materials may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals or wastewater.

X.2.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

X.2.1.4 *Above Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regularly cleaning these areas, explicitly addressing tanks, piping and valves in the SPCC program, minimizing stormwater runoff from adjacent areas, restricting access to the area, inserting filters in adjacent catch basins, providing absorbent booms in unbermed fueling areas, using dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

X.2.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): spent solvent management, spill prevention and control, used oil management, fueling procedures, and general good housekeeping practices.

X.3 Additional SWPPP Requirements.

X.3.1 *Description of Good Housekeeping Measures for Material Storage Areas.* In connection with Part X.2.1.1, describe in the SWPPP the containment area or enclosure for materials stored outdoors.

Sector Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries.

Y.1 Covered Stormwater Discharges.

The requirements in Sector Y apply to stormwater discharges associated with industrial activity from Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries facilities as identified by the SIC Codes specified under Sector Y in Appendix A of the permit.

Y.2 Additional Technology-Based Effluent Limits.

Y.2.1 *Controls for Rubber Manufacturers.* (See also Part III.C.4) Minimize the discharge of zinc in your stormwater discharges. Parts Y.2.1.1 to Y.2.1.5 give possible sources of zinc to be reviewed and list some specific control measures to be considered for implementation (or their equivalents). Following are some general control measure options to consider: using chemicals purchased in pre-weighed, sealed polyethylene bags; storing in-use materials in sealable containers, ensuring an airspace between the container and the cover to minimize “puffing” losses when the container is opened, and using automatic dispensing and weighing equipment.

Y.2.1.1 *Zinc Bags.* Ensure proper handling and storage of zinc bags at your facility. Following are some control measure options: employee training on the handling and storage of zinc bags, indoor storage of zinc bags, cleanup of zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

Y.2.1.2 *Dumpsters.* Minimize discharges of zinc from dumpsters. Following are some control measure options: covering the dumpster, moving the dumpster indoors, or providing a lining for the dumpster.

Y.2.1.3 *Dust Collectors and Baghouses.* Minimize contributions of zinc to stormwater from dust collectors and baghouses. Replace or repair, as appropriate, improperly operating dust collectors and baghouses.

Y.2.1.4 *Grinding Operations.* Minimize contamination of stormwater as a result of dust generation from rubber grinding operations. One control measure option is to install a dust collection system.

Y.2.1.5 *Zinc Stearate Coating Operations.* Minimize the potential for stormwater contamination from drips and spills of zinc stearate slurry that may be released to the storm drain. One control measure option is to use alternative compounds to zinc stearate.

Y.2.2 *Controls for Plastic Products Manufacturers.* Minimize the discharge of plastic resin pellets in your stormwater discharges. Control measures to be considered for implementation (or their equivalents) include minimizing spills, cleaning up of spills promptly and thoroughly, sweeping thoroughly, pellet capturing, employee education, and disposal precautions.

Y.3 Additional SWPPP Requirements.

Y.3.1 *Potential Pollutant Sources for Rubber Manufacturers.* (See also Part III.C.3) Document in your SWPPP the use of zinc at your facility and the possible pathways through which zinc may be discharged in stormwater runoff.

Y.4 Intentionally Left Blank

Sector Z – Leather Tanning and Finishing.

Z.1 Covered Stormwater Discharges.

The requirements in Sector Z apply to stormwater discharges associated with industrial activity from Leather Tanning and Finishing facilities as identified by the SIC Code specified under Sector Z in Appendix A of the permit.

Z.2 Additional Technology-Based Effluent Limits.

Z.2.3 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

Z.2.3.1 *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products.* Minimize contamination of stormwater runoff from pallets and bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings). Consider indoor storage or protection with polyethylene wrapping, tarpaulins, roofed storage, etc. Consider placing materials on an impermeable surface and enclosing or putting berms (or equivalent measures) around the area to prevent stormwater run-on and runoff.

Z.2.3.2 *Material Storage Areas.* Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials) minimize contact of such materials with stormwater.

Z.2.3.3 *Buffing and Shaving Areas.* Minimize contamination of stormwater runoff with leather dust from buffing and shaving areas. Consider dust collection enclosures, preventive inspection and maintenance programs, or other appropriate preventive measures.

Z.2.3.4 *Receiving, Unloading, and Storage Areas.* Minimize contamination of stormwater runoff from receiving, unloading, and storage areas. If these areas are exposed, consider the following (or their equivalents): covering all hides and chemical supplies, diverting drainage to the process sewer, or grade berming or curbing the area to prevent stormwater runoff.

Z.2.3.5 *Outdoor Storage of Contaminated Equipment.* Minimize contact of stormwater with contaminated equipment. Consider the following (or their equivalents): covering equipment, diverting drainage to the process sewer, and cleaning thoroughly prior to storage.

Z.2.3.6 *Waste Management.* Minimize contamination of stormwater runoff from waste storage areas. Consider the following (or their equivalents): covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulins or polyethylene, and minimizing stormwater runoff by enclosing the area or building berms around the area.

Z.3 Additional SWPPP Requirements.

Z.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations.

Z.3.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine-cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings, and shavings.

Sector AA – Fabricated Metal Products.

AA.1 Covered Stormwater Discharges.

The requirements in Sector AA apply to stormwater discharges associated with industrial activity from Fabricated Metal Products facilities as identified by the SIC Codes specified under Sector AA in Appendix A of the permit.

AA.2 Additional Technology-Based Effluent Limits.

AA.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

AA.2.1.1 *Raw Steel Handling Storage.* Minimize the generation of and/or recover and properly manage scrap metals, fines, and iron dust. Include measures for containing materials within storage handling areas.

AA.2.1.2 *Paints and Painting Equipment.* Minimize exposure of paint and painting equipment to stormwater.

- Conduct outdoor painting over a suitable groundcover (i.e., tarp) to capture any residuals.
- Paint mixing, solvent transfer, and equipment clean up operations must be contained, and shall not enter floor or storm drains or the environment.

AA.2.2 *Spill Prevention and Response Procedures.* (See also Part III.B.1.b.iv) Ensure that the necessary equipment to implement a cleanup is available to personnel, so that immediate clean-up is possible. The following areas should be addressed

AA.2.2.1 *Metal Fabricating Areas.* Maintain clean, dry, orderly conditions in these areas. Consider using dry clean-up techniques.

AA.2.2.2 *Storage Areas for Raw Metal.* Keep these areas free of conditions that could cause, or impede appropriate and timely response to, spills or leakage of materials. Consider the following (or their equivalents): maintaining storage areas so that there is easy access in the event of a spill, and labeling stored materials to aid in identifying spill contents.

AA.2.2.3 *Metal Working Fluid Storage Areas.* Minimize the potential for stormwater contamination from storage areas for metal working fluids.

AA.2.2.4 *Cleaners and Rinse Water.* Control and clean up spills of solvents and other liquid cleaners, control sand buildup and disbursement from sand-blasting operations, and prevent exposure of recyclable wastes. Substitute environmentally benign cleaners when possible.

AA.2.2.5 *Lubricating Oil and Hydraulic Fluid Operations.* Minimize the potential for stormwater contamination from lubricating oil and hydraulic fluid operations. Consider using monitoring equipment or other devices to detect and control leaks and overflows. Consider installing perimeter controls such as dikes, curbs, grass filter strips, or equivalent measures.

AA.2.2.6 *Chemical Storage Areas.* Minimize stormwater contamination and accidental spillage in chemical storage areas. Include a program to inspect containers and identify proper disposal methods.

AA.2.2.7 *Blasting Operations.* Capture airborne particles by performing operations inside permanent structures or temporary protective measures such as drop cloths and shrouding secured around the activity. A suitable ground cover (i.e., tarp, rubber mat) should be placed under activity area in order to collect any debris, followed by proper disposal, to minimize potential to minimize stormwater contamination.

AA.2.3 *Spills and Leaks.* (See also Part III.C.3.c) In your spill prevention and response procedures, required by Part III.B.1.b.iv, pay attention to the following materials (at a minimum): chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals, and hazardous chemicals and wastes.

AA.3 Additional SWPPP Requirements.

AA.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary and permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps and barriers; processing areas, including outside painting areas; wood preparation; recycling; and raw material storage.

AA.3.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals, and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cobs, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, and brazing; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingot pieces, and refuse and waste piles.

AA.4 Additional Inspection Requirements

AA.4.1 *Inspections.* (See also Part V.A) At a minimum, include the following areas in all inspections: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, and vehicle fueling and maintenance areas.

AA.4.2 *Comprehensive Site Inspections.* (See also Part V.A) As part of your inspection, also inspect areas associated with the storage of raw metals, spent solvents and chemicals storage areas, outdoor paint areas, and drainage from roof. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and related materials.

AA.5 Sector-Specific Benchmarks.

Table 9 - Sector AA Benchmarks (Fabricated Metal Products)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Zinc[1]	0.12	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector AB – Transportation Equipment, Industrial or Commercial Machinery Facilities.

AB.1 Covered Stormwater Discharges.

The requirements in Sector AB apply to stormwater discharges associated with industrial activity from Transportation Equipment, Industrial or Commercial Machinery facilities as identified by the SIC Codes specified under Sector AB in Appendix A of the permit.

AB.2 Additional SWPPP Requirements.

Drainage Area Site Map. (See also Part III.C.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: vents and stacks from metal processing and similar operations.

Sector AC –Electronic and Electrical Equipment and Components, Photographic and Optical Goods.

AC.1 Covered Stormwater Discharges.

No additional requirements apply to stormwater discharges associated with industrial activity from facilities that manufacture Electronic and Electrical Equipment and Components, Photographic and Optical goods as identified by the SIC Codes specified in Appendix A of the permit.

Sector AD.a – Department of Public Works and Highway Maintenance Facilities.

AD.a.1 Covered Stormwater Discharges.

The requirements are for the fleet and equipment maintenance at Public Works and Highway Maintenance Operations in Sector AD.a apply to stormwater discharges associated with industrial activity from Department of Public Works and Highway Maintenance facilities as identified by the SIC Codes specified under Sector AD.a in Appendix A of the permit.

AD.a.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements listed for Sector P - Land Transportation and Warehousing.

Sector AD.b – School Bus Maintenance Facilities.

AD.b.1 Covered Stormwater Discharges.

The requirements in Sector AD.b apply to stormwater discharges associated with industrial activity from School Bus Maintenance facilities as identified by the SIC Codes specified under Sector AD.b in Appendix A of the permit.

AD.b.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements listed for Sector P - Land Transportation and Warehousing.

Sector AD – Stormwater Discharges Designated by the Department as Requiring Permits.

AD.1 Covered Stormwater Discharges.

Sector AD is used to provide permit coverage for facilities designated by the Department as needing a stormwater permit, and any discharges of stormwater associated with industrial activity that do not meet the description of an industrial activity covered by Sectors A-AC.

AD.1 *Eligibility for Permit Coverage.* Because this sector is primarily intended for use by discharges designated by the Department as needing a stormwater permit (which is an atypical circumstance), and your facility may or may not normally be discharging stormwater associated with industrial activity, you must obtain the Department's written permission to use this permit prior to submitting an NOI. If you are authorized to use this permit, you will still be required to ensure that your discharges meet the basic eligibility provisions in Part I of this permit.

AD.2 Sector-Specific Benchmarks and Effluent Limits. (See also Part V of the permit.)

The Department will establish any additional monitoring and reporting requirements for your facility prior to authorizing you to be covered by this permit. Additional monitoring requirements would be based on the nature of activities at your facility and your stormwater discharges.

Appendix E:
Definitions, Abbreviations and Acronyms

Accounting Guidance – 'Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated' dated June 2011, or its successor. This document may be found on the Department's Stormwater Management Program website or with this website link http://9nl.at/MD-AcctGuide2014, under Maryland's Stormwater Management Program. Industrial facilities may not consider section 9 of that document "Alternative BMPs for Consideration", which were alternative BMPs recommended by Maryland's NPDES municipalities for further examination by the Department.

Action Area – all areas to be affected directly or indirectly by the stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities, and not merely the immediate area involved in these discharges and activities.

BAT – Best Available Technology Economically Achievable

Best Management Practices (BMPs) – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.

BOD5 – Biochemical Oxygen Demand (5-day test)

BPJ – Best Professional Judgment

BPT – Best Practicable Control Technology Currently Available

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

CFR - Code of Federal Regulations

COD – Chemical Oxygen Demand

Co-located Industrial Activities – Any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations or identified by the SIC code list in Appendix A.

COMAR - Code of Maryland Regulations

Control Measure – refers to any BMP or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the State.

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)

Department - the Maryland Department of the Environment. Unless stated otherwise, all submissions to the Department shall be directed to the attention of the Wastewater Permits Program.

Design Manual - the updated stormwater management principles, methods and practices found in the "Maryland Stormwater Design Manual, Volumes I & II (Design Manual)", which serves as the Department's guide for stormwater management principles, methods, and practices for new development, redevelopment, retrofits and restoration. Modifications were made to the Design Manual in 2009, to include Environmental Site Design (ESD) in addition to the established Best Management Practices (BMPs). The latest edition of the Design Manual is available on the Department's Stormwater Management Program website or with this website link http://9nl.at/MD-DesManual.

Discharge – when used without qualification, means the "discharge of a pollutant." See 40 CFR 122.2.

Discharge of a pollutant – any addition of any "pollutant" or combination of pollutants to "waters of this State" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being

used as a means of transportation. This includes additions of pollutants into waters of this State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

Discharge-related activities – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

DMR – Discharge Monitoring Report

Effluent limitation - any restriction or prohibition that:

1. Is established under federal law or a law of this State;
2. Specifies quantities, rates or concentrations of chemical, physical, biological, or other constituents that are discharged into the waters of this State;
3. Includes:
   a. Parameters for the discharge of toxic and nontoxic substances, and
   b. Standards of performance for new sources.

Effluent Limitations Guideline (ELG) – defined in 40 CFR § 122.2 as a regulation published by the Administrator under section 304(b) of CWA to adopt or revise effluent limitations.

EPA – U. S. Environmental Protection Agency

EPA Approved or Established Total Maximum Daily Loads (TMDLs) – "EPA Approved TMDLs" are those that are developed by a State and approved by EPA. "EPA Established TMDLs" are those that are developed by EPA.

Existing Discharger – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

Facility or Activity – any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

General permit - a State discharge permit issued for a class of dischargers.

Grab sample - an individual sample collected in less than 15 minutes. Grab samples for pH shall be analyzed within 15 minutes of sample collection.

Groundwater - underground water in a zone of saturation.

Hardness Dependent - refers to benchmark values for some metals that are determined as a function of hardness (in units of mg/L) in water. For these parameters, permittees whose discharges exceed the lowest benchmark level of the metal must determine the hardness of the receiving water (see Appendix C), to identify the benchmark value applicable to their facility.

Hazardous Materials or Hazardous Substances or Hazardous or Toxic Waste – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

Impaired Water (or "**Water Quality Impaired Water**") – a body of water identified by the Department or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 CFR 30.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established. Impaired waters compilations are included in Maryland's most current List of Impaired Surface Waters as Category 4a, 4b, 4c or 5 waterbodies.

Impervious surface - any surface that does not allow stormwater to infiltrate into the ground, including any area that is paved or used for vehicular storage or traffic, building rooftops, sidewalks, driveways, etc. The surfaces considered impervious for nutrient reduction requirements are further specified in Part III.A of the

permit.

Industrial Activity – the 10 categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity" as defined below and in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Stormwater – stormwater runoff from industrial activity.

Infeasible – there is a site-specific constraint making it not technologically possible, or not economically practicable and achievable in light of best industry practices, to achievethe required control measures on-site. The burden is on the permittee to demonstrate to the permitting authority that the requirement is infeasible.

Leachate – liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

Measured flow - any method of liquid volume measurement; the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Minimize – to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice

MGD – Million Gallons per Day

MSDS – Material Safety Data Sheet

MSGP – EPA's Multi-Sector General Permit

Municipal Separate Storm Sewer – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. See 40 CFR 122.26(b)(4) and (b)(7).

Municipal Separate Storm Sewer System (MS4) – in Maryland we have several MS4 NPDES Permits. The following are a summary of how they are broken down by size. For a full listing and explanation, visit the Department website for "Maryland's NPDES Municipal Separate Storm Sewer System (MS4) Permits" or at this link http://9nl.at/MD-MS4.

- Phase I MS4s are for large jurisdictions, which are municipalities with populations of greater than 250,000, amd medium jurisdictions, which are municiapalities with populations between 100,000 and 250,000. The large Phase I MS4 jurisdictions are Anne Arundel County, Baltimore County, Baltimore City, Montgomery County, and Prince George's County. The medium Phase I MS4 jurisdictions are Carroll County, Charles County, Frederick County, Harford County, and Howard County. One statewide MS4 under this category has been issued to the State Highway Administration.
- Phase II MS4s include smaller jurisdictions or approximately 60 cities and towns in Maryland with populations greater than 1,000. They also include State and Federal facilities.

NetDMR – a national tool for regulated Clean Water Act permittees to submit discharge monitoring reports (DMRs) electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR 122.41 and 403.12.

New Discharger – a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New Source – any source, the construction of which is commenced after the publication by the EPA of proposed regulations prescribing a standard of performance which will be applicable to the source if the standard is promulgated.

New Source Performance Standards (NSPS) – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No exposure – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

Non-Stormwater Discharges – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, noncontact cooling water, pavement wash water, external building washdown, irrigation water, or uncontaminated ground water or spring water.

Notice of Intent (NOI) – the form (electronic or paper) required for authorization of coverage under a General Permit.

Notice of Termination (NOT) – the form (electronic or paper) required for terminating coverage under a Permit.

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NSPS – New Source Performance Standard

NTU – Nephelometric Turbidity Unit

Operator – that person or those persons with responsibility for the management and performance of each facility.

Operator – any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:

1. The entity has operational control over industrial activities, including the ability to make modifications to those activities; or
2. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

Outfall – locations where collected and concentrated stormwater flows are discharged from the facility, including pipes, ditches, swales, and other structures that transport stormwater.

Owner - a person who has a legal interest in the facility or in the property on which the facility is located, or the owner's agent.

Permittee - the person holding a permit issued by the Department, or authorized for coverage under a general permit by the department.

Person – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

Point source – any discernible, confined and discrete conveyance, including any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, large animal feeding operation, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged.

Pollutant – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water. See 40 CFR 122.2.

Pollutant of concern – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

Pollution – means any contamination or other alteration of the physical, chemical, or biological properties of any waters of this State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of this State that will render the waters harmful, or detrimental, to:

(a) Public health, safety, or welfare;

(b) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;

(c) Livestock, wild animals, birds; or

(d) Fish or other aquatic life.

POTW – Publicly Owned Treatment Works

Primary industrial activity – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

Proprietary Practices – Stormwater controls approved through the Department's Review Process for New Technologies as described in the Department's 2005 Proprietary Stormwater Practice Guidance titled "Facts about ….Maryland's Stormwater Program & Proprietary Practices" found on the Departments website or at this link http://9nl.at/MD-Proprietary.

Qualified Personnel – Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures.

RCRA – Resource Conservation and Recovery Act

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

Restoration of Impervious Surfaces – Treatment of untreated impervious surfaces with structural or non-structural stormwater management practices based upon designs that treat the volume from one inch of rainfall. Approved practices for industrial sites are identified in Part III.A of the permit.

RQ – Reportable Quantity

Runoff - that portion of stormwater that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, and the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Runoff coefficient – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

Run-on - water from outside the industrial stormwater area that flows into the area. Run-on includes stormwater from rainfall or the melting of snow or ice that falls directly on the unit, as well as the water that drains from adjoining areas.

SARA – Superfund Amendments and Reauthorization Act

Section 313 water priority chemical - a chemical or chemical categories that: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986; 2) are present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the Clean Water Act at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

SIC – Standard Industrial Classification

Significant materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA, commonly known as Superfund; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges. See 40 CFR 122.26(b)(12).

Significant spills - includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (40 CFR 110.10 and 40 CFR 117.21) or Section 102 of CERCLA (40 CFR 302.4).

SPCC – Spill Prevention, Control, and Countermeasures

State discharge permit - the discharge permit issued under the Environment Article, Title 9, Subtitle 3, Annotated Code of Maryland.

Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR 122.26(b)(13).

Stormwater Discharges Associated with Construction Activity – a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial stormwater directly related to the construction process are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15) .

Stormwater Discharges Associated with Industrial Activity – the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings;

storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14). The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v). See 40 CFR 122.26(b)(14).

Stormwater management – is, as described in the Design Manual, any

1. quantitative control, a system of vegetative and structural measures that control the increased volume and rate of surface runoff caused by man-made changes to the land; and
2. qualitative control, a system of vegetative, structural, and other measures that reduce or eliminate pollutants that might otherwise be carried by runoff.

Stormwater Team – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Stormwater Team" must be identified in the SWPPP.

Storm Event – a precipitation event that results in a measurable amount of precipitation.

Surface waters - all waters of this State which are not groundwaters.

SWPPP – Stormwater Pollution Prevention Plan

Tier 2 Waters – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), Tier 2 waters are characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

Total Maximum Daily Loads (TMDLs) – A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Treatment of Impervious Surfaces - Implementing the requirements for stormwater management as prescribed in the Department's "2000 Maryland Stormwater Design Manual, Volumes I & II" or the Design Manual for impervious area. The manual spells out both design and implementation requirements using appropriately sized Best Management Practices or Environmental Site Design, based upon designs that manage on-site the water quality volume (WQv) resulting from the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation.

TSDF – Treatment, Storage, or Disposal Facility

TSS – Total Suspended Solids

USGS – United States Geological Survey

Wastewater - any:

1. liquid waste substance derived from industrial, commercial, municipal, residential, agricultural, recreational, or other operations or establishments; and
2. other liquid waste substance containing liquid, gaseous or solid matter and having characteristics that will pollute any waters of the State.

Water Quality Impaired – See 'Impaired Water'.

Water Quality Standards – A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. The Department as promulgated in COMAR 26.08.02 (http://www.dsd.state.md.us/comar/) and EPA adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)). Water quality standards also include an antidegradation policy. See P.U.D. o. 1 of Jefferson County et al v. Wash Dept of Ecology et al, 511 US 701, 705 (1994).

Waters of the State – includes:

1. both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, tidal and nontidal wetlands, public ditches, tax ditches, and public drainage systems within this State, other than those designed and used to collect, convey, or dispose of sanitary sewage; and
2. the flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.

WLA – Waste Load Allocation

"You" and "Your" – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's facility or responsibilities. The use of "you" and "your" refers to a particular facility and not to all facilities operated by a particular entity. For example, "you must submit" means the permittee must submit something for that particular facility. Likewise, "all your discharges" would refer only to discharges at that one facility.

Appendix F:
Nutrient Reduction Progress Report

Nutrient Reduction Progress Report (Permit Condition Part III.A.3.b)

SECTION I: Facility Information

(A) Facility Name and Address:	***(B) Registration Number:***
☐ ***Total facility size (acres)***	***12-SW-*** ☐

(C) Baseline information about facility (as of <u>January 1, 2006</u> or later)

☐ ***Total impervious surface area (square feet)***
☐ ***Untreated impervious surface area (square feet)***
☐ ***Impervious surface area subject to 20% restoration requirement (acres)***

(D) Control Measures Selected **Planned completion date** ☐

☐ ***Restored Impervious Surfaces (acres)***
☐ ***Accounting Guidance Practices (acres)***
☐ ***Sediment and Erosion Control (TN lbs/year)***
☐ ***Reduced fertilizer (TN lbs/year)***
☐ ***Reduced nitrogen to achieve benchmarks (TN lbs/year)***
☐ ***Reallocated TN load (TN lbs/year)***
☐ ***Were any of these control measures planned or completed off-site? (Yes or No)***
☐ ***Latest Comprehensive Site Compliance Evaluation (date)***

Brief Description of Restoration or other equivalent measures:

SECTION II: Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature	***Date***
Signatory Name/Title: Typed or Printed	***Email Address or Phone Number***

SECTION I: Owner/Operator Information

(A) Provide the name, address and size (in acres) of the facility covered under the registration. This should match the information submitted in the NOI or reflect any changes in property size.

(B) Provide the registration number provided by the Department for your coverage under this permit. This number will start with 12SW, and end with 4 numbers (i.e. 12SW1234).

(C) This part provides the baseline data for requirements related to impervious surfaces.

Total impervious surface area in square feet is determined in Part III.A.2.a of the permit.

Untreated impervious surface area in square feet is determined in Part III.A.2.d of the permit.

Impervious surface area subject to 20% restoration requirement in acres is determined in Part III.A.2.e of the permit.

(D) This part provides the update on your restoration activities consistent with Part III.A.1.c or Part III.A.1.d.

- The planned completion date is based on your current best estimate of the restoration requirements of this permit. If all the work is complete, simply use the date of completion.
- The practices listed are the options provided in the permit. Simply indicate here the amount of work under each control measure you have planned or implemented.

  Restored Impervious Surfaces are control measures in either the Design Manual or Proprietary Practices (Part III.A.1.c.i) you have selected to meet the 20% restoration requirement. This is reported in acres of impervious surface treated.

  Accounting Guidance Practices are control measures in the Accounting Guidance (Part III.A.1.c.ii) you have selected to meet the 20% restoration requirement. This is reported in acres of impervious surface treated.

  Sediment and Erosion Control is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reduced fertilizer is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reduced nitrogen to achieve benchmarks is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reallocated TN load is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Off-site work should be acknowledged by indicating Yes if any work was performed off-site to mee the permit requirements, or indicate No if it was all performed at your site. (Part III.A.1.d)

  Provide the date of the **Latest Comprehensive Site Compliance Evaluation** (Part V.A.2)

- Brief description section should be a high level description of tasks related to the remaining surfaces yet to be restored. Include a summary of each area on-site being treated, including the treatment strategy you will employ. Include types of BMPs implemented, and describe any equivalent measures you employed. Confirm if all work was performed at your facility or off-site.

- Indicate the last report date Comprehensive Site Compliance Evaluation Report, under Part V.A.2, which includes an evaluation of your restoration BMPs and verifies your maintenance activities.

SECTION II: Certification

To be completed by as detailed in Part II.C of the permit. An original signature and date is required. Your contact information is essential so that if the Department has questions they can contact you.

HOW TO SUBMIT:

You must ensure that the form is completely filled out. Completed reports should be sent to**:** **Maryland Department of the Environment, Wastewater Permits Program, 1800 Washington Blvd, Ste 455, Baltimore, MD 21230.**

General Discharge Permit No. 12-SW

Appendix G:

Reporting and Verification Requirements for Trading

Trading Must Abide by the Requirements of COMAR 26.08.11

The following requirements support the reporting and verification portions of the regulation and must be followed for those either generating a marketable credit, or those who are trading to meet the restoration requirements of this permit.

Additional Requirements for Facilities Generating a Marketable Credit:

1) Calculation of Credits. You must use assessment tools consistent with the Chesapeake Bay Program modeling tools and accepted by the Department. Any assumptions or backup data used in the calculations of credits must be maintained on-site.
2) Procedure for Certification. Your generated credits are not valid or tradable until placed on the Registry. The registration of the credits requires completion of a Certification and Registration Form as provided by the Department, which includes documentation that the generator either owns the property or has the permission of the landowner to install, access and maintain the BMP. Only when that form is completed and the credits are on the registry, are they available for a trade. As a condition for the certification, you (and the landowner if different from the permittee) must agree in writing to provide the Department, the verifier and their agent's access to the BMP during the lifespan of the credit. You are required to provide additional notification if the BMP changes or the ownership of the property changes.
3) Verification and Reporting Requirements. You shall ensure that all generated credits are verified in accordance with COMAR 26.08.11, which shall be no less than every 3 years. Verification of credits generated must be performed by a State or county inspector, a professional engineer registered in Maryland or a Department approved verifier. Each report prepared by an inspector or verifier in accordance with B(2) of the regulation shall include documentation that the BMP implemented continues to meet baseline compliance and that the credit generating BMP continues to be operated and maintained in accordance with the trading contract. If deficiencies exist and resulting corrective measures are needed, you must immediately implement them or jeopardize your trade. You may be required to perform additional inspections to ensure the BMP continues to perform as required. The details associated with implementing the verification requirement shall be incorporated into your SWPPP monitoring plans.
4) The above calculations and permittee copies of the completed forms and correspondence with the Department must be kept onsite and available to an inspector.
5) While generating credits, the permittee is required to email a scanned copy of the Comprehensive Site Compliance Evaluation report (Part V.A.2.b) to the Department at swppp.permit@maryland.gov, by December 1 of that calendar year.

Additional Requirements for Facilities Satisfying their Restoration Requirements via a Trade:

1) In the event of a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer using the credit remains responsible for complying with the permit. In any of these events, the permittee must update the SWPPP and inform the Department of their plan to regain compliance with the restoration requirement of the permit.
2) Registration of Trades. The permittee must notify the Department about each trade they are involved in by filing a form provided by the Department within 15 days after the trade, after which time the Department will update the Registry to include the registration number. The permittee must update the SWPPP to include this registration number and how this trade is used to satisfy restoration requirements.
3) Verification and Reporting Requirements. The permittee must include the status of any trades they have initiated to meet the permit requirements in their Comprehensive Site Compliance Evaluation report (Part V.A.2.b). The permittee must email a scanned copy of the Comprehensive Site Compliance Evaluation report to the Department at swppp.permit@maryland.gov, by December 1 of that calendar year.
4) Copies of the contract, the annual Department notification and any other correspondence with the Department regarding the trade must be kept onsite and available to an inspector.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.3

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT FOR DISCHARGES
FROM STATE AND FEDERAL SMALL MUNICIPAL
SEPARATE STORM SEWER SYSTEMS

STATE DISCHARGE PERMIT NO. 13-SF-5501
GENERAL NPDES PERMIT NO. MDR055501

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM STATE AND FEDERAL SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

GENERAL DISCHARGE PERMIT NO. 13-SF-5501
GENERAL NPDES NO. MDR055501

Final Determination:	April 27, 2018
Effective Date:	October 31, 2018
Expiration Date:	October 30, 2023

This National Pollutant Discharge Elimination System (NPDES) general permit covers State and federal small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland. MS4 owners and operators to be regulated under this general permit must submit a Notice of Intent (NOI) to MDE by October 31, 2018. An NOI serves as notification that the MS4 owner or operator intends to comply with the terms and conditions of this general permit.

PART I. COVERAGE UNDER THIS GENERAL PERMIT

A. Permit Area

This National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) owned or operated by the United States of America (U.S.) or the State of Maryland (State) in certain portions of the State of Maryland as defined under Title 40 of the Code of Federal Regulations (CFR) § 122.26(b)(16) and 122.32(a)(1).

B. Eligible Small MS4s

MS4s eligible for coverage under this general permit include those properties that:

1. Are owned or operated by the State of Maryland or the U.S. and located within an urbanized area; and

2. Serve developed land area greater than five acres and have at least ten percent impervious area property wide; or

3. Are already covered under an NPDES small MS4 Phase II general permit.

C. Obtaining Coverage

Owners or operators of MS4s regulated under this general permit must apply for coverage by submitting a Notice of Intent (NOI) according to requirements in Part II below, using the form provided by Maryland Department of the Environment (MDE) in Appendix C. A list of State and federal agencies eligible for permit coverage is found in Appendix A. Others not listed that meet eligibility criteria described in Appendix A are required to file an NOI as well. An NOI may represent:

1. An individual MS4 located on a State or federal property; or

2. MS4s located on multiple properties owned or operated by a single government agency.

D. Definitions

Terms used in this permit are defined in relevant chapters of 40 CFR § 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

PART II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification

Small MS4 owners or operators in State of Maryland and U.S. government properties that meet the designation criteria in Appendix A must apply for coverage under this general permit and submit to MDE an NOI that contains the information outlined in PART II.B by October 31, 2018.

B. Contents

An NOI serves as notification that the MS4 owner or operator intends to comply with this general permit. A permittee may file an application for an individual property or file a joint application that includes multiple MS4s owned, operated, or maintained by an individual government agency. The NOI form is provided in Appendix C of this permit. The NOI must contain the following:

1. The name and address of each property for which coverage under this general permit is being sought;

2. A brief description of each property. This must include the approximate size, land uses, a description of the stormwater conveyance system, and a list of properties owned or operated by the permittee covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit;

3. The contact name, address, telephone number, and e-mail address of responsible personnel for the required MS4 programs listed in Parts IV and V of this general permit;

4. A brief description of any agreements with another entity when responsibilities for permit compliance are shared between the permittee and other entity. The relationship and specific duties of all parties must be provided;

5. An estimate of the anticipated expenditures to implement the required programs specified in this general permit; and

6. An authorized signature according to Part VII.O of this general permit.

C. Where to Submit

State of Maryland and U.S. government agencies applying for coverage under this general permit must submit NOIs to the following:

Maryland Department of the Environment
Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard
Suite 440
Baltimore, Maryland 21230-1708

PART III. WATER QUALITY

State and federal government agencies covered under this general permit must manage, implement, and enforce management programs for controlling all stormwater discharges in accordance with the CWA and corresponding stormwater NPDES regulations, 40 CFR § 122, to meet the following requirements:

1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland's receiving water quality standards;

2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) 1342(p)(3)(B)(iii); 40 CFR § 122.44(k)(2) and (3); and

3. Comply with all other provisions and requirements contained in this general permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the conditions contained in Parts IV and V of this permit shall constitute compliance with Section 402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any stormwater WLA approved by the United States (U.S.) Environmental Protection Agency (EPA) for this permit term.

PART IV. MINIMUM CONTROL MEASURES

Permittees must ensure that the following minimum control measures (MCMs) are implemented in the property(ies) served by the small MS4 covered under this permit. The six MCMs described below include Personnel Education and Outreach, Public or Personnel Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping. Specific requirements for compliance with this general permit are outlined for

each MCM below. Permittees must report on the status of implementation of these required programs in accordance with the MS4 Progress Report (Appendix D).

Any permittee renewing coverage under the general permit must continue to make progress on permit requirements and report information as described below. All new permittees must begin development of programs described below within the first year of permit issuance and initiate implementation of programs thereafter. Annual MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

Permittees can choose to utilize partnerships or share responsibilities with other entities for compliance with any requirement of this general permit. This may entail establishing partnerships with the surrounding county or municipality performing similar activities under the requirements of an NPDES MS4 permit. If responsibilities for permit compliance are shared between the permittee and another entity, the relationship and specific duties of all participating entities must be described in the NOI and updated information provided in the MS4 Progress Report. However, the permittee shall remain responsible for compliance with all conditions of this general permit. For this reason, a legally binding contract, memorandum of understanding (MOU), or other similar means must be executed between the permittee and all other entities to avoid conflicts resulting from noncompliance with this general permit.

A. Public or Personnel Education and Outreach

Permittees are required to implement and maintain a personnel education and outreach program, and distribute education materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff. This entails developing brochures, booklets, and training programs to educate personnel about the impacts of stormwater discharges on receiving waters, why controlling these discharges is important, and what personnel and the public and/or staff can do to reduce pollutants in stormwater runoff. These activities may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees must update and continue to maintain their personnel education and outreach program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Develop a process by which the public and/or staff can report water quality complaints that must include a phone number, within one year of permit issuance;

2. Determine the target audience and develop materials to educate the audience on the impact of stormwater. These topics may include water conservation, chemical

application on lawns and landscaping, proper car wash procedures, proper disposal of paint and other household hazardous waste, recycling and trash pick-up, and proper pet waste disposal;

3. Distribute stormwater educational materials through newsletters, website, or other appropriate methods. Submit examples of educational material to MDE in accordance with reporting requirements;

4. Develop and implement an annual employee training program that addresses appropriate topics to prevent or reduce the discharge of stormwater pollution into the MS4. Submit example training materials and attendee list to MDE in accordance with reporting requirements; and

5. Briefly describe in reports to MDE how the education programs complement and strengthen other programs of the MS4 permit.

B. Public or Personnel Involvement and Participation

Permittees are required to create and foster opportunities for public and/or staff participation in the MS4 management program for controlling stormwater discharges. Recommended activities include adopt-a-stream programs, public and/or staff surveys, storm drain stenciling, stream cleanups, tree plantings, and Earth Day events. These activities may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees must update and continue to maintain their public or personnel involvement and participation program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Determine the target audience to promote public and/or staff involvement and participation activities;

2. Specify activities appropriate for the target audience and promote participation;

3. Perform at least five public and/or staff participation events during the permit term and report to MDE in accordance with reporting requirements;

4. Provide public and staff access to the permittee's MS4 Progress Reports via website or other method and consider any substantive public and/or staff comments received concerning the permittee's MS4 program (a permittee may

reserve from public and staff review any information considered confidential or information that may compromise the security of an agency); and

5. Comply with all State and federal public notice requirements for any regulated activity associated with this general permit.

C. Illicit Discharge Detection and Elimination (IDDE)

Permittees are required to develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4 in accordance with 40 CFR § 122.34(b)(3). A permittee will satisfy this MCM by field screening outfalls, inspecting the MS4 to identify sources of illicit discharges, eliminating illegal connections or illicit discharges, and enforcing penalties where appropriate. The illicit discharge program must also address illegal dumping and spills. Additional guidance is provided in Appendix B, Section II to assist permittees with the development of an acceptable IDDE program.

Renewal permittees must update and continue to maintain their IDDE program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Develop and maintain an updated map of the MS4 that identifies all stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges;

2. Establish a policy or other agency directive that prohibits illicit discharges into the MS4;

3. Maintain the capability to access the storm sewer system across the entire property(ies) to investigate and eliminate illicit discharges (e.g., physical access, proper internal permissions);

4. Develop and implement written standard operating procedures (SOPs) that specify the following:

    a. An inspection checklist describing how outfalls are screened for dry weather flows (see Appendix B, Figure B.2 for an example of an outfall screening checklist);
    b. Frequency of outfall inspections; Screening efforts for State and federal properties may be tiered based on property size. For small properties (i.e., less than 100 acres), all outfalls must be screened each year. Medium size properties (i.e., 100 - 2,000 acres) must screen 50% of total outfalls.

Large properties (i.e., more than 2,000 acres) must screen 20% per year, up to 100 outfalls;

c. Procedures for identifying the source, and eliminating spills, illegal dumping, and other suspected illicit discharges;
d. Identification of priority areas for illicit discharge screening based on pollution potential;
e. Permittee policy to ensure illicit discharges are eliminated;
f. Procedures to inform employees, businesses, and the general public of the issues relating to illegal discharges and improper waste disposal; and
g. Coordination with adjacent MS4 operator(s).

5. Submit SOPs to MDE for review and approval within two years of permit issuance. MDE will review for consistency with guidance in Appendix B, Section II;

6. Document results of illicit discharge screening efforts, including a description of how screening locations were prioritized and any necessary follow-up investigations and remediation measures implemented to address any suspected discharge. Submit to MDE in accordance with reporting requirements; and

7. Maintain complete records of IDDE program investigations and make available to MDE during field reviews of the permittee's MS4 program.

D. Construction Site Stormwater Runoff Control

Permittees are required to comply with Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and State erosion and sediment control regulations under COMAR 26.17.01. The statute and COMAR specify the requirements for any construction activity that disturbs 5,000 square feet of land area or 100 cubic yards or more of earth movement. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and 40 CFR § 122.34(b)(4).

All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term. In order to comply with State and federal laws and regulations pertaining to an acceptable erosion and sediment control program, all permittees must:

1. Submit erosion and sediment control plans to MDE (or other authority when applicable) for review and approval in accordance with COMAR and with the *Maryland Stormwater Management and Erosion and Sediment Control Guidelines for State and Federal Projects* (February 2015);

2. Ensure compliance with requirements under MDE's *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* or most recent revision and COMAR 26.17.01;

3. Ensure all necessary permits have been obtained, including MDE's General Permit for Stormwater Associated with Construction Activity for projects disturbing one acre or more, and local sediment and erosion control plan approval;

4. Develop a process for receiving, investigating, and resolving complaints from any interested party related to construction activities within the property(ies). Notify the complainant of the investigation and findings within seven days;

5. Track all active grading permits within each property covered under this general permit and report disturbed areas for all active grading permits to MDE in accordance with reporting requirements;

6. Ensure that construction site inspections and enforcement procedures are performed in accordance with COMAR. This will require ongoing communication and collaboration with MDE to ensure that any violations are properly addressed;

7. Incorporate procedures within property operations to effectively abate sediment pollution and comply with all applicable State and federal laws pertaining to erosion and sediment control practices; and

8. Ensure staff is adequately trained on proper procedures and actions to address potential discharge of pollutants into the MS4 as a result of any construction activity. The Responsible Personnel Certification on-line training course through MDE must be made available to appropriate staff.

E. Post Construction Stormwater Management

Permittees are required to maintain an acceptable stormwater management program in accordance with Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland and State stormwater management regulations under COMAR 26.17.02. The statute and COMAR require that stormwater management must be addressed for new development and redevelopment for any proposed project that disturbs 5,000 square feet or more of land area. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and 40 CFR § 122.34(b)(5).

All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term. In order to comply with State and federal laws and

regulations pertaining to an acceptable stormwater management program, all permittees must:

1. Submit stormwater management plans to MDE (or other authority when applicable) for review and approval in accordance with COMAR and with the *Maryland Stormwater Management and Erosion and Sediment Control Guidelines for State and Federal Projects* (February 2015) for compliance with State stormwater management requirements;

2. Implement the principles, methods, and practices found in the latest version of the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual), and the latest version of MDE's *Maryland Stormwater Management Guidelines for State and Federal Projects*. This includes that environmental site design (ESD) be implemented to the maximum extent practicable (MEP);

3. Maintain stormwater program implementation information and provide updates in accordance with the MS4 Progress Report that include:

    a. Total number of plans submitted to MDE for review and approval;
    b. Total number of as-built plans submitted to MDE and approved;
    c. Verification that BMPs are maintained in accordance with MDE requirements outlined on approved plans.

4. Provide training to stormwater program staff and to staff responsible for proper BMP design, performance, inspection, and routine maintenance. Report the number of trainings offered, topics covered, and number of attendees; and

5. Maintain and submit an Urban BMP database in accordance with the database structure in Appendix B, Tables B.1.a, b, and c. This information shall be submitted to MDE with annual reports.

F. Pollution Prevention and Good Housekeeping

Permittees are required to develop and implement an operation and maintenance program that includes a training component, to prevent and reduce pollutant runoff from municipal operations in accordance with 40 CFR § 122.34(b)(6). A permittee will satisfy this MCM by developing, implementing, and maintaining procedures for pollution prevention and good housekeeping on permittee owned or operated property(ies) and roads as outlined below.

Renewal permittees must update and continue to maintain their pollution prevention and good housekeeping program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Ensure that appropriate staff and contractors receive training at least annually. The training must be designed to reduce or eliminate the discharge of pollutants during property operations. Training may include in-person, online, toolbox talks, on-the-job, or other formats, and permittees may build on existing training activities to fulfill this requirement. Topics must include spill prevention and response, proper disposal of waste, and periodic visual inspections to detect and correct potential discharges at properties owned or operated by the permittee;

2. Develop, implement, and maintain a good housekeeping plan for permittee owned or operated properties where any of the following activities is performed: maintenance of vehicles or heavy equipment, and handling of any of the following materials: deicers, anti-icers, fertilizers, pesticides, road maintenance materials such as gravel and sand, or hazardous materials. A standard plan may be created to address multiple properties where similar activities are conducted, provided the below items are addressed. The plan must include:

    a. A description of site activities;
    b. A list of potential pollutants including their sources and locations on the site. The plan must consider conveyance of stormwater entering, flowing across, and leaving the site;
    c. Written good housekeeping procedures designed to prevent discharge of pollutants off site that include regular visual inspections to detect potential discharges;
    d. Written procedures for corrective actions to address any release, spill, or leak on site; and
    e. Documentation of any discharge, release, leak, or spill, including date, findings, and response actions.

3. Quantify and report pollution prevention efforts related to the following activities:

    a. Number of miles swept and pounds of material collected from street sweeping and inlet cleaning programs, as applicable;
    b. Good housekeeping methods for pesticide application such as integrated pest management plans or alternative techniques;
    c. Good housekeeping methods for fertilizer application such as chemical storage, landscaping with low maintenance/native species, and application procedures;
    d. Good housekeeping methods for snow and ice control such as use of pretreatement, truck calibration and storage, and salt dome storage and containment; and
    e. Other good housekeeping methods performed by the permittee not listed above.

4. Submit in the NOI a list of properties owned or operated by the permittee where the activities listed in this MCM are performed, and indicate which are covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity. Provide an update in annual reports if the status of industrial activity permit coverage changes for any property.

PART V. CHESAPEAKE BAY RESTORATION AND MEETING TOTAL MAXIMUM DAILY LOADS

Maryland's Watershed Implementation Plan (WIP) specifies the nutrient and sediment load reductions required to address the Chesapeake Bay TMDL by 2025. This general permit will make progress toward that strategy by requiring small MS4s to commence restoration efforts for twenty percent of existing developed lands that have little or no stormwater management. This five-year permit term requires permittees to develop planning strategies and work toward implementing water quality improvement projects. Restoration planning strategies and implementation schedules required under this general permit are consistent with addressing the water quality goals of the Chesapeake Bay TMDL by 2025. The conditions established below require permittees to perform watershed assessments, identify water quality improvement opportunities, secure appropriate funding, and develop an implementation schedule to show the twenty percent impervious area restoration requirement will be achieved by 2025. This constitutes adequate progress toward compliance with Maryland's receiving water quality standards and any stormwater WLA established or approved by the EPA for small MS4s regulated under this permit.

Restoration efforts may include the use of ESD practices, structural stormwater BMPs, retrofitting, stream restoration, or other alternative restoration practices. Trading with other sectors may also be considered as another method to achieve pollutant reductions, once a program has been established, regulations are adopted, public participation requirements are satisfied, and its use approved by EPA. Acceptable design criteria for stormwater BMPs are outlined in the Manual and the most recent version of the *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*, referred to hereafter as the Accounting Guidance. Appendix B of this permit provides relevant guidance from the Accounting Guidance for small MS4 permittees to comply with these requirements. A permittee will demonstrate compliance with restoration requirements by performing the following:

A. Develop a Baseline Impervious Area Assessment

Permittees must determine the total impervious surface area within their property(ies) and delineate the portions that are treated with acceptable water quality BMPs. This analysis will provide the baseline used to calculate the twenty percent restoration requirement. This must be done in accordance with the guidance outlined in Appendix B, Section III of this permit (which is consistent with the Accounting Guidance). The impervious area baseline assessment must be submitted with the first year Progress Report for MDE review and approval. The following information must be submitted with this assessment:

1. Total impervious acres in accordance with the guidance in Appendix B, Section III of this general permit;
2. Total impervious acres treated by stormwater water quality BMPs;
3. Total impervious acres treated by BMPs providing partial water quality treatment;
4. Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales);
5. Verification that any impervious area draining to BMPs with missing inspection records are not considered treated; and
6. Total impervious acres untreated and twenty percent of this total area (i.e., the restoration requirement).

B. Develop and Implement an Impervious Area Restoration Work Plan

Permittees must submit a work plan with the first year MS4 Progress Report to describe the activities and milestones that will be performed over the permit term to show progress toward the twenty percent impervious area restoration requirement. This will form the basis of a long term plan; however, the plan may be adjusted and refined as part of the adaptive management process over the course of the permit term. A work plan, recommended in the format of Table 1 below, must be submitted to MDE annually to describe progress and any modifications necessary to remain on track with restoration requirements. A suggested work plan is provided in Table 1. Permittees may use the work plan or develop a custom plan that addresses the unique circumstances of individual permittees for MDE review and approval.

Table 1. Impervious Area Restoration Work Plan

Timeline	Management Strategies and Goals
Year 1	• Develop impervious area baseline assessment. • Develop restoration work plan for MDE review and approval. • Assess opportunities and timelines for implementing water quality BMPs. • Assess opportunities to develop partnerships with other NPDES permittees. • Determine funding needs and develop a long term budget.
Year 2	• Update and submit Urban BMP database. • Maintain inspection records for all BMPs. • Perform watershed assessments and identify water quality problems and opportunities for restoration. • Develop list of specific projects to be implemented for restoration and identify on the Restoration Activity Schedule (Table 2). • Incorporate future growth agency-wide/jurisdiction-wide master plans into restoration planning efforts. • Evaluate and refine budget needs for project implementation.

Timeline	Management Strategies and Goals
Year 3	• Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs. • Develop adaptive management strategies for BMP implementation that identify opportunities for improved processes and procedures. • Continue to identify opportunities for water quality improvement projects and collaborative partnerships to meet restoration requirements.
Year 4	• Update and submit project implementation status in Table 2. • Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs. • Submit narrative describing progress and updated adaptive management strategies toward implementing restoration projects.
Year 5	• Update and submit project implementation status in Table 2. • Provide complete list of specific projects needed to meet the twenty percent restoration requirement in Table 2 and include the projected implementation year (no later than 2025).

C. Develop a Restoration Activity Schedule

Permittees are required to develop a Restoration Activity Schedule (Table 2) and provide annual updates on the status of projects in the planning, construction, and final phase of implementation. A brief narrative must accompany Table 2 and describe progress of planned restoration activities. Table 2 below provides an example of how to submit the required information. The table outlines a schedule for various BMPs under different stages of implementation during the permit term. The impervious acre baseline is indicated as 100 acres and noted in year one. With the implementation of each BMP, the balance toward achieving the restoration requirement is recalculated in the Impervious Acre Restoration Target and Balance ("Imperv Acre Target and Balance") column. This plan must be continuously refined and updated over the duration of the permit term. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement must be provided. The projected implementation year must be no later than 2025.

Permittees may take credit for retrofit and redevelopment that has been implemented between January 1, 2006, and the beginning of the permit term. When the impervious area baseline analysis considers the drainage areas to these practices as untreated, then these projects may be credited toward impervious area restoration requirements. Credits may be reported using the Restoration Activity Schedule (Table 2) discussed below.

Impervious acre credits are based on the level of water quality treatment provided. When water quality BMPs treat one inch of rainfall, the impervious acres draining to the BMP will be considered restored. When the rainfall treated is less than one inch, a proportional acreage will be calculated for impervious acres treated based on the percentage of one inch of rainfall treated. When the rainfall treated is greater than one inch, credit is granted according to the Accounting Guidance. When alternative BMPs are

implemented, acreage may be calculated based on an impervious acre equivalent identified in Appendix B, Table B.4. Additional information on BMP implementation and impervious acre credits may be found in the Accounting Guidance.

Table 2. Restoration Activity Schedule (Example)

Type of Restoration Project	BMP[1] Code	Cost ($K)[2]	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status[3]	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates	
							Northing	Easting
				100				
Dry pond retrofit to wet	PWET	1,500	36	64	UC			
Bioretention	FBIO	260	6	58	P			
Bioswale	MSWB	100	2	56	P			
Dry pond retrofit to wet	PWET	800	10	46	P			
BMP retrofit	PWET	500	8	38	P			
Redevelopment	REDE	300	5	33	P			
Rain Gardens (4)	MRNG	20	2	31	P			
Disconn rooftop r/o	NDRR	200	10	21	P			
Stream restoration (1,000 linear feet)	STRE	500	10	11	P			
Outfall Stabilization	OUT	200	2	9	P			
Shallow marsh	WSHW	150	4	5	P			
Reforestation on Imperv	IMPF	100	3	2	P			
Green Roof, extensive	AGRE	100	0.5	1.5	P			
Perm pavement on existing pavement	APRP	150	2	-0.5	P			

[1] See Appendix B, Tables B.1.a, b, and c, Urban BMP database. BMP codes are identified under "MDE BMP Classification"

[2] Provide cost at project completion

[3] Project Status: Enter P for planning and design, UC for under construction, and C for complete

D. BMP Database Tracking

Permittees are required to develop a BMP inventory consistent with the required fields outlined in the BMP Database provided in Appendix B, Tables B.1.a, b, and c. A brief narrative must accompany the BMP database and provide verification that routine inspection and maintenance activities are up to date. The database fields for inspection and maintenance need to be completed and show that BMPs are inspected every three years and routinely maintained. If the required inspection and maintenance data are missing or incomplete then any credit previously applied must be removed.

PART VI. EVALUATION AND ASSESSMENT, RECORDKEEPING, REPORTING, AND PROGRAM REVIEW

A. Evaluation and Assessment

The permittee must evaluate progress toward achieving compliance with all permit requirements, and the appropriateness of implemented BMPs. This must be achieved through reporting to MDE as specified in Part VI.C below.

B. Recordkeeping

The permittee must keep records for at least three years after the termination of this general permit. In addition to the information required in MS4 Progress Reports specified below, permittees must submit any additional supporting documentation at the request of MDE. The permittee must make its MS4 program information, including records, available to the public during regular business hours.

C. Reporting

1. The required information specified in the MS4 Progress Report in Appendix D must be completed as described in this section. The reporting period must be based on State fiscal year, i.e., July 1 – June 30. MS4 Progress Reports are due no later than October 31 of each year with the first report due October 31, 2019.

2. Annually, the permittee must submit a report to MDE that evaluates progress toward meeting the twenty percent impervious area restoration requirement specified in Part V above. Restoration activity described in the MS4 Progress Report must be completed and include:

    a. An impervious area baseline analysis in accordance with Part V.A and the guidance in Appendix B, Section III. This analysis must be submitted with the first year MS4 Progress Report for MDE review and approval;
    b. The Impervious Area Restoration Work Plan (Table 1 or other format) must be submitted with the first year MS4 Progress Report and in annual updates. The work plan must include a narrative discussing progress made toward restoration efforts and a description of adaptive management strategies necessary to keep proposed implementation efforts on track;
    c. An updated Restoration Activity Schedule in accordance with Table 2 must be submitted annually. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement must be specified in Table 2. The projected implementation year must be no later than 2025; and
    d. An updated Urban BMP database in accordance with Appendix B, Tables B.1.a, b, and c in electronic format and a brief narrative discussing progress made toward completing the database and performing routine maintenance and inspections.

3. Reporting for the six MCMs specified in Part IV must be submitted in years 2 and 4 of the permit term and include all information requested in the MS4 Progress Report in Appendix D.

D. Program Review

In order to assess the effectiveness of the permittee's NPDES program for eliminating non-stormwater discharges and reducing the discharge of stormwater pollutants to the MEP, MDE will review program implementation as described in MS4 Progress Reports. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's sediment control and stormwater management laws. Additional reviews of MCM implementation and the twenty percent restoration requirement may be conducted at any time to determine compliance with permit conditions.

PART VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The permittee must comply with all conditions of this general permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action, permit coverage termination, revocation, or modification. The permittee must comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3, Annotated Code of Maryland.

B. Failure to Notify

Agencies engaging in an activity under this general permit that fail to notify MDE of their intent to be covered under this general permit as described in PART II and who discharge to waters of the State without submitting an NOI application are in violation of the Environment Article, Annotated Code of Maryland and may be subject to penalties.

C. Limitations on Coverage

1. The following categories of non-stormwater discharges or flows must be addressed where such discharges are identified by the permittee as sources of pollutants to waters of the U.S.: landscape irrigation, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, foundation drains, air conditioning condensate, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering runoff, flows from riparian habitats and wetlands, residual street wash water, and discharges or flows from fire fighting activities.

2. Non-stormwater sources, stormwater associated with industrial activity, or discharges associated with construction activities may be authorized to discharge

via the municipal separate storm sewer system if such discharges are specifically authorized under an applicable NPDES discharge permit.

3. Only stormwater discharges from municipal separate storm sewer systems are authorized to discharge under this general permit.

D. Penalties Under the CWA - Civil and Criminal

For violations of this permit, the permittee is subject to civil and criminal penalties as set forth in 33 U.S.C. 1319(c) and (d) of the Clean Water Act, as adjusted for inflation according to 40 CFR § 19.4.

E. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve permittee from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to $10,000 per violation, to be collected in a civil action brought by MDE, and with each day a violation continues being a separate violation. Section 9-342 further authorizes MDE to impose upon any person who violates a permit condition, administrative civil penalties of up to $10,000 per violation, up to $100,000.

Section 9-343 of the Environment Article provides that any person who violates a permit condition is subject to a criminal penalty not exceeding $25,000 or imprisonment not exceeding one year, or both for a first offense. For a second offense, Section 9-343 provides for a fine not exceeding $50,000 and up to two years imprisonment.

The Environment Article, Section 9-343, Annotated Code of Maryland, provides that any person who tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

The Environment Article, Section 9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

F. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. Continuation of an Expired General Permit

An expired general permit continues in force and effect for all permittees covered under this general permit until a new general permit is issued or the general permit is revoked or withdrawn. Coverage for new permittees may not be granted under an expired general permit.

H. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment and is in violation of this general permit.

I. Duty to Provide Information

The permittee shall furnish to MDE any information that may be requested to determine compliance with this general permit. The permittee shall also furnish to MDE, upon request, copies of records required to be maintained in compliance with the conditions of this general permit.

J. Other Information

When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to MDE, it shall promptly notify MDE of the facts or information.

K. Requiring an Individual Permit

1. MDE may require any agency to apply for and/or obtain an individual NPDES permit. When MDE requires a permittee to apply for an individual NPDES permit, MDE will provide notification in writing that an application is required. This notification shall include a brief statement of the reasons for the decision, an application form, and a deadline for filing the application. Applications must be submitted to MDE. MDE may grant additional time to submit an application upon request of the applicant.

2. Any agency eligible for coverage under this general permit may request to be excluded from the coverage of this general permit by applying for an individual permit. In such cases, the agency must submit an individual application in

accordance with the requirements of 40 CFR § 122.26(c)(1)(ii), with reasons supporting the request, to MDE.

3. When an individual NPDES permit is issued to an agency eligible for coverage under this general permit, the applicability of this general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit. When an individual NPDES permit is denied to an agency otherwise subject to this general permit, then coverage under this general permit may be terminated by MDE.

L. Property Rights

The issuance of this general permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations.

M. Severability

The provisions of this general permit are severable. If any provision of this general permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this general permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

N. Permit Actions and Reopener Clause

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition. The Environment Article, Section 9-330, Annotated Code of Maryland, provides that MDE may revoke coverage under this permit if it finds that:

1. False or inaccurate information was contained in the application;

2. Conditions or requirements of the discharge permit have been or are about to be violated;

3. Substantial deviation from the requirements has occurred;

4. MDE has been refused access for the purpose of inspecting to ensure compliance with the conditions of the discharge permit;

5. A change in conditions exists that requires temporary or permanent reduction or elimination of the permitted discharge;

6. Any State or federal water quality stream standard or effluent standard has been or is threatened to be violated; or

7. Any other good cause exists for revoking the discharge permit.

8. If there is evidence indicating that the stormwater discharges authorized by this general permit cause, or have the reasonable potential to cause or contribute to, a violation of a water quality standard, the permittee may be required to obtain an individual permit or the general permit may be modified to include specific limitations and/or requirements. Permit modification or revocation will be conducted according to 40 CFR § 122.62, 122.63, 122.64, and 124.5.

O. Signature of Authorized Administrator and Permittee

All NOIs, annual reports, and information submitted to MDE shall be signed as required by COMAR 26.08.04.01-1 and 40 CFR § 122.22. As in the case of municipal or other public properties, signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

P. Inspection and Entry

The permittee shall allow representatives of MDE and EPA access at reasonable times to conduct an inspection of a regulated property or activity, or to review records that must be kept as a condition of this permit.

Q. Proper Operations and Maintenance

The permittee shall properly operate and maintain all BMPs and controls which are used to achieve compliance with the conditions of this permit.

R. Reporting Requirements

The permittee shall report any non-compliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time when the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time that it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.

PART VIII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

In compliance with the provisions of the CWA, as amended (33 USC 1251 et seq. the Act), agencies that are defined in Parts I.B.1 and 2 of this general permit and that submit an NOI in accordance with Part II of this general permit are authorized to discharge in accordance with the conditions and requirements set forth herein.

D. Lee Currey
Director
Water and Science Administration

April 27, 2018
Date

APPENDIX A

Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Appendix A

Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Phase I of the U.S. Environmental Protection Agency's (EPA) stormwater program was promulgated in 1990 under the Clean Water Act (CWA). This program relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address polluted discharges from stormwater runoff from medium and large municipal separate storm sewer systems (MS4s) that serve populations of 100,000 or more. The Phase II program expands Phase I by requiring owners and operators of "small" MS4s in urbanized areas to implement programs to control stormwater runoff through the use of an NPDES permit. A small MS4 can be a municipally owned separate storm sewer system, but can also apply to State and federal agencies, and include transportation, universities, local sewer districts, hospitals, military bases, and prisons. This appendix describes the criteria for regulating small MS4 municipalities and State and federal properties.

Small Municipal Separate Storm Sewer Systems Permit Area

Parts I.A and I.B of the General Permits for Discharges From Small Municipal Separate Storm Sewer Systems for municipalities and for State and federal properties specify that small MS4s in the State of Maryland are regulated if located within the following geographical areas:

1. **Urbanized areas as determined by the latest Decennial Census by the U.S. Census Bureau**. Coverage is required for owners or operators of small MS4s located within the boundaries of an "urbanized area" (UA) based on the 2010 Decennial Census in accordance with 40 CFR § 122.32(a)(1). A map of designated urbanized areas is located at the following website: www.epa.gov/npdes/urbanized-area-maps-npdes-ms4-phase-ii-stormwater-permits

2. **Other areas determined by MDE to be eligible for coverage.** MDE has developed a set of designation criteria for small municipalities located outside of urbanized areas in accordance with 40 CFR § 122.26(a)(9) and 123.35(b)(2).

MS4 General Permit Waiver Criteria

The Code of Federal Regulations specifies that certain municipalities may be waived from permit coverage under the following conditions:

1. An MS4 serves a population of less than 1,000 within the urbanized area and does not contribute substantially to the pollutant loadings of a physically interconnected regulated MS4 and stormwater controls are not needed based on wasteload allocations (WLAs) in an EPA approved or established total maximum daily load (TMDL); or

2. An MS4 serves a population of less than 10,000 and the permitting authority has evaluated receiving waters and determined that additional stormwater controls are not

needed based on WLAs associated with an EPA approved TMDL or, if a TMDL has not been approved, an equivalent analysis that determines sources and allocations for the pollutants of concern; and has determined that future discharges from the MS4 do not have the potential to result in exceedances of water quality standards or other significant water quality impacts.

In addition to the above waiver criteria, municipalities that discharge stormwater runoff combined with municipal sewage (i.e., combined sewer systems (CSS)) are point sources that are not subject to MS4 requirements (40 CFR § 122.26(a)(7)).

Table A.1 below provides a list of all Maryland counties and their municipalities that are required to be regulated under the MS4 program. The municipalities designated for Phase II MS4 general permit coverage are identified in the table based on the criteria herein. A municipality may request co-permittee status with its respective Phase I or Phase II county. Approximately 40 small municipalities are currently regulated through the MS4 NPDES program as co-permittees within Carroll, Montgomery, and Prince George's Counties.

Table A.1. Phase II MS4 General Permit Designation by County

Counties and Baltimore City	Jurisdictions Designated for Phase II MS4 Coverage	Justification
Allegany	N/A	County has CSS
Anne Arundel	Annapolis	City is located w/in UA
Baltimore	N/A	Phase I permit covers entire county
Baltimore City	N/A	Phase I permit covers entire city
Calvert	Calvert County*	County is located w/in UA and meets MDE designation criteria
Caroline	N/A	Not located w/in UA
Carroll	N/A	Phase I permit covers all municipalities
Cecil	Cecil County, Elkton, North East*, Perryville*, and Rising Sun*	County and municipalities are located w/in UA; County also meets MDE designation criteria
Charles	Indian Head* and La Plata*	Towns are located w/in UA
Dorchester	N/A	Not located w/in UA
Frederick	Brunswick, Emmitsburg, Frederick, Middletown, Mount Airy, Myersville, Thurmont, and Walkersville	Middletown, Mount Airy, and Walkersville are located w/in UA; Brunswick, Emmitsburg, Thurmont, and Myersville meet MDE designation criteria
Garrett	N/A	Not located w/in UA
Harford	Aberdeen, Bel Air, and Havre de Grace	Towns and city are located w/in UA
Howard	N/A	Phase I permit covers entire county
Kent	N/A	Not located w/in UA
Montgomery	Gaithersburg, Rockville, and Takoma Park	Cities are located w/in UA; Phase I permit covers all other municipalities
Prince George's	Bowie	City is located w/in UA; Phase I permit covers all other municipalities
Queen Anne's	Queen Anne's County*	County is located w/in UA and meets MDE designation criteria
St. Mary's	St. Mary's County*	County is located w/in UA and meets MDE designation criteria
Somerset	N/A	Not located w/in UA
Talbot	Easton*	Town meets MDE designation criteria
Washington	Washington County, Boonsboro*, Hagerstown, Smithsburg, and Williamsport*	County and municipalities are located w/in UA; County also meets MDE designation criteria
Wicomico	Wicomico County*, Fruitland*, and Salisbury	County and cities are located w/in UA; County also meets MDE designation criteria
Worcester	N/A	Not located w/in UA

* Indicates a county or municipality newly designated for coverage as a Phase II small MS4

Eligible State and Federal Properties for MS4 Permit Coverage

The definition of a small MS4 is noted under 40 CFR § 122.26(b)(16)(iii), and specifies these are: "[o]wned or operated by the United States, a State, city, town, borough, county, parish district, association, or other public body" and are "systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways or other thoroughfares". Therefore, the CFR definition of a small MS4 indicates that regulated State and federal properties are similar to municipal systems. EPA clarifies that regulated small MS4s should be those that provide stormwater drainage service to human populations, and not to individual buildings (64 Federal Register 68749).

Other available documentation such as federal guidance defining urban areas and literature describing water resource impacts from developed lands are also an important consideration when determining eligibility criteria. For example, the U.S. Census Bureau defines "Nonresidential Urban Territory" in the Federal Register (volume 76, no. 164, August 24, 2011) as those areas that contain a "high degree of impervious surface", or twenty percent impervious area, and are within 0.25 miles of an urban area. Furthermore, documentation that evaluates the potential for properties to contribute pollutants to the MS4 is also considered. For example, *Impacts of Impervious Cover on Aquatic Systems* (Center for Watershed Protection, 2003) indicates that in-stream water quality declines when watershed impervious cover exceeds ten percent.

Based on this information, MDE has determined that an impervious area threshold is appropriate for establishing eligibility criteria for government properties for which agencies are required to obtain MS4 general permit coverage. Eligible properties will be those that have greater than ten percent impervious area. This is a conservative threshold when compared to the U.S. Census Bureau's urban area definition for non-residential urban territory, and considers water quality and natural resource protection. This threshold will allow the focus of the small MS4 program to concentrate on the most developed properties, such as military bases, hospitals, prison complexes, and highways, and is consistent with the intent of federal regulations.

MS4s eligible for coverage under this general permit include those properties that:

1. Are owned or operated by the State of Maryland or the U.S. and located within an urbanized area; and

2. Serve developed land area greater than five acres and have at least ten percent impervious area property wide; or

3. Are those properties already covered under an NPDES small MS4 Phase II general permit.

State and Federal MS4 General Permit Waiver Criteria

MDE may grant a waiver from permit coverage if a State or federal agency does not own or operate a system of conveyances on a property, consistent with the intent of EPA guidelines described above. The owner or operator must demonstrate that the property:

1. Is comprised of very discrete areas, such as individual buildings. For example, a small property containing few buildings that have associated parking and driveways with storm drains directly connected to a surrounding MS4 may be eligible for a waiver. On the other hand, properties with numerous buildings, interior roads, and interior storm sewer infrastructure would not qualify for a waiver; and

2. Does not discharge a significant amount of pollutants from its MS4; or

3. Is not a military base, large hospital complex, prison complex, highway, or thoroughfare, and meets MDE's waiver criteria one or two above.

A State or federal agency that owns or operates any property that meets the eligibility criteria above and is not eligible for a waiver must file an NOI and obtain coverage under the NPDES program and comply with all terms and conditions of this MS4 permit. A list of potential State and federal agencies that may be affected by the eligibility criteria is available in the general permit. Permittees may file joint applications and share responsibilities in an effort to efficiently comply with permit requirements.

Summary

In accordance with the CWA, the criteria described above will require general permit coverage for the small municipalities and State and federal properties that have the greatest likelihood of causing discharge of polluted stormwater runoff. Regulating these small MS4s under the NPDES program will allow implementation of stormwater programs to protect water quality. MDE will consider additional information from municipal, State, or federal MS4 owners or operators regarding eligibility of permit coverage, such as high population and growth areas, as well as whether a system discharges to sensitive waters, is contiguous to other regulated systems, or is a significant contributor of pollutant loadings to a physically interconnected MS4 that is regulated by the NPDES program.

Table A.2. Federal Agencies Potentially Eligible for Permit Coverage

Federal Agency	Property Name
Amtrak	Multiple properties
Architect of the Capitol	Library of Congress*
Army Reserves	1SG Adam S Brandt Memorial (Curtis Bay)*, Jachman USARC*, Jecelin USARC #1*, Prince George's County Memorial USARC*
Dept of Agriculture	Beltsville Agricultural Research Center* and National Plant Germplasm & Biotechnology Lab*
Dept of Defense, Air Force	Joint Base Andrews*
Dept of Defense, Army	Aberdeen Proving Grounds*, Fort Detrick*, Adelphi Lab*, Fort George G. Meade*, Washington Aqueduct*, and multiple properties
Dept of Defense, Navy	Indian Head*, Bethesda*, Carderock*, Naval Academy*, and multiple properties
Federal Bureau of Prisons	Multiple properties
National Security Agency	Fort Meade* and Friendship Annex
Dept of Homeland Security	FLETC Cheltenham Training Center* and multiple properties
National Park Service	Multiple properties
Dept of Veterans Affairs (VA)	Multiple properties (VA hospitals)
General Services Administration	Multiple properties
National Aeronautics and Space Administration	Goddard Space Flight Center*
National Institutes of Health	Bethesda Campus* and multiple properties
National Institute of Standards & Technology	Gaithersburg Campus*
Smithsonian Support Center	Suitland property
U.S. Coast Guard	Multiple properties
U.S. Postal Service	William F. Bolger Center* and multiple properties

* Indicates a federal property or agency currently regulated under the Phase II small MS4 program

Table A.3. State Agencies Potentially Eligible for Permit Coverage

State Agency	Property Name
MD Air National Guard	Multiple properties*
MD Army National Guard	Multiple properties*
MD Aviation Authority	Martin State Airport* and multiple properties
MD Dept of General Services	Ellicott City District Court* and multiple properties
MD Dept of Health	Multiple properties
MD Dept of Juvenile Services	Multiple properties
MD Dept of Public Safety & Correctional Services	Multiple properties
MD Dept of Transportation, Motor Vehicle Administration	Multiple properties* including Glen Burnie*
MD Dept of Transportation, Port Administration	Multiple properties*
MD Dept of Transportation, Transit Administration	Multiple properties*
MD Dept of Transportation, Transportation Authority	Multiple properties*
MD Food Center Authority	Multiple properties
MD National Capital Parks & Planning	Montgomery* and Prince George's Parks
MD School for the Deaf	Columbia and Frederick campuses
MD Stadium Authority	Camden Yards Sports Complex*
MD State Police	Multiple properties
Universities	Towson University*, University of Maryland - College Park*, and numerous additional campuses
Washington Metropolitan Area Transit	Multiple Metro stations*
Washington Suburban Sanitary Commission	Multiple properties*

* Indicates a State property or agency currently regulated under the Phase II small MS4 program

APPENDIX B

Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems

Appendix B

Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems

The Maryland Department of the Environment (MDE) has issued two general discharge permits for small Municipal Separate Storm Sewer Systems (MS4s): one for small municipalities and another for State and federal agencies. These two permits require that management programs be developed to effectively control the discharge of pollutants from stormwater runoff and improve water quality. These small MS4 general permits are issued in accordance with the Clean Water Act (CWA) and corresponding National Pollutant Discharge Elimination System (NPDES) regulations, 40 Code of Federal Regulations (CFR) § 122.26. The permits establish the minimum requirements for municipal and State and federal agencies eligible for coverage under the NPDES program. This appendix provides guidance and additional information related to compliance with permit requirements. The guidance is organized into three sections as follows:

Section I: *Describes management options for permit compliance;*

Section II: *Provides guidance for developing an illicit discharge detection and elimination program; and*

Section III: *Provides guidance for developing and implementing a restoration program to meet Chesapeake Bay water quality goals by 2025.*

Section I. Management Options for Permit Compliance

According to 40 CFR § 122.30, the U.S. Environmental Protection Agency (EPA) strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting water quality and restoring aquatic ecosystems. This regulation offers flexibility to regulated owners and operators for complying with permit requirements. Therefore, the following options may be considered by small MS4s during planning and implementation efforts. This will allow government agencies and small municipalities to combine resources and collaborate with other NPDES programs to most effectively and efficiently achieve the water quality goals intended in the CWA.

A. Options for filing a Notice of Intent (NOI) Application.

MDE will allow multiple options for filing an NOI to receive permit coverage. An NOI application may represent an individual government property or multiple properties owned or operated by a single agency. If an NOI represents all storm sewers owned, operated, or maintained by a single agency, the application must specify each individual property to be covered under the permit.

B. Qualifying Local Programs (State or local).

An applicant may develop programs to comply with all minimum control measures independently, or rely on another responsible entity, or rely on a qualifying local program to comply with permit requirements. Maryland has existing State statutes and local ordinances in place that already require implementation of specific management measures that are more stringent than the conditions in 40 CFR § 122. Therefore, the statewide regulatory requirements under the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland for erosion and sediment control and Title 4, Subtitle 2 for stormwater management are considered to be "qualifying local programs." Compliance with these laws will meet the "Construction Site Stormwater Runoff Control" and "Post Construction Stormwater Management" permit requirements. The permittee remains responsible for the implementation of these measures through compliance with Maryland's erosion and sediment control and stormwater management laws.

C. Sharing Responsibility.

A permittee may rely on another entity such as a State, federal, or municipal partner to satisfy one or more of the permit obligations. All permit obligations of each entity must be noted in the NOI submitted to MDE according to Part II of this general permit and 40 CFR § 122.35. Other responsible entities must implement control measures that are at least as stringent as the corresponding requirements found in this NPDES general permit. Additionally, the other entity must agree to implement the minimum control measures on the permittee's behalf. However, the permittee remains responsible for all regulatory obligations. Therefore, MDE encourages the permittee to enter into a legally binding agreement such as a memorandum of understanding with the other entity to minimize uncertainty about compliance with the permit. This information must be specified in the NOI (Appendix C).

Section II. Illicit Discharge Detection and Elimination (IDDE) Program Guidance

Small municipalities and State and federal agencies covered under this NPDES MS4 permit are required to implement an IDDE program. The goal of this program is to find and eliminate pollutants entering the MS4. IDDE program activities include mapping the stormwater conveyance system, inspecting outfalls to discover polluted discharges, investigating the source of pollution, and taking steps to eliminate the discharge, which may include enforcement actions. Permittees are required to develop standard operating procedures (SOPs) that detail the steps to implement these activities. This section provides guidance that permittees may use as a starting point to develop and implement their programs.

A discharge to an MS4 is illicit if it is not composed entirely of stormwater (40 CFR § 122.26(b)(2)). Illicit discharges can originate from a number of different types of sources, including incorrect plumbing, broken infrastructure, inappropriate business practices, and illegal dumping. For example, sanitary sewer lines or car wash drains may be connected to the MS4 instead of the sanitary sewer system. Drinking water lines or sanitary sewer pipes may be broken and leaking effluent into the MS4. Businesses may be inappropriately washing vehicles, allowing wash water to drain into stormwater inlets. Illicit discharges may also result from purposeful dumping of pollutants into an MS4.

A. Mapping

As part of their IDDE programs, permittees must develop a map of the MS4 that they own or operate. Map features must include stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges. As defined in 40 CFR § 122.26(b)(9), an outfall is a point source "at the point where a municipal separate storm sewer discharges to waters of the United States" (see Figure B.1). Mapping outfalls, stormwater conveyances, and stormwater BMPs will assist the permittee with tracking the source of a suspected illicit discharge. In this permit term, permittees may prioritize their initial mapping efforts to areas with a higher potential to pollute, such as areas that are urbanized, commercial, or rapidly developing.

Figure B.1.*The above outfalls are examples of different types of outfalls that must be identified on MS4 maps and included in the permittee's screening program. Areas with highly developed land uses (e.g., commercial business complexes, aging infrastructure) have a greater potential to pollute and must be prioritized. Structural stability and erosion concerns should also be identified as part of an effective IDDE program.*

If submitting a map would compromise the operational security of a State or federal agency, the agency may indicate that the map is available for MDE review on site.

B. Standard Operating Procedures

Permittees must develop SOPs that outline methods to conduct dry weather outfall inspections, locate

the source of a suspected illicit discharge, and address illicit discharges. Program implementation as detailed in the SOPs can be prioritized in the areas that have a higher potential to pollute (e.g., urbanized, commercial, or areas with older stormwater infrastructure), and must include a long-term schedule for completing a property(ies)-wide map. The SOPs must identify the number of outfalls to be investigated per year and include an inspection checklist to document the outfall screening. A good resource for developing the IDDE program and field checklist is found in the 2004 *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, authored by the Center for Watershed Protection and Dr. Robert Pitt. Figure B.2, the "Outfall Reconnaissance Inventory/Sample Collection Field Sheet", is one of several tools permittees may choose to use in their own programs. This checklist will assist a permittee in identifying any potential illicit discharge, determining the need for a more in-depth investigation, and noting any other outfall maintenance needs (e.g., cracks, erosion, excessive vegetation).

A Phase II MS4 municipality must screen 20% of total outfalls per year, up to 100 outfalls. Screening efforts for State and federal properties are tiered based on property size. For small properties (i.e., less than 100 acres), all outfalls must be screened each year. Medium size properties (i.e., 100 - 2,000 acres) must screen 50% of total outfalls. Large properties (i.e., more than 2,000 acres) must screen 20% per year, up to 100 outfalls. A tiered approach takes into consideration the scale of each State or federal property. For example, a small property with a total of five outfalls is expected to screen all five outfalls per year. Likewise, larger properties may screen a smaller percentage per year to account for the increased effort a greater number of outfalls would require.

C. Illicit Discharge Investigation

A dry weather screening is an outfall inspection conducted at a time when rain has not occurred recently (e.g., within the past 48 hours). During a period of dry weather, it is expected that any observed flow would be the result of some type of discharge other than precipitation. In some cases, the permittee may find that an outfall is not a useful inspection point to detect an illicit discharge (e.g., outfall is submerged, significant groundwater flow is present, the outfall serves a large drainage area). In these cases, the permittee has the discretion to pick an inspection point further up the system (e.g., a manhole or inlet, inflow to a stormwater BMP, or point source discharge in a commercial or industrial area) and document the adjustment in the inspection report. MDE encourages approaches where the permittee conducts screenings closer to the source of potential illicit discharges. When a dry weather flow is observed, a permittee must initiate an investigation to discover the source. If the source is determined to be illicit, the permittee is required to take corrective measures to eliminate the discharge and initiate enforcement actions when necessary. Two examples of illicit discharge investigations are provided below to illustrate outfall identification, mapping, and discharge source tracking. These examples are taken from a Phase I MS4 annual report.

Example 1: Illicit Discharge Investigation for Discovered Wash Water

During a dry weather screening of Outfall 1, a flow was observed dripping into green sudsy water that had an oily odor. A chemical test indicated a high level of detergents. In the process of tracking the source, a high level of detergents was detected at Outfall 2, as well. The source was traced to a car wash that was believed to be discharging wash water into the MS4.

Example 2: Illicit Discharge Investigation for Detergents

A dry weather flow was discovered at the outfall of a BMP. A chemical test revealed the presence of chlorine and a high pH. A chemical test at the pond inflow indicated a high level of detergents. Upslope manholes were inspected to determine the path of the discharge. Starting at the point of discharge and inspecting contributing segments of stormwater conveyance pipes (sometimes called a trunk investigation), a single point of flow that exceeded the acceptable level of detergents was isolated. The investigation revealed that the source of the discharge was located within the segment connected to inlets protected by berms on a private commercial business property yard.

D. Illicit Discharge Elimination and Enforcement

After identifying the source of an illicit discharge, a municipal permittee is required to provide notice to the property owner and require that the responsible party takes appropriate action to eliminate the source of the illicit discharge. The permittee may exercise its legal authority to access the property and utilize enforcement. State and federal permittees are required to take appropriate action to eliminate the source of the illicit discharge. These IDDE investigation procedures and enforcement actions must be specified in the permittee's SOPs.

Figure B.2. Outfall Reconnaissance Inventory/Sample Collection Field Sheet
(from Center for Watershed Protection and Pitt, 2004)

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Eliptical ☐ Box ☐ Other: ____	☐ Single ☐ Double ☐ Triple ☐ Other: ____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: ____	☐ Trapezoid ☐ Parabolic ☐ Other: ____		Depth: ____ Top Width: ____ Bottom Width: ____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No *If No, Skip to Section 5*				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Figure B.2. Outfall Reconnaissance Inventory/Sample Collection Field Sheet
(from Center for Watershed Protection and Pitt, 2004)

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only
Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floatable sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls
Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1.	Sample for the lab?	☐ Yes	☐ No		
2.	If yes, collected from:	☐ Flow	☐ Pool		
3.	Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM	☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

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Section III. Guidance for Impervious Area Restoration Program Development

Small MS4 owners and operators covered under this NPDES general permit are required to commence impervious area restoration for twenty percent of existing developed lands that have little or no stormwater management by the end of the permit term. This requirement supports the Maryland Watershed Implementation Plan (WIP) strategy for achieving nutrient and sediment load reductions on small MS4 properties to address Chesapeake Bay and local total maximum daily loads (TMDLs). Guidance for implementing restoration activities is available in the MDE document *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* hereafter referred to as the Accounting Guidance. While the most recent version of the Accounting Guidance should be referenced by all stormwater permittees, the method below highlights the most relevant information from that document for small MS4 owners and operators. This provides a clear outline for compliance with impervious area restoration for small MS4s.

A. Establishing Baselines: Impervious Surface Area Assessment

Permittees must develop an impervious surface area baseline assessment and delineate the areas that are treated with acceptable water quality BMPs to the maximum extent practicable (MEP). This analysis will provide the baseline used to calculate the twenty percent restoration requirement. The following information is needed for this assessment:

1. **Land Use and Impervious Surface Area Analysis:** Evaluate the total impervious surface within a permittee's regulated permit area using the best available land use data that can be generated from the same source from year to year. BMPs designed in compliance with the water quality volume (WQ_v) treatment criteria found in the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual) are considered to provide water quality treatment to the MEP. Therefore, the impervious area draining to BMPs designed and approved in accordance with the Manual does not need to be counted toward impervious area restoration requirements.

2. **Urban BMPs:** All municipalities and State and federal agencies are required to develop and maintain an Urban BMP database in accordance with Tables B.1.a, b, and c. The database identifies all existing stormwater BMPs along with design, construction, and inspection information. This database and accompanying field inspections must be used to verify the level of water quality treatment provided for an existing BMP. The following guidelines can be used to determine the level of water quality treatment provided by existing stormwater BMPs:

    - BMPs constructed according to the Manual for new development after the baseline year of 2002 provide acceptable water quality treatment. The impervious areas draining to these BMPs do not need to be counted in the impervious area required to be restored.

- BMPs implemented for new development after 2002 may not be used for credit toward impervious area restoration.
- BMPs implemented prior to 2002 may provide some water quality treatment. These include wet ponds, wetlands, and infiltration BMPs. In these cases, the original design parameters for each BMP are needed to verify the level of treatment provided. The impervious area treated is based on the volume provided in relation to the WQ_v (i.e., 1 inch of rainfall). For example, if a BMP was designed to treat a half inch of rainfall, the amount of impervious area treated is 50% of the actual impervious area draining to the BMP.
- BMPs designed for flood control do not provide water quality treatment. The impervious area draining to these BMPs must count toward the baseline.
- Where plans, design specifications, and complete inspection and maintenance records are not available, BMPs are not considered to provide acceptable water quality treatment. Impervious areas draining to these structures must count toward the baseline.
- The impervious area treated by BMPs implemented for retrofitting or redevelopment between January 1, 2002, and December 31, 2005, may be subtracted from the baseline number.

A useful tool for an initial assessment is the Stormwater Management by Era approach documented by MDE in 2009. The approach considers four distinct regulatory eras where stormwater management requirements correlate with a certain level of BMP performance. These eras are as follows:

- Prior to 1985. Stormwater management regulations came into effect after this era. Any development constructed in this time period is most likely untreated (unless retrofits were constructed in later years).
- Between 1985 and 2002. BMPs implemented during this time addressed flood control; however, individual BMP design criteria must be used to verify whether water quality is provided.
- Between 2002 and 2010. The Manual was fully implemented during this era. New development that meets the water quality requirements of the Manual is considered to have acceptable treatment.
- Post-2010. ESD to the MEP is required. Any development project that complied with State regulations in the third and fourth eras is considered to have acceptable water quality treatment.

This approach was used in the development of Maryland's WIP for meeting Chesapeake Bay TMDLs. It can be used for identifying BMPs that provide water quality so that the treated impervious areas may be deducted from the baseline assessment. The stormwater management by era approach can also be valuable for long term planning and for targeting potential areas suitable for retrofitting.

3. **Impervious Surfaces in Rural Areas:** Many rural roads and residential subdivisions have open vegetated drainage systems, impervious area disconnections, and sheetflow to conservation areas that filter and infiltrate

stormwater runoff. Each permittee must conduct a systematic review of existing rural areas to determine the extent of water quality treatment already provided. This review will also aid in identifying opportunities for retrofitting.

Land use designation can help in selecting areas that are already adequately managed. For example, public roads and residential subdivisions in predominantly rural areas with low population densities (e.g., one or fewer dwelling unit per three acres) may have water quality design features equivalent to those defined in the Manual. Typically, areas that are less than fifteen percent impervious may meet ESD requirements according to the criteria for nonstructural practices in the Manual. These practices include rooftop disconnect, non-rooftop disconnect, and sheetflow to conservation areas. These practices promote sheetflow or treatment through vegetative filtering of runoff. If a permittee documents where conditions meet the Manual's criteria and adequate treatment is provided, then the impervious acres in these areas may be excluded from the baseline. Acceptable documentation can include a comprehensive GIS desktop analysis of land use and zoning conditions and local runoff patterns. Sufficient evidence to justify assumptions in the analysis must be included for MDE review and approval.

4. **Total Impervious Acres Not Treated to the MEP:** Subtract total impervious areas draining to water quality BMPs and nonstructural practices (determined above) from the total impervious land area owned or operated by the permittee as of the baseline year selected. Restoration requirements will apply to twenty percent of the remaining untreated impervious area at the start of the permit term.

B. Criteria for Impervious Area Restoration Crediting

The water quality objective for impervious area restoration is based on treating the WQ_v (i.e., 1 inch of rainfall) using BMPs defined in the Manual. Because of numerous constraints inherent in the urban environment, meeting the design standards specified in the Manual may not always be achievable. In these cases, retrofit opportunities that currently achieve less than the WQ_v must be pursued where they make sense. Applying impervious area treatment credit for these projects will be based on the proportion of the full WQ_v treated.

Where stormwater retrofits provide water quality treatment for existing unmanaged urban areas, impervious area restoration credit may be applied according to the following criteria:

- An acre for acre impervious credit will be given when a BMP is designed to provide treatment for the full WQ_v (i.e., 1 inch of rainfall); or
- A proportional acreage of credit will be given when less than the WQ_v is provided: (percent of the WQ_v achieved) x (drainage area impervious acres).
- When a BMP is designed to treat greater than one inch of rainfall, additional credit may be granted in accordance with the Accounting Guidance.

C. Acceptable Restoration Strategies

The following are acceptable restoration strategies for receiving impervious area restoration credit. Restoration BMPs may be implemented anywhere within the boundary of the property(ies). Permittees may submit alternative actions to comply with impervious area restoration requirements, subject to MDE approval.

1. **New Retrofit BMPs:** This includes new stormwater BMPs installed to provide water quality treatment for existing developed lands with no controls. Acceptable water quality BMPs and design criteria are provided in the Manual. When a BMP from this list is used and the full WQ_v is provided, the total impervious surface within the drainage area may be credited toward restoration.

2. **Existing BMP Retrofits:** These are existing BMPs that were not originally designed to provide water quality treatment (e.g., detention pond). As discussed previously, the impervious area draining to these BMPs may not be counted as treated. However, when retrofitted to an acceptable water quality BMP, such as converting a dry pond to a wetland, or providing additional WQ_v storage; the impervious acres draining to the BMP may be credited as restored.

3. **BMP Enhancement and Restoration:** Routine inspection and maintenance is essential to ensure optimal water quality treatment of any BMP. When BMP maintenance has not been performed, substantial structural problems will occur over time, undermining any water quality benefit intended from the practice. Therefore, when BMPs are not properly maintained they may not be considered to provide effective treatment for impervious surfaces. If credit was originally taken for water quality treatment, then future MS4 Progress Reports must remove that credit until the BMP is restored.

   MDE has published maintenance guidance for each BMP and specified time periods for inspection and corrective action. This guidance is posted on the MDE stormwater webpage. In addition, the Natural Resources Conservation Service of Maryland has published *Pond Code 378*, which includes an inspection checklist for ponds. Code 378 identifies areas that will cause significant problems if left unaddressed. When inspections and repairs are performed according to these guidelines (or others required by local review authorities), then the BMP is considered properly maintained.

   When a BMP has failed and significant structural problems exist, the BMP must be restored to receive proper restoration credit. Restoring a failed BMP must include providing the full WQ_v, and may entail increasing storage capacity, providing forebays, increasing the flow path by installing berms or other design enhancements, re-planting with desirable wetland and native vegetation, or significant sediment clean outs. This restoration credit may apply to failed structures that need water quality enhancements in accordance with Chapter 3 of

MDE's Manual. This is intended to ensure that BMPs are functioning as designed and that routine maintenance is addressed in order for the permittee to keep the credit.

4. **Alternative Stormwater BMPs**: The Accounting Guidance recognizes that new and innovative approaches to stormwater management are being developed on a continuous basis. Therefore, several alternative BMPs are documented that may be used for the purpose of impervious area restoration. Some of these alternative BMPs include street sweeping, buffer planting, reforestation, stream restoration, inlet cleaning, shoreline stabilization, and others. A list of these alternative BMPs is provided in Table B.3, below. The Accounting Guidance references acceptable criteria for BMP implementation and provides a method for translating pollutant load reductions from alternative BMPs into an impervious acre equivalent in order to credit these practices toward restoration requirements. When innovative practices are approved through Chesapeake Bay Program (CBP) expert panels or by MDE, the associated credits and design criteria may also be used for restoration credit.

   Impervious acres treated must be reported according to the "impervious acre equivalent" identified in Table B.4 for each alternative practice. As an example, where stream restoration is proposed, the impervious acre equivalent is equal to 0.01 acre per linear foot. This means that when 1,000 linear feet of stream are restored, then 10 acres of credit may be granted toward impervious area restoration.

5. **Trading**: MDE supports trading as a cost effective means for achieving pollutant load reductions. Adoption of new trading regulations in Maryland will include public participation and approval by EPA. Therefore, trading with other source sectors may be an option after formal regulatory procedures are satisfied.

6. **Redevelopment:** Maryland's stormwater management regulations for redeveloped lands are intended to gain water quality treatment on existing developed lands while supporting initiatives to improve urban areas. Therefore, when water quality treatment practices are provided to address State redevelopment regulations, the existing impervious area treated may be credited toward restoration requirements. In most cases the credit will be equivalent to 50% of the existing impervious area for the project. When additional volume above the regulatory requirements is provided, additional credit will be accepted on a proportional basis as described in Appendix B, Section III.A, above.

7. **Establishing Partnerships and Master Planning**: As discussed above, redevelopment activities may be credited toward restoration requirements. This presents an opportunity to develop future growth master plans to provide water quality treatment beyond regulatory requirements. This can be a cost effective solution for addressing Maryland's stormwater management regulations while

incorporating impervious area restoration initiatives into long-range planning efforts.

In addition, government agencies have the opportunity to collaborate with other watershed groups, and State, federal, or local entities to combine resources and facilitate implementation of restoration activities. As discussed in Section I of Appendix B, this could be a formal agreement with another entity and outlined in the NOI application, or this may be a partnership established for an individual project. Because the intent of the small MS4 general permit is to encourage partnerships to achieve the water quality goals of the CWA, MDE will remain flexible when any permittee pursues this option.

D. Urban Best Management Practice (BMP) Database and Codes

The data tables below provide a tracking system for all BMPs. BMP reporting requires populating data from three related tables as follows:

1. Table B.1.a: Information in this table must be completed for all structural, ESD, and alternative BMPs.

2. Table B.1.b: This table provides more specific information related to structural and ESD practices. The table is linked to Table B.1.a using the common field BMP_ID.

3. Table B.1.c: This table provides more specific information related to alternative BMPs. The table is linked to Table B.1.a using the common field BMP_ID.

Data must be submitted in Microsoft Excel spreadsheet format. A map using geographic information system (GIS) software is optional. An Excel spreadsheet template is provided on MDE's Phase II webpage to assist permittees in developing the database.

Some data for older BMPs may not be available, as the information was not required at the time of BMP construction. In these cases, an explanation must be provided. MDE expects that data development and verification will be an ongoing process throughout the permit term and baselines may be adjusted accordingly. Permittees may submit an adjusted impervious area baseline in MS4 Progress Reports to reflect updated information.

Reporting for ESD Practices

ESD practices may be entered as a single structure or as a system of practices. When numerous ESD practices are installed to collectively address stormwater requirements for a project, permittees may choose to enter these data as a system of ESD practices. Data for ESD systems may be captured by specifying:

- The common BMP_ID field will link ESD data in Table B.1.a to Table B.1.b.
- Table B.1.a requires Maryland grid coordinates for each BMP. For ESD systems this location must represent the most downstream point or practice.

- Table B.1.a requires the BMP type (BMP_Type). This is the most predominant BMP type in the ESD system.
- Table B.1.b requires the total number of BMPs (NUM_BMPS) implemented to address stormwater requirements for the ESD system of practices.
- Table B.1.b requires the total rainfall treated (PE_ADR). This represents the total rainfall treated for the collective number of BMPs in the ESD system.

Inspections for ESD Systems

Projects that meet the ESD to MEP requirement may be inspected as a collection of practices. Inspection and maintenance data in Table B.1.a. for ESD systems will represent the performance of the system of practices versus each individual practice. This is consistent with Code of Maryland Regulations 26.17.02.

Table B.1.a BMP Reporting Requirements

Description: This table is to be completed for all structural, ESD, and alternative BMPs.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	Unique MDE BMP ID. (Ex: RO12BMP000001, Table B.2.a) (Ex: AOC12BMP00001, Table B.2.b)
REPORTING_YEAR	TEXT	4	State fiscal year (YYYY)
MD_NORTH	NUMERIC	8	Maryland grid coordinate Northing (NAD 83 meters)
MD_EAST	NUMERIC	8	Maryland grid coordinate Easting (NAD 83 meters)
PERMIT_NUM	TEXT	10	General Discharge Permit Number (municipal permittees use: 13-IM-5500. State and federal permittees use 13-SF-5501)
LOCAL_BMP_ID	TEXT	25	Local or State/federal project approval number (optional info)
BMP_NAME	TEXT	100	Use BMP names (e.g., Glendale Pond)
BMP_CLASS	TEXT	1	Use BMP classification noted in Table B.3 below (E, S, or A)
BMP_TYPE	TEXT	4	Use BMP Type or most predominant type in Table B.3 below
CON_PURPOSE	TEXT	4	Enter code for New Development (NEWD), Redevelopment (REDE), or Restoration (REST), Conversion (CONV)
LAST_INSP_DATE	DATE	8	Last inspection date (MM/DD/YYYY)
BMP_STATUS	TEXT	1	Enter P = Pass or F = Fail for BMP inspection status
MAIN_DATE	DATE	8	Last date maintenance was performed (MM/DD/YYYY); field is conditional on the BMP failing an inspection
REINSP_DATE	DATE	8	Next planned inspection date (MM/DD/YYYY)
REINSP_STATUS	TEXT	1	Re-inspection status (i.e., Pass/Fail); This is a follow-up inspection after a failed BMP has undergone maintenance
GEN_COMMENTS	TEXT	255	General comments - optional information

Table B.1.b Reporting Requirements for ESD and Structural Practices

Description: More specific data related to ESD and structural BMPs is populated in this table.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	BMP_ID linking record to BMP_ID in Table B.1.a
NUM_BMPS	NUMERIC	2	Sum total of BMPs used to meet P_E (enter 1 for a single BMP)
ON_OFF_SITE	TEXT	10	Is the BMP located on the project site or off site
CONVERTED_FROM	TEXT	13	If conversion of existing BMP then prior BMP_ID must be entered here. Conditional on Con_Purpose = CONV
BMP_STATUS	TEXT	10	Enter "ACT" for active or "REM" for removed
BMP_DRAIN_AREA	NUMERIC	6	Total drainage area (acres) to a single BMP or ESD system
IMP_ACRES	NUMERIC	8	Total impervious area (acres) to a single BMP or ESD system
PE_ADR	NUMERIC	8	P_E addressed: Water quality treatment reported as rainfall (inches) treated for a single BMP or system of ESD practices within the drainage area
APPR_DATE	DATE	8	Permit approval date (MM/DD/YYYY)
BUILT_DATE	DATE	8	Construction completion date (MM/DD/YYYY)
GEN_COMMENTS	TEXT	255	General comments - optional information

Table B.1.c Reporting Requirements for Alternative BMPs

Description: More specific data related to alternative BMPs is populated in this table.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	BMP_ID linking record to BMP_ID in Table B.1.a
PROJECT_DESC	TEXT	75	Description of project
PROJECT_LENGTH	NUMERIC	8	Length of stream restoration, shoreline or outfall stabilization in feet; Field is conditional on BMP_TYPE = OUT, SHST, or STRE
ACRES_SWEPT	NUMERIC	6	Acres swept for street sweeping (one pass); Field is conditional on BMP_TYPE = MSS or VSS
TIMES_SWEPT	NUMERIC	2	Number of times per year area is swept; Field is conditional on BMP_TYPE = MSS or VSS
ACRES_PLANTED	NUMERIC	6	Acres of trees planted; Field is conditional on BMP_TYPE = FPU or IMPF
IMP_ACR_ELIM	NUMERIC	6	Impervious acres removed to pervious land (IMPP); Field is conditional on BMP_TYPE = IMPP
EQU_IMP_ACR	NUMERIC	6	Equivalent impervious acres treated by alternative BMP (total acres of credit for the alt BMP)
INSTALL_DATE	DATE	8	BMP completion date (MM/DD/YYYY); Field is conditional on BMP_TYPE = OUT, SHST, STRE, SEPC, SEPD, or SEPP
IMPL_COMP_YR	TEXT	4	Year (calendar) of completed Project (YYYY); Field is conditional on BMP_TYPE = MSS, VSS, CBC, SDV, IMPF, IMPP, or FPU
GEN_COMMENTS	TEXT	255	General comments - optional information

BMP ID Field

The BMP_ID is a unique identifier assigned to each BMP or system of BMPs. An example of how to populate the BMP_ID field for a municipality using the required 13 characters is provided:

County or Municipal code + 2 digit year + BMP identifying code + 6 digit sequential number = 13 character BMP_ID code.

Table B.2.a

Municipality: City of Rockville	*RO*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*000001*
BMP_ID	***= RO12BMP000001***

County or Municipal Codes for Phase II Reporting:

Jurisdiction	Code
Aberdeen	AB
Annapolis	AN
Bel Air	BE
Bowie	BO
Calvert County	CV
Cecil County (includes North East, Perryville, and Rising Sun)	CE
Easton	EA
Elkton	EL
Frederick County (includes Brunswick, Emmitsburg, Middletown, Myersville, Thurmont, and Walkersville)	FR
City of Frederick	FC
Gaithersburg	GA
Hagerstown	HG
Havre de Grace	HV
Indian Head	IH
La Plata	LP
Queen Anne's County	QA
Rockville	RO
Takoma Park	TP
Salisbury	SI
St. Mary's County	SM
Wicomico County (includes Fruitland)	WI
Washington County (includes Boonsboro, Smithsburg, and Williamsport)	WA

State and federal permittees are also required to use a 13 character BMP_ID. Suggested agency codes are listed in the Excel spreadsheet template. If a permittee would like to use a different agency code than found in the template, MDE must approve that alternative agency code to ensure that it is not already in use.

Examples of how to populate the BMP_ID field for a State or federal permittee using the required 13 characters is provided:

Table B.2.b

Agency: Architect of the Capitol	*AOC*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*00001*
BMP_ID	***= AOC12BMP00001***

Agency: Maryland Army National Guard	*MARNG*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*001*
BMP_ID	***= MARNG12BMP001***

Table B.3 BMP Database Codes: BMP Class and BMP Type

BMP Class	BMP Type Code	BMP Type
Alternative Surfaces (A)		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
Nonstructural Techniques (N)		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
Micro-Scale Practices (M)		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretention
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
Ponds (P)		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System
S	PPKT	Pocket Pond
S	PMED	Micropool Extended Detention Pond
Wetlands (W)		
S	WSHW	Shallow Marsh
S	WEDW	Extended Detention – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
Infiltration (I)		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
Filtering Systems (F)		
S	FBIO	Bioretention
S	FSND	Sand Filter
S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter

BMP Class	BMP Type Code	BMP Type
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
Open Channels (O)		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
Other Practices (X)		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator
S	XOTH	Other

Alternative BMP Classification, Alternative BMP Type, and Alternative BMP Name

Alt. BMP Class	BMP Type Code	BMP Name
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP
A	NNET	Nutrient Net (Agriculture Trading)
A	POTW	Publicly Owned Treatment Works (WWTP Trading)

Table B.4. Alternative Urban BMPs and Impervious Acre Credit

Alternative BMP	Calculating Impervious Acre Credit[1]	Impervious Acre Equivalent
Mechanical Street Sweeping	Acres swept multiplied by 0.07 = acres of credit	0.07
Regen/Vacuum Street Sweeping	Acres swept multiplied by 0.13 = acres of credit	0.13
Reforestation on Pervious Urban	Acres of reforested land multiplied by 0.38 = acres of credit	0.38
Impervious Urban to Pervious	Acres of reforested land multiplied by 0.75 = acres of credit	0.75
Impervious Urban to Forest	Acres of reforested land multiplied by 1.00 = acres of credit	1.00
Regenerative Step Pool Storm Conveyance (SPSC)[2]	Located in dry or ephemeral channels; credit is based on rainfall depth treated	Varies[2]
Catch Basin Cleaning	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Storm Drain Vacuuming	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Mechanical Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Regen/Vacuum Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Stream Restoration	Linear feet of stream restored multiplied by 0.01 = acres of credit	0.01
Outfall Stabilization	Linear feet of outfall stabilized multiplied by 0.01 = acres of credit; max credit is 2 acres per project	0.01
Shoreline Management	Linear feet of shoreline restored multiplied by 0.04 = acres of credit	0.04
Septic Pumping	Units pumped (annually) multiplied by 0.03 = acres of credit	0.03
Septic Denitrification	Units upgraded (w/denitrification) multiplied by 0.26 = acres of credit	0.26
Septic Connections to WWTP	Units connected to a WWTP multiplied by 0.39 = acres of credit	0.39

1. For more information on calculating credits for alternative BMPs, see *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*.
2. Full impervious area credit is granted when practice treats 1 inch of rainfall. If the full WQ_v is not provided, then the impervious area credit is based on the percentage of 1 inch that is treated. Described in Appendix B, Section III.B.

APPENDIX C

State and Federal Small MS4
Notice of Intent Form
and
Waiver Form

State and Federal Small MS4 Notice of Intent

Maryland Department of the Environment (MDE)

National Pollutant Discharge Elimination System (NPDES)
Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Notice of Intent (NOI) is intended for State and federal agencies applying for coverage under the General Discharge Permit (No. 13-SF-5501) for Small MS4s. Submitting this application constitutes notice that the agency below agrees to comply with all terms and conditions of the general permit. The information required in this NOI must be submitted to:

Maryland Department of the Environment, Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

Contact Information

Permittee Name:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

Signature of Responsible Personnel

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name Signature Date

State and Federal Small MS4 Notice of Intent

Due Date: ☐ **Date of Submission:** ☐

Permittee Information:

Renewal Permittee: ☐

New Permittee: ☐

Check if sharing responsibilities with another entity: ☐ Yes ☐ No

Check if this NOI applies to multiple properties: ☐ Yes ☐ No

Required Information:

1. A brief description of property(ies) for which coverage is being sought (when multiple properties are covered under this general permit, provide a separate attachment identifying the specific information required below for each property):

2. The approximate size of property(ies) in acres: ☐

3. Population (or number of employees): ☐

4. Provide a list of properties owned or operated by the permittee covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit:

5. Describe any programs that the applicant will share responsibilities for compliance with another entity. Describe the role of all parties and include a copy of a memorandum of agreement when applicable:

6. Anticipated expenditures to implement the terms and conditions of the permit:

State and Federal Small MS4 Waiver Application

Maryland Department of the Environment (MDE)

National Pollutant Discharge Elimination System (NPDES)
Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Waiver Application is intended for State and federal agencies applying for a waiver of coverage under the General Discharge Permit (No. 13-SF-5501) for Small MS4s. The information required in this Waiver Application must be submitted to:

Maryland Department of the Environment, Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

Contact Information

Agency Name and Property Name:	
Responsible Personnel:	
Mailing Address:	
Phone Number(s):	
Email address:	
Additional Contact(s):	
Mailing Address:	
Phone Number(s):	
Email address:	

Signature of Responsible Personnel

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name	Signature	Date

State and Federal Small MS4 Waiver Application

Due Date: **Date of Submission:**

Permittee Information

Property(ies) for which the agency is requesting a waiver:

Size and Description of each property:

Justification for Waiver

If requesting a waiver for more than one property, answer all of the following questions on a separate sheet of paper for each additional property.

1. Attach a map of the property showing all directions of stormwater flow (indicate using arrows).

2. Does the site have interior roads? ☐ Yes ☐ No

3. Does the site discharge a significant amount of pollutants from its MS4? ☐ Yes ☐ No

4. If the answer to either Question 2 OR 3 is Yes, explain why the property qualifies for a waiver. Include a description of land use, site activities, storage of materials, and potential on-site pollution sources:

5. Describe any stormwater controls or pollution control programs implemented on the property:

6. Explain why the site will not contribute substantially to the downstream MS4, to justify the waiver request:

APPENDIX D

State and Federal Small MS4 Progress Report

Maryland Department of the Environment (MDE)

National Pollutant Discharge Elimination System (NPDES)
Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Progress Report is required for those State and federal agencies covered under General Discharge Permit No. 13-SF-5501. Progress Reports must be submitted to:

Maryland Department of the Environment, Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Suite 440, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

Contact Information

Permittee Name:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

Signature of Responsible Personnel

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name Signature Date

Reporting Period (State Fiscal Year):

Due Date: **Date of Submission:**

Type of Report Submitted:

Impervious Area Restoration Progress Report (Annual):

Six Minimum Control Measures Progress (Years 2 and 4):

Both:

Permittee Information:

Renewal Permittee:

New Permittee:

Compliance with Reporting Requirements

Part VI of the Small MS4 General Discharge Permit (No. 13-SF-5501) specifies the reporting information that must be submitted to MDE to demonstrate compliance with permit conditions. The specific information required in this MS4 Progress Report includes:

1. Annual: Progress toward compliance with impervious area restoration requirements in accordance with Part V of the general permit. All requested information and supporting documentation must be submitted as specified in Section I of the Progress Report.
2. Years 2 and 4: Progress toward compliance with the six minimum control measures in accordance with Part IV of the general permit. All requested information and supporting documentation shall be reported as specified in Section II of the Progress Report. MDE may request more frequent reporting and/or a final report in year 5 if additional information is needed to demonstrate compliance with the permit.

Instructions for Completing Appendix D Reporting Forms

The reporting forms provided in Appendix D allow the user to electronically fill in answers to questions. Users may enter quantifiable information (e.g., number of outfalls inspected) in text boxes. When a more descriptive explanation is requested, the reporting forms will expand as the user types to allow as much information needed to fully answer the question. The permittee must indicate in the forms when attachments are included to provide sufficient information required in the MS4 Progress Report.

Section I: Impervious Area Restoration Reporting Form

Section I: Impervious Area Restoration Reporting

1. a. Was the impervious area baseline assessment submitted in year 1?
   ☐ Yes ☐ No

   b. If No, describe the status of completing the required information and provide a date at which all information required by MDE will be submitted:

   c. Has the baseline been adjusted since the previous reporting year?
   ☐ Yes ☐ No
2. Complete the information below based on the most recent data:

   Total impervious acres of area covered under this permit:

   Total impervious acres treated by stormwater water quality best management practices (BMPs):

   Total impervious acres treated by BMPs providing partial water quality treatment (multiply acres treated by percent of water quality provided):

   Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales):

   Total impervious acres untreated:

   Twenty percent of this total area (this is the restoration requirement):

   Verify that all impervious area draining to BMPs with missing inspection records is not considered treated. Describe how this information was incorporated into the overall analysis:

3. Has an Impervious Area Restoration Work Plan been developed and submitted to MDE in accordance with Part V.B, Table 1 of the permit or other format?
   ☐ Yes ☐ No

   Has MDE approved the work plan?
   ☐ Yes ☐ No

   If the answer to either question is No, describe the status of submitting (or resubmitting) the work plan to MDE and provide a date at which all outstanding information will be available:

Section I: Impervious Area Restoration Reporting

Describe progress made toward restoration planning, design, and construction efforts and describe adaptive management strategies necessary to meet restoration requirements by the end of the permit term:

4. Has a Restoration Schedule been completed and submitted to MDE in accordance with Part V.B, Table 2 of the permit?
   ☐ Yes ☐ No

   In year 5, has a complete restoration schedule been submitted including a complete list of projects and implementation dates for all BMPs needed to meet the twenty percent restoration requirement?
   ☐ Yes ☐ No

   Are the projected implementation years for completion of all BMPs no later than 2025?
   ☐ Yes ☐ No

   Describe actions planned to provide a complete list of projects in order to achieve compliance by the end of the permit term:

   Describe the progress of restoration efforts (attach examples and photos of proposed or completed projects when available):

5. Has the BMP database been submitted to MDE in Microsoft Excel format in accordance with Appendix B, Tables B.1.a, b, and c?
   ☐ Yes ☐ No

   Is the database complete?
   ☐ Yes ☐ No

   If either answer is No, describe efforts underway to complete all data fields, and a date that MDE will receive the required information:

Section I: Impervious Area Restoration Reporting

6. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):
7. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:
8. List the total cost of developing and implementing impervious area restoration program during the permit term:

Section II: Minimum Control Measures Reporting Forms

MCM #1: Personnel Education and Outreach

1. Does the permittee maintain a process and phone number for the public and/or staff to report water quality complaints?
   ☐ Yes ☐ No

   Number of complaints received: ____

   Describe the actions taken to address the complaints:

2. Describe training to employees to reduce pollutants to the MS4:

3. Describe the target audience(s):

4. Are examples of educational/training materials attached with this report?
   ☐ Yes ☐ No

   Provide the number and type of educational materials distributed:

   Describe how the personnel education program is appropriate for the target audience(s):

5. Describe how stormwater education materials were distributed to the public and/or staff (e.g., newsletters, website):

6. Describe how educational programs facilitated efforts to reduce pollutants in stormwater runoff:

7. Provide a summary of activities planned for the next reporting cycle:

8. List the total cost of implementing this MCM over the permit term:

MCM #2: Public or Personnel Involvement and Participation

1. Describe how the public or personnel involvement and participation program is appropriate for the target audience(s):

2. Quantify and report public and/or staff involvement and participation efforts as shown below where applicable.

   Number of participants at public and/or staff events:

   Quantity of trash and debris removed at clean up events:

   Number of employee volunteers participating in sponsored events:

   Number of trees planted:

   Length of stream cleaned (feet):

   Number of storm drains stenciled:

   Number of public notices published to facilitate public and/or staff participation:

   Number of public and/or staff meetings organized:

   Total number of attendees at all public and/or staff meetings:

   Describe the agenda, items discussed, and collaboration efforts with interested parties for public and/or staff meetings:

   Describe how public and/or staff comments have been incorporated into the permittee's MS4 program, including water quality improvement projects to address impervious area restoration requirements:

   Describe any additional events and activities if applicable:

MCM #2: Public or Personnel Involvement and Participation

3. Provide a summary of activities planned for the next reporting cycle:
4. List the total cost of implementing this MCM for the permit term:

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

1. Does the permittee maintain a map of the MS4 owned or operated by the permittee, including stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges?
   ☐ Yes ☐ No

   If Yes, attach the map to this report and provide a progress update on any features that are still being mapped. (If submitting a map would compromise the operational security of an agency, indicate that the map is available for MDE review on site.) If No, detail the current status of map development and provide an estimated date of submission to MDE:

2. Does the permittee have a policy, or other agency directive, that prohibits illicit discharges?
   ☐ Yes ☐ No

   If Yes, describe the policy utilized for enforcement by the permittee (alternatively, a link may be provided to the permittee's webpage where this information is available). If No, describe the permittee's plan, including approximate time frame, to establish a policy that prohibits illicit discharges into the storm sewer system:

3. Did the permittee submit to MDE standard operating procedures (SOPs) in accordance with Part IV.C of the permit?
   ☐ Yes ☐ No

   If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:

   Did MDE approve the submitted SOPs?
   ☐ Yes ☐ No

   If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:

4. Describe how the permittee prioritized screening locations in areas of high pollutant potential and identify the areas within which screenings were conducted during this reporting period:

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

5. Answers to the following questions must reflect this two-year reporting period.

   How many outfalls were identified on the map? ☐

   How many outfalls were required to be screened for dry weather flows to meet the minimum numeric requirement based on property size? ☐

   How many outfalls were screened for dry weather flows? ☐

   Per the permittee's SOP, how frequently were outfalls required to be screened?

   At what frequency were outfalls screened during the reporting period?

   How many dry weather flows were observed? ☐

   If dry weather flows were observed, how many were determined to be illicit discharges? ☐

   Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:

6. Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:

7. Is the permittee maintaining all IDDE inspection records and are they available to MDE during site inspections?
   ☐ Yes ☐ No

8. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:

9. Attach to this report specific examples of educational materials distributed to the public and/or staff related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public and/or staff education

MCM #3: Illicit Discharge Detection and Elimination (IDDE)

materials and submit examples with the next Progress Report:

10. Specify the number of employees trained in illicit discharge detection and spill prevention: ☐

11. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next Progress Report:

12. List the cost of implementing this MCM during this permit term:

MCM #4: Construction Site Stormwater Runoff Control

1. Does the permittee have a process for receiving, investigating, and resolving complaints from interested parties related to construction activities and erosion and sediment control?
   ☐ Yes ☐ No

   Describe the process:

   Provide a list of all complaints and a summary of actions taken to resolve them:

2. Total number of active construction projects within the reporting period: _____

   Provide a list of all construction projects and tabulate the total disturbed area:

3. Total number of violation notices issued by MDE related to this MCM on the agency's property: _____

   Describe the status of enforcement activities:

   Describe how the permittee communicates and collaborates with MDE to maintain compliance with this MCM for all active construction projects on the agency's property:

   Are erosion and sediment control inspection records retained and available to MDE during field review of the agency MS4 program?
   ☐ Yes ☐ No

   If No, explain:

4. Number of staff trained in MDE's Responsible Personnel Certification: _____

5. Describe the coordination with other entities regarding implementation of this MCM:

MCM #4: Construction Site Stormwater Runoff Control

6. List the total cost of implementing this MCM over the permit term:

MCM #5: Post Construction Stormwater Management

1. Has an Urban BMP database been submitted in accordance with the database structure in Appendix B, Tables B.1.a, b, and c as a Microsoft Excel file?
   ☐ Yes ☐ No

   Describe the status of the database, efforts to complete all data fields, and provide a date as to when the required information will be submitted to MDE:

2. Total number of plans submitted to MDE for review and approval: ____

   Total number of as-built plans submitted to MDE: ____

   Number of submitted as-built plans approved by MDE: ____

3. Total number of BMPs located on each property covered under the general permit (list individual property, and total BMPs for that property – provide separate attachment if necessary):

   Does the permittee perform inspections for all structural BMPs in accordance with the Dam Inspection Checklist in Maryland Pond Code 378 at least once every three years?
   ☐ Yes ☐ No

   If No, describe efforts to train staff and develop a program to perform these required inspections on a triennial basis:

   Are BMP inspection records retained and available to MDE during field review of local programs?
   ☐ Yes ☐ No

4. Provide a summary of routine maintenance activities for all BMPs:

   Are BMP maintenance procedures consistent with maintenance requirements on MDE approved plans?
   ☐ Yes ☐ No

MCM #5: Post Construction Stormwater Management

Are completed BMP maintenance checklists available to MDE during field review of local programs?
☐ Yes ☐ No

If either answer is No, describe planned actions to implement maintenance checklists and procedures and provide formal documentation of these activities:

Describe all problems discovered during routine maintenance operations and repair work performed to restore the function of the BMP(s) (attach photos and additional documentation as needed):

5. Number of staff trained in proper BMP design, performance, inspection, and routine maintenance: ____

6. Provide a summary of activities planned for the next reporting cycle:

7. List the total cost of implementing this MCM over the permit term:

MCM #6: Pollution Prevention and Good Housekeeping

1. Provide a list of topics covered during the last training session related to pollution prevention and good housekeeping, and attach to this report specific examples of training materials:

   List all training dates within this two-year reporting period:

   Number of staff attended: ☐

2. Are the good housekeeping plan and inspection records at each property retained and available to MDE during field review of the local program? ☐ Yes ☐ No

   If No, explain:

   Provide details of all discharges, releases, leaks, or spills that occurred in the past reporting period using the following format (attach additional sheets if necessary).

   Property Name: Date:

   Describe observations:

   Describe permittee's response:

3. Quantify and report property management efforts as shown below, where applicable (attach additional sheets if necessary).

   Number of miles swept: ☐

   Amount of debris collected from sweeping (indicate units): ☐

   If roads and streets are swept, describe the strategy the permittee has implemented to maximize efficiency and target high priority areas:

   Number of inlets cleaned: ☐

   Amount of debris collected from inlet cleaning (indicate units): ☐

MCM #6: Pollution Prevention and Good Housekeeping

Describe how trash and hazardous waste materials are disposed of at permittee owned and operated property(ies), including debris collected from street sweeping and inlet cleaning:

Does the permittee have a current State of Maryland public agency permit to apply pesticides?
☐ Yes ☐ No

If No, explain (e.g., contractor applies pesticides):

Does the permittee employ at least one individual certified in pesticide application?
☐ Yes ☐ No

If Yes, list name(s):

If the permittee applied pesticides during the reporting year, describe good housekeeping methods (e.g., integrated pest management, alternative materials/techniques):

If the permittee applied fertilizer during the reporting year, describe good housekeeping methods (e.g., application methods, chemical storage, native or low maintenance species, training):

If the permittee applied materials for snow and ice control during the reporting year, describe good housekeeping methods (e.g., pre-treatment, truck calibration and storage, salt domes):

Describe good housekeeping BMP alternatives not listed above:

4. If applicable, provide a status update for permittee owned or operated properties regarding coverage under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit:

5. List the total cost of implementing this MCM over the permit term:

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.4

PERMIT TO DISCHARGE FROM UMD CAMPUS VIA OUTFALLS INTO PAINT BRANCH AND UNNAMED TRIBUTARIES

STATE DISCHARGE PERMIT NO. 08-DP-2618
NPDES PERMIT NO. MD0063801

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101 • www.mde.state.md.us

SEP 18 2012

CERTIFIED MAIL

John Follum, Environmental Compliance Manager
University of Maryland College Park, Department of
Environmental Safety
3115 Chesapeake Bldg. 338
College Park, MD 20742

Re: State Discharge Permit No. 08-DP-2618, NPDES Permit MD0063801

Dear Mr. Follum:

Enclosed is the issued discharge permit referenced above with the effective date indicated on the cover page. The permittee is responsible for complying with all permit conditions. You are therefore advised to read the permit carefully and become thoroughly familiar with the requirements.

Enclosed are (EPA No. 3320-1) Discharge Monitoring Report (DMR) forms, which must be completed for each reporting period and submitted to the Department in accordance with the requirements of the permit. Copies of these forms can also be downloaded from the Department's website (the shortcut is www.mde.state.md.us/assets/document/permit/newdmr.pdf). Using the latest version of Adobe Acrobat Reader, the DMR form can be completed from a keyboard and printed for mailing to the Department.

You will also find enclosed a copy of the Federal Register, Part 136 - "Guidelines Establishing Test Procedures for Analysis of Pollutants". Unless otherwise specified, these guidelines are to be used for the analyses required by this permit. The most current version of 40 C.F.R. Part 136 can be found online at EPA's website. The link is www.epa.gov/epahome/cfr40.htm.

Please direct all future correspondence regarding permit compliance to the following address:

Attention: Discharge Monitoring Reports
Water Management Administration – Compliance Program
Maryland Department of the Environment
1800 Washington Boulevard, Suite 425
Baltimore, Maryland 21230-1708

If you have any questions, please do not hesitate to call Olu Abiodun, Industrial and General Permits Division, at (410) 537-3323.

Sincerely,

Jay G. Sakai, Director
Water Management Administration

JGS:kh
Enclosures

MDE
MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101 • www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

STATE DISCHARGE PERMIT NUMBER	08-DP-2618	NPDES PERMIT NUMBER	MD0063801
EFFECTIVE DATE	November 1, 2012	EXPIRATION DATE	October 31, 2017
MODIFICATION DATE:	N/A	REAPPLICATION DATE	November 1, 2016

Pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and regulations promulgated thereunder, and the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq. and implementing regulations 40 CFR Parts 122, 123, 124, and 125, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes

University of Maryland College Park
c/o Department of Environmental Safety
3115 Chesapeake Building 338
College Park, Maryland 20742

TO DISCHARGE FROM

a university campus

LOCATED AT

U.S. Route 1 and Paint Branch, College Park, Prince George's County, Maryland 20742

VIA OUTFALLS

001 through 005, 007, 010, 012, 014, and 016 through 019, as identified and described herein and from facility areas identified in the storm water pollution prevention plan referenced herein

TO

Paint Branch and unnamed tributaries which are protected for (all Use I waters, including old Paint Branch) water contact recreation, fishing, aquatic life, and wildlife in accordance with the following special and general conditions and map made a part hereof.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge non-contact cooling water, boiler blowdown, condensate and storm water runoff from Outfalls 001 through 005, 007, 010, 012, 014 and 016 through 019 (Maryland Coordinates 818.0 E and 420.0 N).

As specified below, such discharge shall be limited and monitored by the permittee at the locations described in Section I.A.2.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	gpd					1/Month	Measured	
Temperature Difference						0	°F	1/Month	i-s	(1) (3)
Total Residual Chlorine					0.011	0.019	mg/l	1/Month	Grab	(2)
Oil & Grease						15	mg/l	1/Month	Grab	(7)
Dissolved Oxygen				5.0			mg/l	1/Month	Grab	(4)
Total Copper					9.0	13.0	µg/l	1/Month	Grab	(5) (6) (8)
Dissolved Copper					Report	Report	µg/l	1/Month	Grab	(5) (6)
Hardness (as $CaCO_3$)					Report	Report	mg/l	1/Month	Grab	(11)
Nitrogen, Total (as N) (Daily)	Report	Report			Report	Report	mg/l	1/Month	Grab	(9) (10)

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Phosphorus, Total (as P) (Daily)	Report	Report			Report	Report	mg/l	1/Month	Grab	(10)
pH				6.5		8.5		1/Month	Grab	

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour of point of discharge.

The discharge of wastewater from the cleaning of the cooling water system with acids, solvents, or detergents is prohibited. If caustic inorganic cleaners or chlorine shock treatment are used, the permittee shall monitor the discharge daily for pH and chlorine during those periods of discharge in addition to the monthly monitoring of the routine discharge.

For Outfall 017, no parameters are limited and only oil & grease shall be monitored.

(1) The discharge shall not cause the temperature of the receiving waters, beyond a mixing zone, to exceed 90°F or to exceed the ambient stream temperature, whichever is higher. A mixing zone extending no greater than 50 feet radially from the point of discharge is allowed. The mixing zone may not form a thermal barrier to aquatic life.

"Temperature Difference" is a calculated value, arrived at by subtracting the ambient receiving water temperature or 90°F, whichever is higher, from the effluent temperature or the temperature of the receiving water at the edge of a mixing zone, whichever is lower.

If the temperature of the effluent is equal to or less than 90°F, the only temperature measurement necessary to calculate the "temperature difference" shall be one measured at the point of discharge to State waters or at a representative internal monitoring point.

The permittee shall maintain a record of all temperature measurements and their location, to be submitted as an addendum to each discharge monitoring report

(2) Because the minimum level (quantification level) for chlorine is 0.10 mg/l, all results below this minimum level shall be reported as <0.10 mg/l.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

(3) Monitored during June, July, and August only.

(4) Applies only if chemical dechlorination is being performed.

(5) The permittee shall use EPA Methods 200.7 or 200.8 for testing. An alternative test method may be substituted as long as the Department agrees that its detection level is less than the applicable Toxic Substance Water Quality Criteria in COMAR 26.08.02.03 or the permittee demonstrates to the Department that a lower detection level is not practically achievable for this wastewater. Sample preservation procedures, container materials and maximum allowable holding times must be specified in any application to the Department for use of an alternative test method(s) specified. If a variance from the prescribed preservation techniques, container materials, and maximum holding times applicable is requested, sufficient data shall be provided in the application to the Department to assure the integrity of the sample.

(6) Each month's sample shall be a flow-weighted composite of one grab from each outfall discharging cooling water. Flow-weighted composite sample means the sample obtained by combining samples from each outfall that have been weighted using the flow of that outfall. The resulting concentration shall be the reported value for each outfall on the discharge monitoring report.

(7) This limit applies to Outfalls 001, 005, and 016 only. The permittee shall only monitor and report the results for these three outfalls plus outfalls 002 and 017 only.

(8) The permittee shall comply with the limits within 72 months after the effective date of this permit. See Special Condition U. Monitoring without limits is required until the effective date. During those 72 months the permittee shall meet the following schedule:

- Complete Engineering Alternative Analysis within 24 months of issuance;
- Complete Engineering Design Plan within 48 months of issuance;
- Complete development of a Plan for Compliance within 50 months of issuance; and
- Attain Compliance with the limits within 72 months of issuance.

(9) Total nitrogen is defined as the sum of total Kjeldahl nitrogen and (nitrite and nitrate) nitrogen. Individual concentrations of each constituent shall also be reported. Testing for all forms of nitrogen must be performed on the same sample.

(10) After 1 year (12 values collected) the Department may reduce or eliminate the monitoring requirement upon written request by the permittee.

(11) To be taken at the same time as the copper samples.

I. SPECIAL CONDITIONS

A.2. SAMPLING POINT LOCATIONS

The authorized outfalls shall be limited and monitored at the following locations:

Outfall 001: At a point 87.8 yards east from the northeast corner of Bldg. 343.

Outfall 002: At a point 125 yards east southeast of the southeast corner of Bldg. 406.

Outfall 003: At a point 82.7 yards east southeast of the northeast corner of Bldg. 406.

Outfall 004: At a point 48.7 yards east of the center exit on the east side of Bldg. 406.

Outfall 005: At a point eastern side of Paint Branch parkway, 73.8 yards east from northeast corner of the Pest Management Trailer.

Outfall 007: At a point eastern side of Paint Branch parkway, 52 yards east from the northeast corner of Bldg. 245.

Outfall 010: A point located 32 yards west of north corner of Oakland Hall.

Outfall 012: At a point located 25 yards south of the southwest corner of the Mowatt Lane parking garage.

Outfall 014: At a point 45 yards directly south of the southeast corner of Bldg 981.

Outfall 016: At a point eastern side of Paint Branch parkway, 48 yards east from the northeast of the gas pump shelter of Bldg. 11.

Outfall 017: At a point 75 yards east of the southernmost point of the Salt Bunker in the Grounds Complex.

Outfall 018: At a point 35 yards northwest of the northeast corner of Bldg 255.

Outfall 019: At a point 20 yards northeast of the northeast corner of Bldg 255.

I. SPECIAL CONDITIONS

B. DEFINITIONS

1. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

2. "Daily determination of concentration" means one analysis performed on any given sample representing flow during a calendar day, with one number in mg/l or other appropriate units as an outcome.

3. The "daily maximum" effluent concentration means the highest reading of any daily determination of concentration.

4. The "daily maximum" temperature means the highest temperature observed during a 24-hour period or, if flows are of shorter duration during the operating day.

5. "Estimated" flow means a calculated volume or discharge rate which is based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters, and batch discharge volumes.

6. "Grab sample" means an individual sample collected over a period of time not exceeding 15 minutes. Grab samples collected for pH and total residual chlorine shall be analyzed within 15 minutes of time of sample collection.

7. "i-s" = immersion stabilization - means a calibrated device immersed in the effluent stream until the reading is stabilized.

8. "Measured" flow means any method of liquid volume measurement the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

9. The "minimum" value means the lowest value measured during a 24-hour period.

10. "Oil and Grease" is the test method according to EPA Method 1664.

11. "Recorded" flow, pH, temperature, etc., means any method of providing a permanent, continuous record including, but not limited to, circular and strip charts.

12. "Solvent" is defined as an organic substance capable of dissolving another to form a uniformly dispersed mixture. Organic solvents include, but are not limited to, aromatic hydrocarbons, aliphatic hydrocarbons, esters, ethers, ketones, amines, and nitrated and chlorinated hydrocarbons.

13. "Temperature Difference" is a calculated value, arrived at by subtracting the effluent temperature or the temperature of the receiving water at the edge of a mixing zone, whichever is lower, from the ambient receiving water temperature or receiving water quality standard, whichever is higher.

14. "Upset" means the exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent

caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

C. TOXIC POLLUTANT REPORTING

The permittee shall notify the Department as soon as it is known or suspected that any toxic pollutants which are not specifically limited by this permit have been discharged at levels specified in 40 CFR Part 122.42(a).

D. REMOVED SUBSTANCES

1. Within 30 days after notification by the Department, the permittee shall provide information on the disposal of any removed substances, as defined by General Condition B.7, including the following information:

   a. A suitable map showing all areas used for disposal of removed substances.

   b. The physical, chemical, and biological characteristics, as appropriate; quantities of any removed substances; and the method of disposal.

   c. If disposal is handled by persons other than the permittee, identification of the contractor or subcontractor, their mailing address, and the information specified in a and b above.

2. The Department's notification may also require the permittee to provide the above information prior to the use of new or additional disposal areas, contractors, or subcontractors.

E. ANALYTICAL LABORATORY

Within 30 days after the effective date of this permit, the permittee shall submit to the Department (attn.: Industrial & General Discharge Permits Division) the name and address of the analytical laboratory (including the permittee's own laboratory) which is used to perform the monitoring required by this permit.

If the laboratory changes during the effective period of this permit, the permittee shall notify the Department of the new laboratory within 30 days after the change.

F. WASTEWATER OPERATOR CERTIFICATION – [Reserved]

G. FLOW MONITORING

In lieu of providing measured flow (defined in the Special Condition B) at each outfall, the permittee may estimate flows and submit the following information with their discharge monitoring report in the first quarter of each calendar year:

1. a description of the methodology used to estimate flow at each outfall where flow measurement equipment is not present;

2. documentation appropriate to the methodology utilized which provides information necessary to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations should also be provided.

3. a description of the factors (e.g., batch discharges, intermittent operation, etc.) which cause flow at the outfall to fluctuate significantly from the estimate provided.

H. FLOW BASIS FOR ANNUAL DISCHARGE PERMIT FEE – [Reserved]

I. REAPPLICATION FOR A PERMIT

The Department is implementing a schedule for issuance of discharge permits grouped by geographical areas (watersheds). To implement the watershed-based schedule, the Department may revoke and reissue this permit concurrently with other permits in the watershed. Unless the Department grants permission for a later date, the permittee shall submit a renewal application by no later than 12 months prior to the expiration date on the first page of this permit, or notify the Department of the intent to cease discharging by the expiration date. In the event that a timely and sufficient reapplication has been submitted and the Department is unable, through no fault of the permittee, to issue a new permit before the expiration date of this permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable.

J. PERMIT REOPENER FOR TOTAL MAXIMUM DAILY LOAD (TMDL)

This permit may be reopened as a major modification to implement any applicable requirements associated with a Total Maximum Daily Load (TMDL) issued or approved for this watershed (Anacostia River, 02.14.02.05), including but not limited to: Phosphorus and Nitrogen.

The terms and conditions of this permit are in accordance with the Chesapeake Bay Total Maximum Daily Load (TMDL) for Sediments, Nitrogen and Phosphorus established on December 29, 2010. At this time, this permit limits does not introduce limits for total suspended solid, total nitrogen or total phosphorus. However, this permit may be reopened as a major modification to implement any applicable future requirements and/or the permittee may become subject to a Department-issued general permit regarding the discharge of such pollutants.

K. BIOMONITORING PROGRAM –[Reserved]

L. TOXICITY REDUCTION EVALUATION

The permittee shall conduct a Toxicity Reduction Evaluation (TRE) when a review of toxicity test data by the Department indicates unacceptable acute or chronic effluent toxicity. A TRE is an investigation conducted to identify the causative agents of effluent toxicity, isolate the source(s), determine the effectiveness of control options, implement the necessary control measures and then confirm the reduction in toxicity.

1. Within 90 days following notification by the Department that a TRE is required, the permittee shall submit a plan of study and schedule for conducting a TRE. The permittee shall conduct the TRE study consistent with the submitted plan and schedule.

2. This plan should follow the framework presented in Generalized Methods for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).

3. Beginning 60 days following the date of the Department's acceptance of the TRE study plan and every 60 days thereafter, the permittee shall submit progress reports including all relevant test data to the Department. This shall continue until completion of the toxicity reduction confirmation.

4. Within 60 days following completion of the toxicity identification, or the source identification phase of the TRE, the permittee shall submit to the Department a plan and schedule for implementing those measures necessary to eliminate acute toxicity and/or reduce chronic toxicity to acceptable levels. The implementation of these measures shall begin immediately upon submission of this plan.

5. Within 60 days after completing implementation of the control measures to eliminate or reduce toxicity, the permittee shall submit to the Department for approval a study plan to confirm the elimination or reduction of toxicity by using biomonitoring.

6. If, for any reason, the implemented measures do not result in compliance with the Department's toxicity limitations, the permittee shall continue the TRE.

M. MIXING ZONES AND POLLUTION PREVENTION – [Reserved]

N. PROTECTION OF WATER QUALITY

It is a violation of this permit to discharge any substance not otherwise listed under the permit's "Effluent Limitations and Monitoring Requirements" special conditions at a level which would cause or contribute to any exceedance of the numerical water quality standards in COMAR 26.08.02.03 unless the level and the substance were disclosed in writing in the permit application prior to the issuance of the permit. If a discharge regulated by this permit causes or contributes to an exceedance of the water quality standards in COMAR 26.08.02.03, including but not limited to the general water quality standards, or if the discharge includes a pollutant that was not disclosed or addressed in the public record for the permit determination, the Department is authorized to modify, suspend or revoke this permit or take enforcement action to address unlawful discharges of pollutants.

O. USE OF CHEMICAL CONDITIONERS IN COOLING WATER

1. No later than 30 days after the effective date of coverage under this permit, the permittee shall submit to the Department (Industrial and General Discharge Permits Division) the names of all previously authorized water treatment additives currently in use at the facility and potentially discharging to surface waters of the State. No later than ten days after changing or adding any water treatment chemicals, the permittee shall submit the names of the new products to the Department. Accompanying this list shall be corresponding aquatic toxicity data, manufacturer's information on chemical composition of the product, and the concentrations that will exist in the effluent (note: material safety data sheets seldom provide all of this information). Based on this information, if the Department determines that wastewater containing the additive is likely to cause toxicity, use of the additives will be prohibited. The Department, however, will approve its use if the permittee performs biomonitoring of the effluent and demonstrates that the effluent is nontoxic.

2. The permittee shall notify the Department (Industrial and General Discharge Permits Division) if and when it initiates the use of chemical dechlorination, or terminates the practice.

P. MAINTENANCE OF WASTE TREATMENT SYSTEMS

1. The permittee shall inspect all oil-water separators, grease interceptors, and grit traps on a monthly basis to confirm that they are operating properly.

2. The permittee shall remove accumulated oil and sediments before they exceed the capacity of the vessels or impede their proper operation and dispose of these substances in accordance with General Condition B.7.

3. The permittee shall keep a logbook to record the date and results of each inspection or maintenance activity.

Q. TANK BOTTOM WATERS

The discharge to State waters of tank bottom wastewaters from petroleum storage tanks is prohibited.

R. OIL SPILL CONTAINMENT DIKE

The permittee shall remove all oil that is spilled or leaked into the containment area at the boiler plant before the area is drained. As a minimum, the permittee shall provide for oil removal by means of either an oil separator, booms, or absorbant materials. The standard for oil removal is that Oil & Grease concentration be less than 15 mg/l. If a spill or leak into the containment area occurs, the permittee shall confirm the oil & grease concentration by sampling and analysis before discharging the water. The permittee shall maintain a record of contamination events and subsequent analyses, to be made available to Department personnel upon request.

S. VEHICLE WASHING WASTEWATER

The discharge to State waters of wastewater from the washing of fleet vehicles is prohibited.

T. DISCHARGES FROM POTABLE WATER DISTRIBUTION SYSTEMS

1. The permittee is authorized to discharge water from the overflow, draining, or dewatering of reservoirs, vessels or structures used to store or convey potable water for consumption including standing water, and water from flushing, disinfection, hydrostatic testing, mechanical cleaning, water main breaks, leaks, or other releases.

2. The permittee shall develop a Pollution Prevention Plan (PPP) with technology-based best management practices. The PPP is subject to the review and approval of the Department, upon request. The PPP shall address an inventory of planned discharges and their quality and necessary treatment, and shall be implemented within eighteen months of the effective date of this permit. A description of each type of discharge shall include its source, quality, quantity, and the location of the discharge, and an anticipated discharge schedule. At a minimum, discharges to be included are those from flushing, tank and reservoir cleaning and testing, distribution system maintenance, and testing and cleaning. Discharge alternatives including disposal into the sanitary sewer, overland flow, and chemical dechlorination shall be addressed. Discharges to the storm sewer may also be evaluated to determine the quality and impact of the discharge upon reaching the waters of the State. Water quality data from previous discharges shall be considered in developing the most protective treatment methods and discharge locations. The Department may notify the permittee at any time, that the PPP does not meet one or more of the minimum requirements of this condition. After such notification from the Department, the permittee shall make changes to the PPP to correct the deficiencies and shall submit to the Department a written certification that the requested changes have been made. The permittee shall have 90 days after such notification to make the necessary changes in the PPP and shall implement the changes as agreed between the utility and the Department.

3. The discharge shall not cause the temperature of the receiving waters, beyond a mixing zone, to exceed 90°. If the ambient temperature of the receiving waters exceeds this standard, the temperature

of the discharge shall not exceed (to the nearest degree F) the ambient temperature of the stream. A mixing zone extending 50 feet radially from the point of discharge is allowed. For discharges over 100,000 gallons or those that equal at least half the flow in the receiving stream and which occur between June 1 and September 1, the permittee shall verify compliance with these temperature limits by measuring the temperature of the water to be discharged within a half-hour prior to discharge and, if the temperature of the discharge exceeds 90°F, by measuring the temperature of the receiving waters at the edge of the mixing zone midway through the discharge period. The results of this monitoring shall be kept at the facility, and made available to the Department upon request.

4. The permittee shall take all necessary measures to prevent erosion damage during the discharge. Any gullying greater than six inches in depth is considered excessive erosion. If the discharge is onto normally dry land or a dry drainage channel, these preventive measures may include, but are not limited to, discharge via a diffuser, discharge into riprap, discharge into a splash barrier, and flow rate controls. If the discharge is directly into flowing or standing water, preventive measures include flow rate control and locating the point of discharge in the receiving water at a sufficient depth to avoid bottom scour.

U. COMPLIANCE SCHEDULE FOR TOTAL COPPER

1. Every six months, the permittee shall submit to the Department a status report detailing current plans for meeting the Total Copper limits in Special Condition A.1. This report is due six months after the effective date of the permit and every six months thereafter until the effective date of the permit limits. The plans may include alternative treatment technologies or other discharge options which will result in compliance with the final discharge limitations.

2. Within 24 months of the effective date the permittee shall complete an Engineering Alternatives Analysis. The analysis shall review each building to identify and prioritize contributing sources and options for eliminating those sources from the storm sewer system. The permittee shall provide a copy of the analysis to the Department within 30 days of its completion.

3. Within 48 months of the effective date the permittee shall complete an Engineering Design Plan. The plan shall specify the designs of building specific corrective measures called for in the completed Engineering Alternatives Analysis. The permittee shall provide a copy of the plan to the Department within 30 days of its completion.

4. Within 50 months of the effective date of this permit, the permittee shall complete a Compliance Plan detailing how the permittee intends to comply with the copper limits within 72 months of the effective date. The permittee must state in their plan either that the discharge will be brought into compliance or that the discharge will be eliminated, as follows:

   a. If the permittee will bring the discharge into compliance with the permit limits, the plan must detail how the permittee will reach the permit limits within 72 months of the effective date. If the permittee is eligible to have the permit limits revised, per Special Condition U.5, below, the plan must detail how the permittee will reach the revised permit limits within 72 months of the effective date.

   b. If the permittee will eliminate the discharge, the plan must state that the permittee will eliminate the discharge within 72 months of the effective date. To eliminate the discharge, the permittee must demonstrate to the Department's satisfaction that copper containing waste streams are no longer being discharged to State waters and provide supporting documents to show that the waste streams have been re-piped. This

certification of discharge elimination should be done when the discharge is eliminated and no later than 72 months after the effective date.

c. If the permittee is eligible to have the permit limits removed, per Special Condition U.5, below, the permittee is not required to submit a Compliance Plan.

5. Within 50 months of the effective date of this permit, the permittee may apply for a permit modification to revise or remove the permit limit(s) based on any combination of the following options allowed under COMAR 26.08:

a. Site-Specific Criterion: Per COMAR 26.08.02.03-2C., the permittee shall submit to the Department complete documentation of the proposed site-specific criterion as part of the application for a permit modification.

b. Chemical or Biological Translator: The permittee shall complete all studies supporting use of the translator under COMAR 26.08.04.02-3C, paragraphs (1), (3) and (4) for biological translators or under COMAR 26.08.04.02-4C, paragraphs (1), (3) and (4) for chemical translators and submit the results to the Department as part of the application for a permit modification.

c. Mixing Zone Study: As part of the application for a permit modification, the permittee shall include the proposed dilution calculation and appropriate demonstration, using dye studies or simulation models, that the dilution calculation is applicable during periods of ambient stream conditions, flow rates, and distances specified in COMAR 26.08.02.05.

d. Additional Data: As part of the application for a permit modification, the permittee may submit any new or additional data which demonstrates that there is no reasonable potential for violation of applicable water quality standards.

Alternatives for making such a demonstration include, but are not limited to, the following:

i. collection of effluent data using analytical methods which have lower detection levels;

ii. collection of data using techniques designed to minimize the effects of contamination on sample results; and

iii. collection of data utilizing alternate monitoring locations to show compliance with water quality standards.

e. Removal of Waste Streams: The permittee must demonstrate to the Department's satisfaction that copper containing waste streams are no longer being discharged. Adequate demonstration to the Department should include applicable supporting documents of the re-piping of these waste streams; and appropriate certification.

6. All reports required by this section shall be sent to:

Maryland Department of the Environment
WMA-Wastewater Permits Program
Industrial and General Discharge Permits Division

1800 Washington Boulevard, STE-455
Baltimore, MD 21230-1708

V. STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

1. Storm Water Pollution Prevention Plans - General

The permittee shall have and implement a storm water pollution prevention plan beginning on the effective date of this permit. The storm water pollution prevention plan shall be prepared in accordance with sound engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility.

In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.

a. In developing this plan, the permittee may use as a reference "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices" (EPA Document #EPA832-R-92-006) or the "Summary Guidance" (EPA Document #EPA833-R-92-002). These documents can be obtained from the EPA Clearinghouse (phone: 1-800-490-9198) or the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (phone: 703-605-6000).

b. The plan shall be signed in accordance with Part II.C.18 of this permit, and be retained on site in accordance with Part II.C.1 of this permit. The permittee shall make plans available upon request to the Department, and in the case of a storm water discharge associated with industrial activity which discharges to a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system.

c. If the plan is reviewed by the Department, the Department will notify the permittee, at any time, that the plan does not meet one or more of the minimum requirements of this Part. After such notification from the Department, the permittee shall make changes to the plan to meet the objections of the Department and shall submit to the Department a written certification that the requested changes have been made and implemented. Unless otherwise provided by the Department, the permittee shall have 90 days after such notification to make the necessary changes.

d. The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance which creates a potential for the discharge of pollutants to the waters of the State or if the storm water pollution prevention plan proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by the Department as described above.

2. Storm Water Pollution Prevention Plan - Contents

The plan shall include, at a minimum, the following items:

a. Each plan shall provide a description of potential sources which may be reasonably expected to add pollutants to storm water discharges. Each plan shall identify all

activities and materials which may potentially be significant pollutant sources. Each plan shall include:

i. A site map indicating an outline of the drainage area of each storm water outfall; each existing structural control measure to reduce pollutants in storm water runoff; and surface water bodies, including drainage ditches and wetlands.

ii. A topographic map (or other map, if a topographic map is unavailable), extending one-quarter of a mile beyond the property boundaries of the facility. The requirements of this condition may be included in the site map required above, if appropriate.

iii. A narrative description of significant materials that have been treated, stored, or disposed in a manner which allowed exposure to storm water at anytime from three years prior to obtaining coverage under this permit until the time the present method of on-site storage or disposal was initiated; materials management practices employed to minimize contact of these materials with storm water runoff; materials loading and access areas; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

iv. For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing pollutants, a prediction of the direction of flow, and an estimate of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity; and

v. A summary of all existing sampling data describing pollutants in storm water discharges.

b. The permittee shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

i. A preventive maintenance program that involves timely inspection and maintenance of storm water management devices (cleaning oil/water separators, catch basins) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

ii. Good housekeeping that requires the maintenance of a clean, orderly facility.

iii. Spill prevention and response procedures shall be identified in the plan and made known to the appropriate personnel. The necessary equipment to implement a cleanup shall be available to the appropriate personnel.

iv. The plan shall prevent sediment and erosion by identifying areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identifying measures to limit erosion.

v. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures determined to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see 2.a - description of potential pollutant sources) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

vi. Qualified plant personnel shall be identified to visually inspect designated equipment and plant areas. A site inspection shall be conducted annually by such personnel to verify that the description of potential pollutant sources required under 2.a is accurate, the drainage map has been updated to reflect current conditions, and the controls to reduce pollutants identified in the storm water pollution prevention plan are being implemented and are adequate. In particular, material handling areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. A tracking or follow-up procedure shall be used to ensure that each inspection results in an appropriate response.

vii. Spills or other discharge incidents, and information describing the quality and quantity of storm water discharges shall be in the facility records. Maintenance activities shall be documented and recorded with inspection and discharge records. All records shall be maintained at the facility, for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department.

c. Storm water management programs may include requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Clean Water Act or Best Management Practices (BMPs) programs otherwise required by any NPDES permit and may incorporate any part of such plans into the storm water pollution prevention plan by reference.

d. Special Requirements for Storm Water Discharges Associated with Industrial Activity to Municipal Separate Storm Sewer Systems: Facilities covered by this permit shall comply with applicable requirements in municipal storm water management programs developed under State/NPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the municipal operator has notified the discharger of such conditions. These facilities shall make storm water pollution prevention plans available to the municipal operator of the system upon request.

e. Storage piles of salt used for deicing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation.

f. The description of the storm water Pollution Prevention Committee shall identify specific individuals within the plant organization who are responsible for developing the storm water pollution prevention plan and assisting the plant manager in its implementation, maintenance, and revision. The activities and responsibilities of the committee should address all aspects of the facility's storm water pollution prevention plan.

g. Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics, such as spill response, good housekeeping and material management practices. A pollution prevention plan shall identify periodic dates for such training.

3. Storm Water Pollution Prevention Plan - Additional Requirements For Facilities Subject To SARA Title III, Section 313 Requirements

Storm water pollution prevention plans for facilities subject to reporting requirements under SARA Title III, Section 313 (42 U.S.C. § 11023) are required to include, in addition to the information required above, a discussion of the facility's conformance with the following (appropriate) guidelines:

a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

i. Curbing, culverts, gutters, sewers or other forms of drainage control to prevent or minimize the potential for storm water runoff to come into contact with significant sources of pollutants; or

ii. Roofs, covers, liners, or other forms of appropriate protection to prevent storage piles from leaching or exposure to storm water and wind.

b. The storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations and guidelines.

i. No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage, such as pressure and temperature, etc. Liquid storage areas for Section 313 water priority chemicals shall be operated to prevent discharges of Section 313 chemicals by means such as secondary containment for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

ii. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to prevent discharges of Section 313 water priority chemicals by means such as the placement and maintenance of drip

pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

iii. In plant areas where Section 313 water priority chemicals are transferred, processed or otherwise handled, piping, processing equipment and materials handling equipment shall be designed and operated so as to prevent discharges of Section 313 chemicals, and be composed of materials that are compatible with the substances handled. Additional protection, such as covers or guards to prevent wind blowing, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system shall be provided, as appropriate, to control the releases.

iv. Discharges from secondary containment areas.

(a) Drainage from secondary containment shall be restrained by valves or other positive means to prevent a spill or other excessive leakage of Section 313 water priority chemicals into the drainage system. After a visual inspection of the storm water and determination that no product is present, containment areas may be emptied by pumps or ejectors; however, these shall be manually activated.

(b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas shall be of manual, open-and-close design.

(c) Records of the frequency and estimated volume (in gallons) of discharges from containment areas shall be kept at the facility for a minimum of three years.

(d) In lieu of facility drainage engineered as described above, the final discharge of all in-facility storm sewers shall be equipped with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

(e) Areas of the facility [those not addressed in paragraphs (a), (b), (c) or (d)], from which runoff which may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals and which could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

c. Facilities shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge or disrupt treatment. Security systems shall be described in the plan and address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

d. The storm water pollution prevention plan shall assess the potential of various sources at the plant to contribute pollutants to storm water discharges associated with industrial activity. The plan shall include an inventory of the types of materials handled. Facilities shall include in the plan a description of releases to land or water of SARA

Title III water priority chemicals that have occurred at any time after July 1, 1989. Each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced, or discharged: the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants.

II. GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements taken as required herein shall be taken at such times as to be representative of the quantity and quality of the discharges during the specified monitoring periods.

2. REPORTING-MONITORING RESULTS SUBMITTED QUARTERLY

Monitoring results obtained during the calendar quarter shall be summarized on a Discharge Monitoring Report form (EPA No. 3320-1). For each effluent characteristic monitored at a frequency of once per month or less and not limited as a monthly average, the results obtained during the reporting period shall be summarized on a single report form for each quarter. More frequently monitored effluent characteristics and effluent characteristics limited as a monthly average shall be reported on a separate form for each calendar month of the reporting period. Results shall be submitted to the Department postmarked no later than the 28th day of the month following the end of the reporting period. Calendar quarter reporting periods end on the last day of the following months: March, June, September and December.

The reports shall be submitted to:

Maryland Department of the Environment
Water Management Administration
Compliance Program
1800 Washington Boulevard, Suite 425
Baltimore, Maryland 21230-1708

3. SAMPLING AND ANALYSIS METHODS

The analytical and sampling methods used shall conform to procedures for the analysis of pollutants as identified in Title 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless otherwise specified.

4. DATA RECORDING REQUIREMENTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date, and time of sampling or measurement;
b. the person(s) who performed the sampling or measurement;
c. the dates and times the analyses were performed;

d. the person(s) who performed the analyses;
e. the analytical techniques or methods used; and
f. the results of all required analyses.

5. MONITORING EQUIPMENT MAINTENANCE

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation to insure accuracy of measurements.

6. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors any pollutant, using approved analytical methods as specified above, at the locations designated herein more frequently than required by this permit, the results of such monitoring, including the increased frequency, shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report form (EPA No. 3320-1).

7. RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and original recordings from continuous monitoring instrumentation shall be retained for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department.

B. MANAGEMENT REQUIREMENTS

1. CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the terms and conditions of this permit. The permittee shall report any anticipated facility expansions, production increases, or process modifications which will result in new, different or an increased discharge of pollutants by submitting a new application at least 180 days prior to the commencement of the changed discharge except that if the change only affects a listed pollutant and will not violate the effluent limitations specified in this permit, by providing written notice to the Department. Following such notice, the permit may be modified by the Department to include new effluent limitations on those pollutants.

2. NONCOMPLIANCE WITH EFFLUENT LIMITATIONS

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or daily minimum effluent limitation specified in this permit, the permittee shall notify the Inspection and Compliance Program by telephone at (410) 537-3510 within 24 hours of becoming aware of the noncompliance. Within five calendar days, the permittee shall provide the Department with the following information in writing:

a. a description of the non-complying discharge including its impact upon the receiving waters;

b. cause of noncompliance;

c. anticipated time the condition of noncompliance is expected to continue or if such condition has been corrected, the duration of the period of noncompliance;

d. steps taken by the permittee to reduce and eliminate the non-complying discharge;

e. steps to be taken by the permittee to prevent recurrence of the condition of noncompliance; and

f. a description of the accelerated or additional monitoring by the permittee to determine the nature and impact of the noncomplying discharge.

3. FACILITIES OPERATION

All treatment, control and monitoring facilities, or systems installed or used by the permittee, are to be maintained in good working order and operated efficiently.

4. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. BYPASSING

Any bypass of treatment facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

a. the bypass is unavoidable to prevent a loss of life, personal injury or substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources;

b. there are no feasible alternatives;

c. notification is received by the Department within 24 hours (if orally notified, then followed by a written submission within five calendar days of the permittee's becoming aware of the bypass). Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten calendar days before the date of bypass or at the earliest possible date if the period of advance knowledge is less than ten calendar days; and

d. the bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects.

6. CONDITIONS NECESSARY FOR DEMONSTRATION OF AN UPSET

An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based effluent limitations only if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

a. an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. the permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

c. the permittee submitted a 24-hour notification of upset in accordance with the reporting requirements of General Condition II.B.2 above;

d. the permittee submitted, within five (5) calendar days of becoming aware of the upset, documentation to support and justify the upset; and

e. the permittee complied with any remedial measures required to minimize adverse impact.

7. REMOVED SUBSTANCES

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, shall be disposed of in a manner to prevent any removed substances or runoff from such substances from entering or from being placed in a location where they may enter the waters of the State.

8. POWER FAILURE

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. provide an alternative power source sufficient to operate the wastewater collection and treatment facilities or,

b. halt, reduce or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater collection and treatment facilities.

C. RESPONSIBILITIES

1. RIGHT OF ENTRY

The permittee shall permit the Secretary of the Department, the Regional Administrator for the Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

a. enter upon the permittee's premises where an effluent source is located or where any records are required to be kept under the terms and conditions of this permit;

b. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

c. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;

d. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit; and

e. sample, at reasonable times, any discharge of pollutants.

2. TRANSFER OF OWNERSHIP OR CONTROL OF FACILITIES

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permit may be transferred to another person if:

a. the permittee notifies the Department in writing, of the proposed transfer;

b. a written agreement, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for compliance with the liability for the terms and conditions of this permit, is submitted to the Department; and

c. neither the current permittee nor the new permittee receive notification from the Department, within 30 calendar days, of intent to modify, revoke, reissue or terminate the existing permit.

3. REAPPLICATION FOR A PERMIT –[Reserved]

4. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data shall be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

5. PERMIT MODIFICATION

A permit may be modified by the Department upon written request of the permittee and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in 40 CFR § 122.62 and 122.63.

6. PERMIT MODIFICATION, SUSPENSION, OR REVOCATION

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked and reissued in whole or in part during its term for causes including, but not limited to, the following:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. a determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

7. TOXIC POLLUTANTS

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such toxic effluent standard or prohibition) is established by the U.S. Environmental Protection

Agency, or pursuant to Section 9-314 of the Environment Article, Annotated Code of Maryland, for a toxic pollutant which is present in the discharges authorized herein and such standard is more stringent than any limitation upon such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified. Any effluent standard established in this case for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even absent permit modification.

8. OIL AND HAZARDOUS SUBSTANCES PROHIBITED

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland.

9. CIVIL AND CRIMINAL LIABILITY

Except as provided in permit conditions on "bypassing," "upset," and "power failure," nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from civil or criminal responsibilities and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local, or other State law or regulation.

10. PROPERTY RIGHTS/COMPLIANCE WITH OTHER REQUIREMENTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

11. SEVERABILITY

The provisions of this permit are severable. If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

12. WATER CONSTRUCTION AND OBSTRUCTION

This permit does not authorize the construction or placing of physical structures, facilities, or debris, or the undertaking of related activities in any waters of the State.

13. COMPLIANCE WITH WATER POLLUTION ABATEMENT STATUTES

The permittee shall comply at all times with the provisions of the Environment Article, Title 7, Subtitle 2 and Title 9, Subtitle 3 of the Annotated Code of Maryland and the Clean Water Act, 33 U.S.C. § 1251 et seq.

14. ACTION ON VIOLATIONS

The issue or reissue of this permit does not constitute a decision by the State not to proceed in administrative, civil, or criminal action for any violations of State law or regulations occurring before the issue or reissue of this permit, nor a waiver of the State's right to do so.

15. CIVIL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act or in a permit issued under Section 404 of the Act, is subject to a civil penalty not to exceed $27,500 per day for each violation.

16. CRIMINAL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that:

a. any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.

b. any person who knowingly violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.

c. any person who knowingly violates Section 301, 302, 306, 307, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, is subject to a fine of not more $25,000 or imprisonment of not more than 15 years, or both.

d. any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method required to be maintained under the Act, is subject to a fine of not more than $10,000 or by imprisonment for not more than two (2) years, or by both.

17. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

18. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Director shall be signed and certified as required by 40 CFR 122.22.

19. REOPENER CLAUSE FOR PERMITS

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit or

b. controls any pollutant not limited in this permit. This permit, as modified or reissued under this paragraph, shall also contain any other requirements of the Act then applicable.

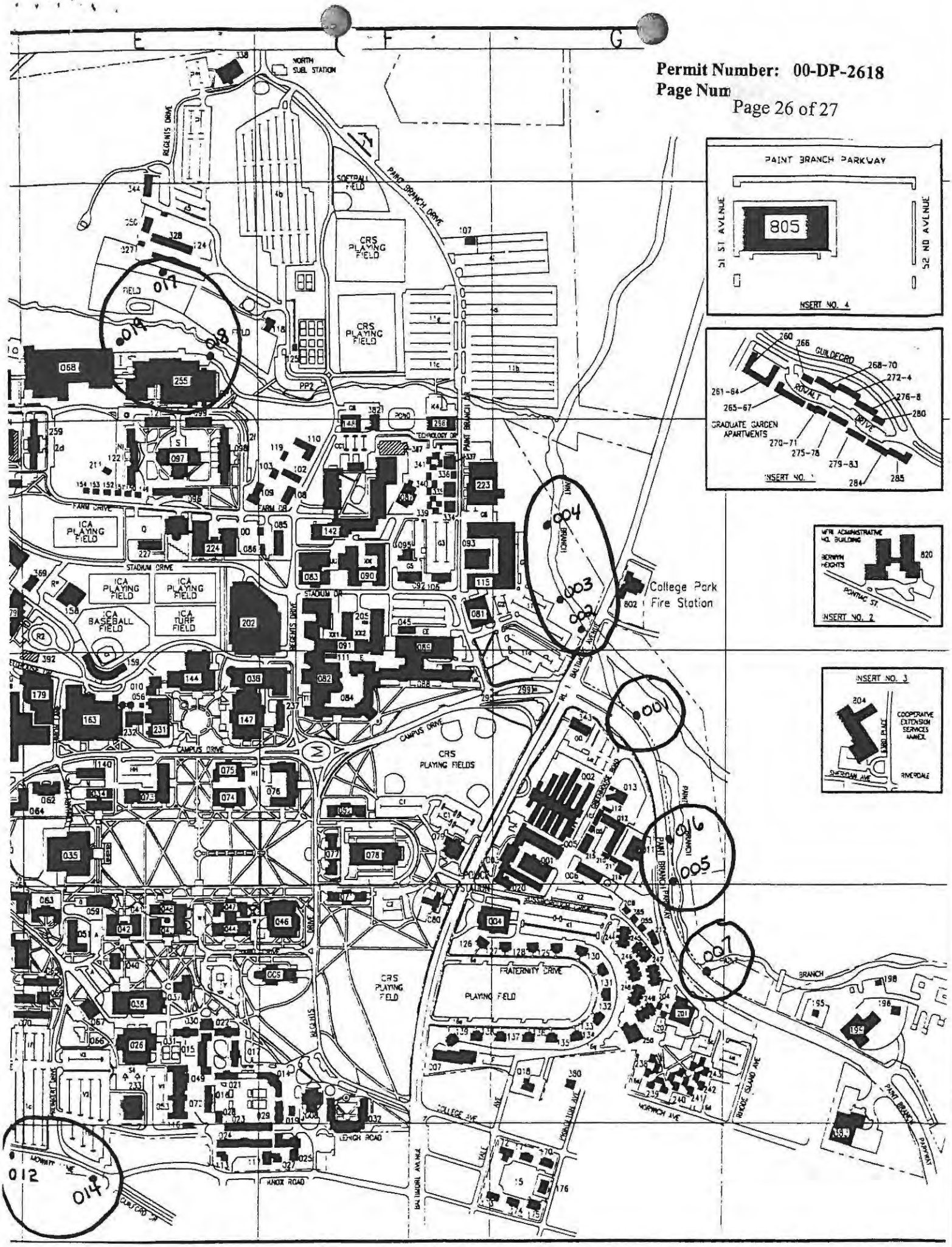
D. AUTHORITY TO ISSUE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

On September 5, 1974, the Administrator of the U.S. Environmental Protection Agency approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters pursuant to Section 402 of the Clean Water Act, 33 U.S.C. Section 1342.

Pursuant to the aforementioned approval, this discharge permit is both a State of Maryland discharge permit and a NPDES permit.

This permit and the authorization to discharge shall expire at midnight on the expiration date. The permittee shall not discharge after that date unless a new application has been submitted to the Department in accordance with the renewal application provisions of this permit.

Jay G. Sakai, Director
Water Management Administration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INSERT NO. 3
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PLAYING FIELD
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CAMPUS DRIVE
STADIUM DRIVE
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SOFTBALL FIELD
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POLICE STATION
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KNOX ROAD
LEHIGH ROAD
RHODE ISLAND AVE
HORNICK AVE
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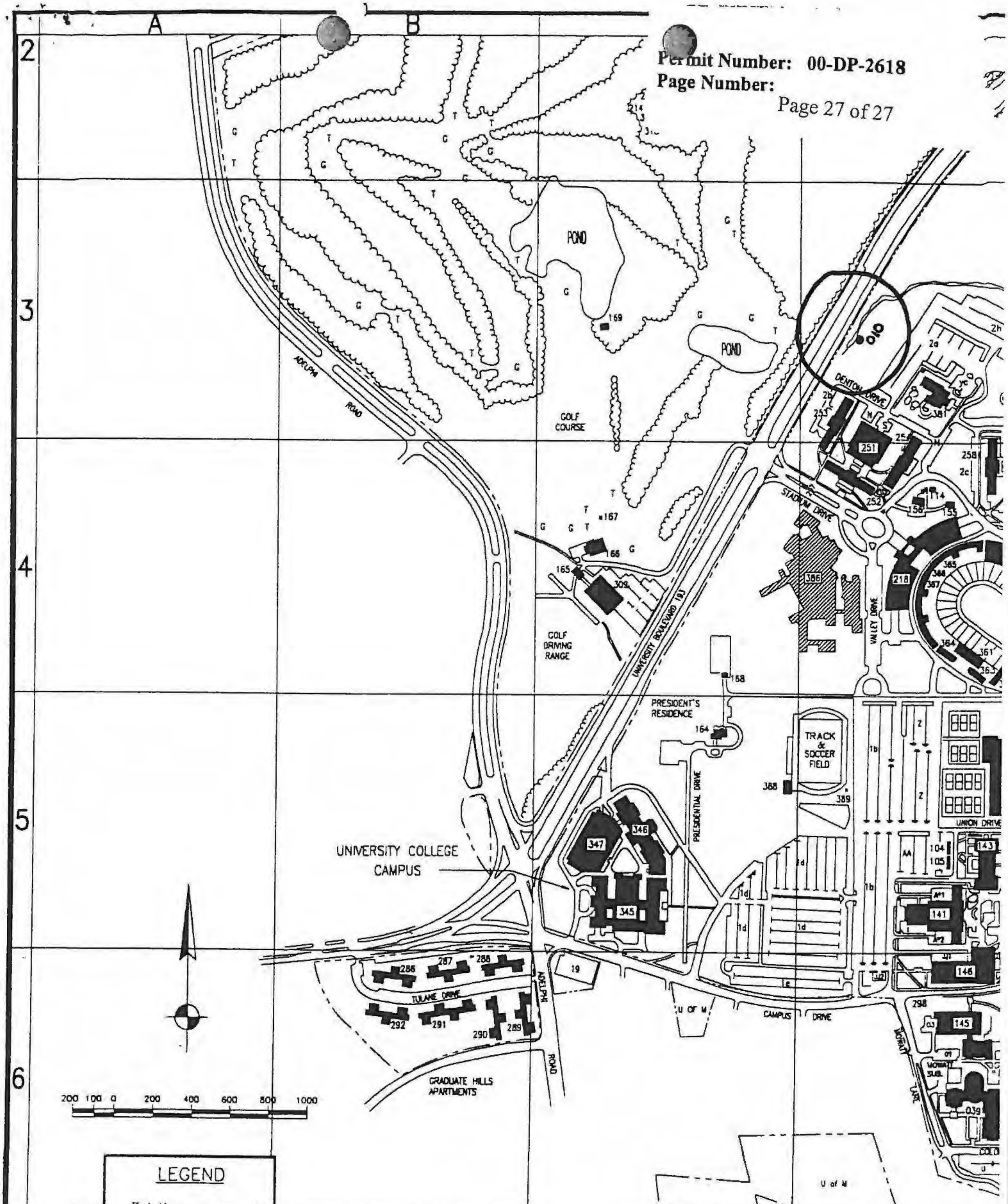
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DENTON DRIVE
STADIUM DRIVE
VALLEY DRIVE
PRESIDENT'S RESIDENCE
TRACK & SOCCER FIELD
PRESIDENTIAL DRIVE
UNION DRIVE
UNIVERSITY COLLEGE CAMPUS
TULANE DRIVE
CAMPUS DRIVE
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GRADUATE HILLS APARTMENTS
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LEGEND
Existing Building
Under Construction

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.5

GENERAL PERMIT FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

GENERAL STATE DISCHARGE PERMIT NO. 17PE-0195
NPDES PERMIT NO. MDG87

Maryland
Department of the Environment

Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

GENERAL PERMIT FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

GENERAL DISCHARGE PERMIT NO. 17PE, NPDES PERMIT NO. MDG87

FINAL

Effective Date: April 1, 2020 **Expiration Date:** March 31, 2025

Appendices with additional requirements for permittees:

Appendix A : Definitions, Abbreviations, and Acronyms,
Appendix B : Pesticide Discharge Evaluation Worksheet,
Appendix C : Adverse Incident Template,
Appendix D : Annual Report Template, and
Appendix E : Desirable Species Procedures.

PART I. Permit Applicability

In compliance with the provisions of the Clean Water Act (CWA), as amended (33 *United States Code* [U.S.C.] 1251 *et seq*.), pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland and implementing regulations in COMAR 26.08.04 - .01 and 26.08.03.02, any Operator (see Definitions), with a point source discharge of pollutants (*i.e.,* discharge) resulting from the application of pesticides who meets the eligibility requirements identified in Part I.B and if so required, has submitted a Notice of Intent (NOI) in accordance with Part II, is authorized to discharge to Waters of this State in accordance with the requirements of this permit, and the appendixes herein incorporated.

For the purpose of this permit, "Operator" is defined in Appendix A to mean any entity associated with the application of pesticides which results in a discharge to Waters of this State that meets either of the following two criteria: (1) any entity who performs the application of a pesticide or who has day-to-day control of the application (*i.e*., they are authorized to direct workers to carry out those activities); or (2) any entity with control over the decision to perform pesticide applications including the ability to modify those decisions. Operators identified in (1) above are referred to in this permit as Applicators while Operators identified in (2) are referred to in this permit as Decision-makers. As defined, more than one Operator may be responsible for complying with this permit for any single discharge from the application of pesticides.

For purposes of this permit, all Operators are defined as 1) either an Applicator or a Decision-maker or 2) both an Applicator and a Decision-maker.

When an Operator is both an Applicator and a Decision-maker, the Operator must comply with all applicable requirements imposed on both Applicators and Decision-makers. When the permit references all "Operators," both Applicators and Decision-makers must comply.

A. Geographic Coverage

This permit applies to Operators located within the state of Maryland.

B. Eligibility

1. **Activities Covered**

This permit covers discharges to Waters of this State from the application of biological pesticides or chemical pesticides that leave a residue (hereinafter collectively "pesticides"), or colorants, when the application of pesticides or colorants is for one of the following pesticide use patterns:

a. Mosquito and Other Flying Insect Pest Control. These are applications to control public health/nuisance and other flying insect pests that develop or are present during a portion of their life cycle in or above standing or flowing water. Public health/nuisance and other flying insect pests in this use category include but are not limited to mosquitoes and black flies.

b. Weed and Algae Control. These are applications to control invasive or other nuisance weeds, algae, or pathogens in water and at water's edge, including public drainage ditches, roadside ditches, and/or canals.

c. Nuisance Animal Control. These are applications to control invasive or other nuisance animals in water and at water's edge. Nuisance animals in this use category include, but are not limited to, fish, insects, pathogens and mollusks.

d. Forest Canopy Pest Control. These are aerial applications of a pesticide over or ground-based applications onto a forest canopy to control the population of a pest species (e.g., insect or pathogen) where, to target the pests effectively, a portion of the pesticide unavoidably will be applied over and deposited to water.

2. **Ineligible Discharges (Limitations on Coverage)**
The following discharges are not covered under this general permit:

a. Discharges to Waters Designated as Tier 3 for Antidegradation Purposes
Except for discharges from pesticide applications made to restore or maintain water quality or to protect public health or the environment that either do not degrade water quality or only degrade water quality on a short-term or temporary basis, Operators are not eligible for coverage under this permit for discharges to waters of the United States if the water is designated by the state as Tier 3 (Outstanding National Resource Waters) for antidegradation purposes under COMAR 26.08.02.04-2. When Tier 3 waters are identified, they will be listed and found on MDE's website at http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/HighQualityWatersMap.aspx.

b. Discharges to Water Quality Impaired Waters
- Any discharges from a pesticide application to Waters of this State if the water is identified as impaired by a substance in that pesticide or a degradate of such an active ingredient. Before commencing an application at a new location, the Operator shall view the list of impaired water bodies in Maryland at "http://mdewin64.mde.state.md.us/WSA/IR-TMDL/index.html".
- If the proposed discharge would not be eligible under this permit because the water is listed as impaired for that specific pesticide or its degradates, but the Operator has evidence that shows the water is no longer impaired, the Operator may submit this information to the Department for a decision as to whether coverage be allowed under this permit.

c. Discharges Currently or Previously Covered by another Permit
Discharges are not eligible for coverage under this permit if any of the following circumstances apply:
- The application of the pesticide and eventual discharge to Waters of this State, is covered by another NPDES permit (weed, algae or pathogen control and nuisance animal control in industrial or publicly-owned treatment works shall be regulated by the wastewater discharge permits for such facilities), or
- The discharge was included in a State toxic material permit that in the past 5 years has been, or is in the process of being, denied, terminated, or revoked by the Department (this does not apply to the routine periodic reissuance of permits or where required under this permit to apply for coverage).

d. Washing or Cleaning Limitations
- The mixing, handling or transfer of toxic substances or the washing of or cleaning operations for toxic substances containers or equipment may not result in any way in application, discharge or deposition in Waters of this State.
- Wastes and wastewaters from the washing of toxic substance containers or equipment may not be discharged to or permitted to flow into subsurface drainage or disposal systems, municipal sanitary sewer systems or storm water drainage systems.

e. Desirable Species and Critical Habitat Protection

Coverage under this permit is available only for discharges and discharge-related activities that are not likely to adversely affect "Desirable Species", as defined in Appendix A, except as provided in Criterion B, C, and, D, below. As one of the provisions in this permit that help limit adverse effects to these resources, the six criteria (A-F) below relate to the impacts a prospective discharger's activities may have on a subset of these listed species and critical habitat. Specifically, the conditions below relate to potential impacts on "Desirable Species", as defined in Appendix A. These are resources that have been identified through consultation with MD DNR as having potential vulnerability that warrants the additional protections entailed in compliance with A-F. Other provisions that protect listed species more broadly include Section II.I, which requires compliance with any conditions resulting from an ESA Section 7 consultation or ESA Section 10 permit, and the waiting period between NOI submittal and authorization to discharge, which provides an opportunity for the DNR and members of the public to identify any potential impacts on listed species and for the Department to notify the permittee if further conditions or an individual permit are necessary.

A step-by-step guide for determining eligibility with these conditions relating to the protection of "Desirable Species", as defined in Appendix A, is provided in Appendix E of the permit. To demonstrate eligibility, Decision-makers must meet one or more of the following six criteria (A-F) for the entire term of coverage under the permit:

Criterion A. Pesticide application activities will not result in a point source discharge to Waters of this State containing a "Desirable Species", as defined in Appendix A, for this permit.

Criterion B. Pesticide application activities for which permit coverage is being requested will discharge to Waters of this State containing "Desirable Species", as defined in Appendix A, but consultation with Environmental Review Program (DNR ERP) and consultation under Section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on "Desirable Species", and must have resulted in either:

i. A biological opinion from DNR ERP or NMFS finding no jeopardy to "Desirable Species" and no destruction/adverse modification of critical habitat; or
ii. Written concurrence from DNR ERP or NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect "Desirable Species" or critical habitat.

Criterion C. Pesticide application activities for which permit coverage is being requested will discharge to Waters of this State containing "Desirable Species", as defined in Appendix A, but all "take" of these resources associated with such pesticide application activities has been authorized through DNR ERP issuance of a permit under COMAR 08.03.08, and such authorization addresses the effects of the pesticide discharges and discharge-related activities on "Desirable Species" and critical habitat. (The term "take" means to harass, harm, pursue, hunt, shoot,

wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. See Section 3 of the Endangered Species Act, 16 U.S.C. § 1532(19).)

Criterion D. Pesticide application activities were, or will be, discharged to Waters of this State containing "Desirable Species", as defined in Appendix A, but only in response to a Declared Pest Emergency Situation. Decision-makers must provide the Department and DNR ERP with their rationale supporting the determination whether the discharge is likely to adversely affect "Desirable Species", including the description of appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects. Activities allowed under this criterion are limited to no longer than 60 days per application unless otherwise specified by the Department or DNR ERP.

Criterion E. Pesticide application activities for which permit coverage is being requested in the NOI will discharge to Waters of this State containing "Desirable Species", as defined in Appendix A, but the Decision-maker includes in the NOI written correspondence from DNR ERP that pesticide application activities performed consistent with appropriate measures will avoid or eliminate the likelihood of adverse effects to "Desirable Species". Eligibility under this criterion is contingent upon the Decision-maker following the measures described in correspondence from DNR ERP designed to avoid or eliminate the likelihood of adverse effects.

Criterion F. Pesticide application activities for which permit coverage is being requested in the NOI will discharge to Waters of this State containing "Desirable Species", as defined in Appendix A, but pesticide application activities are demonstrated by the Decision-maker as not likely to adversely affect "Desirable Species" or the pest poses a greater threat to the "Desirable Species" than does the discharge of the pesticide. Decision-makers must provide the Department and DNR ERP with their documentation demonstrating the basis for their finding.

PART II. Authorization to Discharge under This Permit

A. How to Obtain Authorization

The following discharges, consistent with the permit eligibility provisions in Part II.B, are automatically authorized by this permit beginning on the effective date of this permit.

- Eligible discharges that result from the application of a pesticide as part of pesticide research and development, as defined in Appendix A;
- Eligible discharges for which submission of an NOI is not required. See Parts II.B and II.C.

To obtain authorization under this permit for all other eligible discharges, a Decision-maker must submit a timely, complete, and accurate NOI consistent with the requirements of Parts II.B and II.C.

B. Decision-makers Required to Submit an NOI

Any "Decision-maker who is or will be required to submit an NOI" as defined in Appendix A, is identified in Table 1.

Table 1 - Decision-makers required to Submit NOIs

17-PE Part/ Pesticide Use	Which Decision-makers Must Submit NOIs?	For Which Pesticide Application Activities?
All four use patterns identified in Part I.B.1	Any Decision-maker with an eligible discharge to a Tier 3 water consistent with Part I.B.2.a	Activities resulting in a discharge to a Tier 3 water
All four use patterns identified in Part I.B.1	Any Decision-maker with an eligible discharge to Waters of this State containing a Desirable Species(1)	Activities resulting in a discharge to Waters of this State containing Desirable Species, as defined in Appendix A
1.B.1.a - Mosquito and Other Flying Insect Pest Control	Any Agency for which pest management for land resources stewardship is an integral part of the organization's operations	All mosquito and other flying insect pest control activities resulting in a discharge to Waters of this State
	Mosquito control districts, or similar pest control districts	All mosquito and other flying insect pest control activities resulting in a discharge to Waters of this State
	Local governments or other entities that exceed the Annual Treatment Area Threshold(1) identified in this table	Adulticide treatment of more than 6400 acres during a calendar year or more than 1 acre of water (surface area) discharge of a larvicide into Waters of this State
1.B.1.b - Weed and Algae Pest Control	Any Agency for which pest management for land resources stewardship is an integral part of the organization's operations	All weed and algae pest control activities resulting in a discharge to Waters of this State
	Weed control districts, or similar pest control districts	All weed and algae pest control activities resulting in a discharge to Waters of this State
	Any operator treating SAV (defined as underwater grasses and algae) in Tidal Waters using chemicals	Removing SAV by chemical means in Tidal Waters, regardless of the size of treatment area
	Local governments or other entities that exceed the Annual Treatment Area Threshold(1) identified in this table	Treatment of more than 1 acre of water (surface area) during a calendar year
1.B.1.c - Animal Pest Control	Any Agency for which pest management for land resources stewardship is an integral part of the organization's operations	All animal pest control activities resulting in a discharge to Waters of this State
	Local governments or other entities that exceed the Annual Treatment Area Threshold(1) identified in this table	Treatment of more than 1 acre of water (surface area) during a calendar year
1.B.1.d - Forest Canopy Pest Control	Any Agency for which pest management for land resources stewardship is an integral part of the organization's operations	All forest canopy pest control activities resulting in a discharge to Waters of this State
	Local governments or other entities that exceed the Annual Treatment Area Threshold(1) identified in this table	Treatment of more than 6400 acres during a calendar year

(1) As defined in Appendix A.

For calculating annual treatment area totals for purposes of determining if an NOI must be submitted, see the definition for “annual treatment area threshold” in Appendix A of the permit.

An NOI provides notice to the Department that a Decision-maker intends to discharge to Waters of this State from pesticide application activities eligible for coverage under this permit. The NOI form delineates the information required. The NOI must identify the pest management area where the Decision-maker will conduct activities resulting in discharges to Waters of this State to be covered under this permit. If the activities will result in discharges to any Tier 3 water, eligible under Part I.B.2.a, the NOI must specifically identify the Tier 3 water by the name listed at http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/HighQualityWatersMap.aspx.

If required to submit an NOI, a Decision-maker must submit the NOI once, in accordance with the deadlines in Part II.C, Table 2. Late NOIs will be accepted, but authorization to discharge will not be retroactive.

Coverage will be available for the duration of the permit for Decision-makers who file an NOI, including the Decision-makers' employees, contractors, subcontractors, and other agents, for all activities identified on the NOI unless coverage is terminated pursuant to Parts II.F or II.H. If a submitted NOI is not timely, accurate, or complete, any employee, contractor, subcontractor or other entity that discharges without the required NOI is not covered by this permit.

Applicators who are not also Decision-makers do not need to submit an NOI.

C. Discharge Authorization Date

Except for discharges identified in Table 1, any Operator with eligible discharges is automatically authorized to discharge under this permit without submission of an NOI.

All Decision-makers with eligible discharges for which an NOI is required are required to submit an NOI consistent with the earliest applicable due date identified in Table 2, and any modifications to registrations are required to submit a change of information submittal consistent with Table 3.

Decision-makers will receive authorization for discharging upon receiving an authorization letter from the Department. Decision-makers who are required to submit an NOI, but are discharging under coverage of a state issued Toxics Material Permit (TMP), must begin complying with all applicable requirements specified in Part III as of the effective date of this permit, and apply for continued coverage according to the deadline in Table 2.

On the basis of a review of an NOI or other information, the Department may delay authorization to discharge, the Department may also require that you undertake additional control measures to meet the narrative water quality-based effluent limit in Part III.B, or deny coverage under this permit and require submission of an application for an individual NPDES permit, as detailed in Part II.H.

Decision-makers may submit multiple NOIs with different activities on each of those NOIs such that discharges from different activities are authorized at different times.

Table 2 - NOI Deadlines

Operator Type	NOI Submission Deadline
Any Operator with an existing TMP whose discharges require coverage under this permit (as identified in Table 1)	At least 60 days prior to expiration of the existing TMP.
Any Decision-maker not previously categorized in this table who is discharging to Waters of the State(1) containing Desirable Species in response to a Declared Pest Emergency Situation(1) (with or without prior DNR consultation)	No later than 15 days after beginning to discharge in response to a Declared Pest Emergency Situation(1)(2).
Any Decision-maker not previously categorized in this table who is requesting discharge to Waters of this State containing Desirable Species(1) and includes prior DNR consultation with the NOI	At least 30 days before any discharge to Waters of this State containing Desirable Species(1).
Any Decision-maker not previously categorized in this table who is requesting discharge to Waters of this State containing Desirable Species(1) and does not include prior DNR consultation with the NOI	At least 60 days before any discharge to Waters of this State containing Desirable Species(1). This is designed to allow 30 days for DNR to provide any feedback.(3) (4)
Any Decision-maker not previously categorized in this table discharging in response to a Declared Pest Emergency Situation which requires an NOI pursuant to Part II.B	No later than 30 days after beginning discharge in response to a Declared Pest Emergency Situation(1)(2).
Any Decision-maker not previously categorized in this table who exceeds any annual treatment area threshold.	At least 10 days before exceeding an annual treatment area threshold.

(1) As defined in Appendix A

(2) In any Declared Pest Emergency Situation in areas with Waters of this State containing Desirable Species, DNR will have 30 days after submission of an NOI to provide the Department with a determination as to whether it believes the eligibility criteria of "not likely to adversely affect listed species or designated critical habitat" has been met, could be met with conditions that DNR identifies, or has not been met. The Department expects to rely on DNR's determination in deciding whether to disallow continued permit coverage or if additional conditions are necessary. If DNR does not provide the Department with a recommendation within 30 days of the Department, authorization for these discharges will continue. If the Department identifies additional permit conditions or prohibitions, or includes additional permit conditions or prohibitions recommended by DNR, as necessary to qualify discharges for particular Operators as eligible for coverage beyond 60 days under this permit, those conditions remain in effect for the life of the permit registration.

(3) Within 30 days after the Department receives the NOI, for those areas with Desirable species, as defined in Appendix A, DNR will provide the Department with a determination as to whether it believes the eligibility criterion of "not likely to adversely affect listed species or designated critical habitat" has been met, could be met with conditions that DNR identifies, or has not been met. The Department expects to rely on DNR's determination in deciding whether to withhold authorization. If DNR does not provide the Department with this information within 30 days, and it is determined to be a complete and accurate NOI, the Department will move forward and process the registration.

(4) The Department may authorize certain discharges in less than 30 days, but no fewer than 10 days, for any discharges authorized under Criterion B, C, or E of Part I.B.2.e (for which DNR has already evaluated the effects of these discharges).

Table 3 - NOI Change of Information Submittal Deadlines and Discharge Authorization Dates

Operator Type	NOI Submission Deadline
Any Decision-maker requiring permit coverage for a pest management area not identified on a previously submitted NOI for this permit, except for discharges to any; (1) Tier 3 water or (2) Waters of this State containing Desirable Species. Except for such waters, changes other than identification of a new pest management area or a new pesticide use pattern do not require a revised NOI submittal.	At least 10 days before beginning to discharge in that newly identified area unless discharges are in response to a Declared Pest Emergency Situation in which case not later than 30 days after beginning discharge.
Any Decision-maker discharging to a Tier 3 water not identified by name on a previously submitted NOI for this permit, except for Tier 3 waters containing Desirable Species.	At least 10 days before beginning to discharge in that newly identified Tier 3 water unless discharges are in response to a Declared Pest Emergency Situation in which case not later than 30 days after beginning discharge.
Any Decision-maker with any discharge to Waters of this State containing Desirable Species, as defined in Appendix A, not identified on a previously submitted NOI for this permit. This includes changes in any treatment area, pesticide product, method or rate of application, or approximate dates of applications.	At least 30 days before beginning to discharge in that newly identified water containing Desirable Species unless discharges are in response to a Declared Pest Emergency Situation in which case not later than 15 days after beginning discharge.

D. Required Signatures

1. Any person signing documents in accordance with part II.D.2 and II.D.3 below must include the following certification: *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

2. All applications, including NOIs, must be signed by a Signatory as follows:
   - **a.** *For a corporation*: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
     - ***i.)*** a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

ii.) the manager of one or more properties belonging to the owner, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. *For a partnership or sole proprietorship:* By a general partner or the proprietor, respectively; or

c. *For a municipality, State, Federal, or other public agency:* By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

i.) the chief executive officer of the agency; or

ii.) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of the EPA).

3. Your PDMP, as defined in Appendix A, including changes to your PDMP to document any corrective actions taken as required by Part IV, and all reports submitted to the Department, must be signed by a person described in Part II.D.2 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. the authorization is made in writing by a Signatory;

b. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, Operator of a well or a well field, superintendent, or a position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

c. the signed and dated written authorization is included in the PDMP and made available to the Department upon request.

4. If an authorization for a representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of PART II.D.2 must be submitted to the Department prior to submitting or with any reports, information or applications that must be signed by a duly authorized representative.

E. Continuation of an Expired General Permit

Unless your permit or authorization is revoked or terminated by the Department, the terms and conditions of this permit and its authorized dischargers are automatically continued and remain fully effective and enforceable upon expiration of this permit until the date(s) specified under a reissued general permit.

F. Termination of Permit Coverage

1. Submitting an NOT. To terminate permit coverage, a Decision-maker who is required to submit an NOI as identified in Part II.B, must submit a complete and accurate Notice of Termination (NOT), which is available on the Department's website at

http://www.mde.maryland.gov/assets/document/permit/MDEWMA-PER005.pdf. Information required to be included in an NOT is specified on the form. The authorization to discharge under this permit terminates at midnight of the day that a complete NOT is processed and acknowledged by the Department. If a Decision-maker submits an NOT without meeting one or more of the conditions identified in Part II.F.2 below, the NOT is not valid. Decision-makers are responsible for complying with the terms of this permit until authorization is terminated.

2. When to Submit an NOT. A Decision-maker who is required to submit an NOI as identified in Part II.B must submit the NOT within 30 days after one or more of the following conditions have been met:
   - **a.** A new Decision-maker has taken over responsibility of the pest control activities covered under an existing NOI;
   - **b.** The Decision-maker has ceased all discharges from the application of pesticides for which permit coverage was obtained and does not expect to discharge during the remainder of the permit term for any of the use patterns as identified in Part I.B.1; or
   - **c.** The Decision-maker has obtained coverage under an NPDES individual permit or an alternative NPDES general permit for all discharges required to be covered by an NPDES permit, unless coverage was obtained consistent with Part II.H, in which case coverage under this permit will terminate automatically.

3. Termination for Operators not Required to Submit an NOI. Operators covered under this permit, who are not required to submit an NOI, are terminated from permit coverage when there is no longer a discharge from the application of pesticides or the discharges are covered under an NPDES individual permit or alternative NPDES general permit.

G. Other Federal or State Requirements

Operators must comply with all other applicable federal and state laws and regulations that pertain to the application of pesticides. For example, this permit does not negate the requirements under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and its implementing regulations to use registered pesticides consistent with the product's labeling. In fact, applications in violation of certain FIFRA requirements could also be a violation of this permit and therefore a violation of the CWA (e.g., exceeding label application rates).

Clearing, cutting, or burning of plants including trees and/or shrubs in the Critical Area inside the 100-foot Buffer is not permitted without an approved Buffer Management Plan (BMP). To verify whether your treatment area is in a Critical Area, refer to the Critical Area Commission's website "http://dnr.maryland.gov/criticalarea/Pages/map_update.aspx". If inside the Critical Area, you will need to work with your local planning office. Contacts can be found at "http://dnr.maryland.gov/criticalarea/Pages/planning_zoning_contacts.aspx".

Compliance with this general permit does not supersede the need to comply with any more stringent individual requirements imposed by the Department, including instances where the Department prohibits or limits a specific application. Additionally, other laws and regulations might apply to certain activities that are also covered under this permit (e.g., United States Coast Guard regulations or local county restrictions).

H. Alternative Coverage under an Individual Permit

1. If a permittee is determined to cause an in-stream exceedance of water quality standards, additional actions or an application for an individual permit may be required by the Department.

2. The Department may require any person authorized by this permit to apply for and obtain an individual State or State/NPDES discharge permit if there is evidence indicating potential or realizable impacts on water quality due to any activity covered by this permit. If the owner or Operator fails to submit an application for an individual State or State/NPDES discharge permit as required by the Department under this condition, the coverage of the above activity under this permit is automatically terminated at the end of the day specified by the Department for submission of the permit application.

3. Any person authorized by this permit may request that a specific pesticide application be excluded from coverage under this permit by applying for an individual State or State/NPDES discharge permit. The request may be granted by issuing an individual State or State/NPDES discharge permit if the reasons cited by the Operator are adequate to support the request.

4. When an individual State or State/NPDES discharge permit is issued to a person for a specific discharge covered under this permit, the applicability of this general permit to that discharge is automatically terminated on the effective date of the individual State or State/NPDES discharge permit.

5. If a pesticide application otherwise covered under this permit is denied an individual State or State/NPDES discharge permit, the denial automatically terminates, on the date of the denial, the specific pesticide application's coverage under this general permit, unless otherwise specified by the Department.

6. The Department may terminate coverage under this general permit for an existing pesticide application if the Department finds that:

   a. Conditions or requirements of the discharge permit have been or are about to be violated;

   b. Substantial deviation from plans, specifications or requirements has occurred;

   c. The Department has been refused entry to the treatment site for an inspection to insure compliance with the conditions of the discharge permit;

   d. A change in conditions exists that requires temporary or permanent reduction or elimination of the permitted discharge;

   e. Any other good cause exists for denying coverage under this permit.

I. Desirable Species and Critical Habitat

Operators must comply with all conditions and/or requirements that address discharges from activities also covered under this permit resulting from any of the following pre-existing situations:

1. Endangered Species Act (ESA) Section 7 consultation that Operators have completed with DNR, FWS and/or NMFS, and/or

2. ESA Section 10 permit issued to the Operator by DNR, FWS and/or NMFS.

PART III. SPECIAL CONDITIONS

A. Technology-Based Effluent Limitations

This Part includes technology-based effluent limitations applicable to all Operators, as defined in Appendix A, for any discharges authorized under this permit, with compliance required upon beginning such discharge. All Operators are classified as either "Applicators" or "Decision-makers," as defined in Appendix A, or both. Applicators must perform the tasks identified in Part III.A.1 – Applicators' Responsibilities. Decision-makers must perform the tasks identified in Part III.A.2 – Decision-makers' Responsibilities. There may be instances when a single entity acts as both an Applicator and a Decision-maker.

If an Operator's discharge of pollutants results from the application of pesticide that is being used solely for the purpose of "pesticide research and development," as defined in Appendix A, the Operator must use such pesticide consistent with any applicable research plan and experimental use permit.

As stated in Part II.G, this permit requires all Operators to comply with all other applicable federal or state laws and regulations that pertain to application of pesticides by the Operator.

1. Applicators' Responsibilities

To meet the effluent limitations of this permit, all Applicators must implement Part III.A.1 to minimize the discharge of pesticides to Waters of this State from the application of pesticides, through the use of Pest Management Measures, as defined in Appendix A.

a. To the extent not determined by the Decision-maker, use only the amount of pesticide and frequency of pesticide application necessary to control the target pest, using equipment and application procedures appropriate for this task.

b. Maintain pesticide application equipment in proper operating condition, including requirement to calibrate, clean, and repair such equipment and prevent leaks, spills, or other unintended discharges.

c. Assess weather conditions (e.g., temperature, precipitation, and wind speed) in the treatment area to ensure application is consistent with all applicable federal requirements.

d. Achieve and maintain the required Pesticide Applicator Certification and Business Licensing Requirements from Maryland Department of Agriculture, or be supervised by an employee in your organization who achieves and maintains this same Certification and Licensing. Information is available on the following webpage: http://mda.maryland.gov/plants-pests/Pages/licensing_and_certification.aspx

e. Create the assurance plan and verify compliance with the water quality standards (Part III.B).

2. Decision-makers' Responsibilities: Basic Requirements for All Decision-makers

- To meet the effluent limitations in Part III.A.2, all Decision-makers must minimize the discharge of pesticides to Waters of this State from the application of pesticides, through the use of Pest Management Measures, as defined in Appendix A.

- To the extent the Decision-maker determines the amount of pesticide or frequency of pesticide application, the Decision-maker must use only the amount of pesticide and frequency of pesticide application necessary to control the target pest.

Additional requirements for Any Decision-maker Who is or Will be Required to Submit an NOI.

To meet the effluent limitations of this permit, prior to pesticide application, any Decision-maker who is or will be required to submit an NOI as required in Part II.B, must also implement Parts III.A.2.a - III.A.2.d to minimize the discharge of pesticides to Waters of this State from the application of pesticides, through the use of Pest Management Measures, as defined in Appendix A. However, these requirements do not apply to Decision-makers at smaller properties (less than an acres) that will need to submit an NOI solely because they discharge to Waters of this State containing Desirable Species and that also comply with provisions in Part II.I.

a. Mosquito and Other Flying Insect Pest Control.
   This part applies to discharges from the application of pesticides for mosquito and other flying insect pest control as defined in Part I.B.1.

   i.) Identify the Problem. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI must do the following for each pest management area, as defined in Appendix A:
      - Identify target pest(s) to develop species-specific Pest Management Measures based on developmental and behavioral considerations for each pest;
      - Identify known breeding sites for source reduction, larval control program, and habitat management;
      - Establish densities for larval and adult mosquito or flying insect pest populations or identify environmental condition(s), either current or based on historical data, to serve as action threshold(s) for implementing Pest Management Measures;
      - Analyze existing surveillance data to identify new or unidentified sources of mosquito or flying insect pest problems as well as sites that have recurring pest problems; and
      - In the event there is no data for pest management from the past calendar year, use other available data as appropriate to meet the permit conditions in Part III.A.2.a.i.

   ii.) Pest Management Options. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI shall select and implement, for each pest management area, efficient and effective Pest Management Measures that minimize discharges resulting

from application of pesticides to control mosquitoes or other flying insect pests. In developing these Pest Management Measures for each pest management area, the Decision-maker must evaluate the following management options, including a combination of these management options, considering impact to water quality, impact to non-target organisms, pest resistance, feasibility, and cost effectiveness:

- No action
- Prevention
- Mechanical or physical methods
- Cultural methods
- Biological control agents
- Pesticides

iii.) Pesticide Use. If a pesticide is selected to manage mosquitoes or flying insect pests and application of the pesticide will result in a discharge to Waters of this State, any Decision-maker who is or will be required to submit an NOI must:

- Conduct larval and/or adult surveillance in an area that is representative of the pest problem or evaluate existing larval surveillance data, environmental conditions, or data from adjacent areas prior to each pesticide application to assess the pest management area and to determine when action threshold(s) are met;
- Reduce the impact on the environment and on non-target organisms by applying the pesticide only when the action threshold(s) have been met;
- In situations or locations where practicable and feasible for efficacious control, use larvicides as a preferred pesticide for mosquito or flying insect pest control when larval action threshold(s) have been met; and
- In situations or locations where larvicide use is not practicable or feasible for efficacious control, use adulticides for mosquito or flying insect pest control when adult action threshold(s) have been met.

b. Weed, Algae, and Pathogen Control.

This part applies to discharges from the application of pesticides for weed, algae, and pathogen control as defined in Part I.B.1.

i.) Identify the Problem. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI must do the following for each pest management area, as defined in Appendix A:

- Identify areas with weed, algae, or pathogen problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);
- Identify target weed, algae, or pathogen species;
- Identify possible factors causing or contributing to the weed, algae, or pathogen problem (e.g., nutrients, invasive species, etc); and
- Establish past or present weed, algae, or pathogen densities to serve as action threshold(s) for implementing pest management strategies.

ii.) Pest Management. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once

each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI must select and implement, for each pest management area, efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control weeds, algae, or pathogens. In developing these Pest Management Measures, the Decision-maker must evaluate the following management options, including a combination of these management options, considering impact to water quality, impact to non-target organisms, pest resistance, feasibility, and cost effectiveness:

- No action
- Prevention
- Mechanical or physical methods (i.e. winter burning of phragmites canes unless site conditions or local ordinances prohibit such practice).
- Cultural methods
- Biological control agents
- Pesticides
- Colored dyes for algae suppression

If the treatment area is subject to a Buffer Management Plan (BMP) per Part II.G of this permit, the selected Pest Management Measures must be consistent with those approved plans.

iii.) Pesticide Use. If a pesticide is selected to manage weeds, algae, or pathogens and application of the pesticide will result in a discharge to Waters of this State, any Decision-maker who is or will be required to submit an NOI must:

- Conduct surveillance prior to each pesticide application to assess the pest management area and to determine when the action threshold(s) are met; and
- Reduce the impact on the environment and non-target organisms by applying the pesticide only when the action threshold(s) have been met.
- Follow recommended hold time requirements to prevent any downstream impacts, including those from the manufacturer and those recommended under any desired species consultation.

iv.) Colorant use for Algae Suppression. Use of colorants is restricted to stormwater ponds or man-made decorative pools with outlets that may be controlled. The Operator must ensure that any discharges from a pond or pool following an application of a dye product does not cause a change in the color of Waters of this State beyond a mixing zone of 1/3 of the width of the receiving stream at the point of pond discharge, and not to exceed 50 feet, radial to the point of discharge. Failure to meet these requirements will be considered a violation of (Part III.B) Water Quality-Based Effluent Limitations.

c. Nuisance Animal Control.
This part applies to discharges from the application of pesticides for nuisance animal control as defined in Part I.B.1.

i.) Identify the Problem. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI must do the following for each pest management area, as defined in Appendix A:

- Identify areas with nuisance animal problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);
- Identify target nuisance animal species;
- Identify possible factors causing or contributing to the problem (e.g., nutrients, invasive species);
- Establish any pest- and site-specific action threshold, as defined in Appendix A, for implementing Part III.A.2.c.ii; and
- In the event there are no data for pest management area from the past calendar year, use other available data as appropriate to meet the permit conditions in Part III.A.2.c.i.

ii.) Pest Management Options. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each year thereafter prior to the first pesticide application during that calendar year, any Decision-maker who is or will be required to submit an NOI must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control nuisance animals. In developing these pest management strategies, the Decision-maker must evaluate the following management options, including a combination of these management options, considering impact to water quality, impact to non-target organisms, pest resistance, feasibility, and cost effectiveness:

- No action
- Prevention
- Mechanical or physical methods
- Cultural methods
- Biological control agents
- Pesticides

iii.) Pesticide Use. If a pesticide is selected to manage nuisance animals and application of the pesticide will result in a discharge to Waters of this State, any Decision-maker who is or will be required to submit and NOI must:

- Conduct surveillance in an area that is representative of the pest problem prior to each pesticide application to assess the pest management area and to determine when the action threshold(s) are met; and
- Reduce the impact on the environment and non-target organisms by evaluating site restrictions, application timing, and application method in addition to applying the pesticide only when the action threshold(s) have been met.

d. Forest Canopy Pest Control.
This part applies to discharges from the application of pesticides for forest canopy pest control as defined in Part I.B.1.

i.) Identify the Problem. Prior to the first pesticide application covered under this permit that will result in a discharge to Waters of this State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, any Decision-maker who is or will be required to submit an NOI must do the following for each pest management area, as defined in Appendix A:

- Establish any pest- and site-specific action threshold, as defined in Appendix A, for implementing III.A.2.d.ii;
- Identify target pest(s) to develop Pest Management Measures based on developmental and behavioral considerations for each species;
- Identify current distribution of the target pest and assess potential distribution in the absence of Pest Management Measures; and
- In the event there are no data for the pest management area from the past calendar year, use other available data as appropriate to meet the permit conditions in Part III.A.2.d.i.

ii.) Pest Management. Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each year thereafter prior to the first pesticide application during that calendar year, any Decision-maker who is or will be required to submit an NOI must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control forestry pests. In developing the Pest Management Measures for each pest management area, the Decision-maker must evaluate the following management options, including a combination of these management options, considering impact to water quality, impact to non-target organisms, pest resistance, feasibility, and cost effectiveness:

- No action
- Prevention
- Mechanical or physical methods
- Cultural methods
- Biological control agents
- Pesticides

iii.) Pesticide Use. If a pesticide is selected to manage forestry pests and application of the pesticide will result in a discharge to Waters of this State, any Decision-maker who is or will be required to submit an NOI must:

- Conduct surveillance in an area that is representative of the pest problem prior to each application to assess the pest management area and to determine when the pest action threshold(s) are met;
- Reduce the impact on the environment and non-target organisms by evaluating the restrictions, application timing, and application methods in addition to applying the pesticide only when the action threshold(s) have been met; and
- Evaluate using pesticides against the most susceptible developmental stage.

B. Water Quality-Based Effluent Limitations

All Operators must control discharges as necessary to meet applicable numeric and narrative Maryland water quality standards.

1. Any Decision-maker involved in application of pesticides using copper, who is or will be required to submit an NOI, must develop and provide an assurance plan to the Department for approval, which will verify that the application will be in compliance with state water quality standards. The application of copper-based algaecides and herbicides outlined in the plan must meet the following guidelines:

a. Prohibition on the use of copper compounds in free-flowing streams if the alkalinity of the receiving water is below 20 mg/L (as CaCO3). Otherwise use of the product must follow the manufacturer's required alkalinity adjustment based on instructions for the product.
b. Methods of applying the product to minimize the impact on non-target organisms (i.e. starting near shore, or applying directly on mats of algae, or along surface for bluegreen algae where the organism exists).
c. Provide verification that no reasonable potential exists for exceeding the following criteria (using a mass balance calculation, approved model, or other approved demonstration):
   i. for reservoirs that are created by dams of intermittent or free flowing streams, dissolved copper concentration limits are below acute water quality criteria (13 ug/l fresh water or 4.8 ug/l salt water) in two thirds the cross-sectional area of the impoundment within 48 hours of application.
   ii. for larger ponds (over 5 acres), dissolved copper concentrations must be below the chronic water quality criteria (9 ug/l fresh water or 4.8 ug/l salt water) at the edge of mixing zone within the receiving waterway below the conveyance from the pond within 48 hours of application.
   iii. for smaller ponds (equal to or under 5 acres) use of instructions on label required, and visual monitoring to verify no impact on non-target organisms.
d. If you cannot demonstrate that the application will be in compliance with the above requirements and monitoring of dissolved copper is required, you must include a monitoring plan for before and after the application. Monitoring is only required during the periods when the pesticide is being used. At a minimum, monitoring must consist of grab samples before the application and 48 hours after the pesticide is used. The Department reserves the right to specify additional monitoring requirements at its discretion.

2. Requirements for pesticide applications to waters protected for drinking water (-P):
Any Decision-maker involved in applying pesticides to waters protected for drinking water, should give preference to products recommended for drinking supplies. Any Decision-maker involved in applying pesticides to waters protected for drinking water, who is or will be required to submit an NOI, must develop and provide an assurance plan to the Department for approval, which will verify that the application will not impact human health, based on established Maximum Contaminant Levels (MCL) or your own research. Application of pesticides is prohibited within 100 feet of a drinking water intake. The plan will include the following:

a. Identification of the drinking water criteria based on your own research, MCLs (primary and secondary), or Health Advisories for Short Term Exposure. A full list of MCLs can be found here (https://www.epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf). The known MCLs for common pesticides include: Aquathol (100 ug/l), Diquat (20 ug/l), Endothall (100 ug/l), 2,4-D (70 ug/l) and Glyphosate (700 ug/l).
b. Method of application to minimize the impact on the receiving water (i.e. holding pond treatment for 2 weeks per the label).
c. Provide verification that no reasonable potential exists for exceeding the established criteria (i.e. using a mass balance calculation, approved model, or other approved demonstration):
   i. for reservoirs that are created by dams of intermittent or free flowing streams within 100 feet of the targeted pest control area.

ii. for larger ponds (over 5 acres), at the edge of mixing zone within the receiving waterway below the conveyance from the pond.

d. If you cannot demonstrate that the application will be in compliance with the above requirements and monitoring is required, you must include a monitoring plan for before and after the application. Monitoring is only required during the periods when the pesticide is being used. At a minimum, monitoring must consist of grab samples before the application and 48 hours after the pesticide is used. The Department reserves the right to specify additional monitoring requirements at its discretion.

e. A plan to notify the Department's Water Supply Program, and utilities downstream as directed on your registration letter in the event a pesticide is spilled or dosage is exceeded.

If at any time the Operator becomes aware or the Department determines that the discharge causes or contributes to an excursion of applicable water quality standards, the Operator shall take Corrective Action as required in Part III.E.

C. Monitoring and Public Notice Requirements

1. **Visual Monitoring Requirements for Applicators**

During any pesticide application with discharges authorized under this permit, all Applicators must, when considerations for safety and feasibility allow, visually assess the area to and around where pesticides are applied for possible and observable adverse incidents, as defined in Appendix A, caused by application of pesticides, including the unanticipated death or distress of non-target organisms and disruption of wildlife habitat, recreational or municipal water use.

Visual Monitoring by the Applicator must also include:

a. monitoring the amount of pesticide applied to ensure that the Operator is using the lowest amount to effectively control the pest, consistent with reducing the potential for development of pest resistance.

b. monitoring pesticide application activities to ensure that application equipment is in proper operating condition by adhering to any manufacturer's conditions and industry practices, and by calibrating, cleaning, and repairing equipment on a regular basis.

2. **Visual Monitoring Requirements for all Operators**

All Operators covered under this permit must conduct a visual monitoring assessment (i.e. spot checks in the area to and around where pesticides are applied) for possible and observable adverse incidents, as defined in Appendix A, caused by application of pesticides, including but not limited to the unanticipated death or distress of non-target organisms and disruption of wildlife habitat, recreational or municipal water use.

Visual assessments of the application site must be performed:

a. during any post-application surveillance or efficacy check that one conducts, if surveillance or an efficacy check is conducted.

b. during any pesticide application, when considerations for safety and feasibility allow.

3. **Public Notice Requirements**

At a minimum, signage must be posted by applicators consistent with COMAR 15.05.01.00 for pesticides used for ornamental or turf management in cemeteries, golf courses, parks, and similar sites or as required on the FIFRA label. In addition, the applicator must carry information for the public and present it upon request during the

time the pesticide is being applied, or alternatively refer the request to the Decision Maker who can provide the information. This printed or written information is to include: 1) Name and EPA ID of the pesticide applied; 2) Date applied; 3) Name of licensee/permittee; 4) Telephone number or email address of licensee/permittee.

D. Pesticide Discharge Management Plan (PDMP)

Any Decision-maker who is or will be required to submit an NOI, as required in Part II.B, exceeds the annual treatment area in the Table 4 and is a large entity, as defined in Appendix A, must prepare a Pesticide Discharge Management Plan (PDMP) by the time the NOI is filed, with two exceptions (for which a PDMP is not required to be developed):

- Any application is made in response to a Declared Pest Emergency Situation, as defined in Appendix A; or
- Any Decision-maker who is required to submit an NOI solely because their application results in a point source discharge to Waters of this State containing Desirable Species, as defined in Appendix A.

Table 4 - Annual Treatment Area Thresholds related to the PDMP

Pesticide Use	Annual Threshold[4]
Mosquito and Other Flying Insect Pest Control	6,400 acres of treatment area[1]
Weed and Algae Control:	
- In Water	80 acres of treatment area[2]
- At Water's Edge	20 linear miles of treatment area at water's edge[3]
Nuisance Animal Control:	
- In Water	80 acres of treatment area[2]
- At Water's Edge	20 linear miles of treatment area at water's edge[3]
Forest Canopy Pest Control	6,400 acres of treatment area[1]

([1]) For calculating annual treatment area totals, count each pesticide application activity as a separate activity. For example, applying pesticides twice a year to a ten-acre site should be counted as twenty acres of treatment area.

([2]) Calculations should include the area of the applications made to: (1) waters of this State and (2) conveyances with a hydrologic surface connection to waters of the State at the time of pesticide application. For calculating annual treatment area totals, count each treatment area once, regardless of how many applications are performed to that area.

([3]) Calculations should include the linear extent of the application made at water's edge adjacent to: (1) waters of this State and (2) conveyances with a hydrologic surface connection to waters of the State at the time of pesticide application. For calculating annual treatment totals, count each treatment area once, regardless of how many applications are performed to that area and count each side of a linear water body (other than a ditch) as a separate activity or area. For example,

treating both sides of a ten-mile stream is equal to twenty miles of water treatment area.

([4]) "Annual" shall refer to the calendar year, and that includes the year in which this permit is issued.

The PDMP does not contain effluent limitations; the effluent limitations are contained in Parts III.A and B of the permit. The PDMP documents how Decision-makers will implement the effluent limitations in Parts III.A and B of the permit, including the evaluation and selection of Pest Management Measures to meet those effluent limitations in order to minimize discharges. In the PDMP, Decision-makers may incorporate, by reference, any procedures or plans in other documents that meet the requirements of this permit. If Decision-makers rely upon other documents to comply with the effluent limitations in this permit, such as a pre-existing pest management plan, the Decision-maker must attach to the PDMP a copy of any portions of any documents that one is using to document the implementation of the effluent limitations.

1. **Contents of the Pesticide Discharge Management Plan**

The PDMP shall include the following elements:

- Pesticide Discharge Management Team
- Problem Identification
- Pest Management Options Evaluation
- Monitoring Procedures
- Response Procedures
- Documentation to support eligibility considerations under other federal laws
- Signature Requirements.

a. PDMP Team. Decision-makers must identify all persons (by name and contact information) that comprise the team as well as each person's individual responsibilities, including:

i.) Person(s) responsible for managing pests in relation to the pest management area
ii.) Person(s) responsible for developing and revising the PDMP;
iii.) Person(s) responsible for developing, revising, and implementing corrective actions and other effluent limitation requirements ; and
iv.) Person(s) responsible for pesticide applications.

b. Problem Identification. Decision-makers must document the following:

i.) Pest problem description. Document a description of the pest problem at the pest management area, including identification of the target pest(s), source(s) of the pest problem, and source of data used to identify the problem in accordance with Parts III.A.2.a, III.A.2.b, III.A.2.c, and III.A.2.d.;
ii.) Action Threshold(s). Describe the action threshold(s) for the pest management area, including data used in developing the action threshold(s) and method(s) to determine when the action threshold(s) have been met;
iii.) General location map. In the plan, include a general location map (e.g., Google, USGS quadrangle map, a portion of a city or county map, or other map) that identifies the geographic boundaries of the area to which the plan applies and the location of the Waters of this State; and

iv.) Water quality standards. Document any Tier 3 (Outstanding National Resource Waters) and any water(s) identified as impaired by a substance which either is an active ingredient or a degradate of such an active ingredient.

c. Pest Management Options Evaluation.
Decision-makers must document the evaluation of the pest management options, including combination of the pest management options, to control the target pest(s). Pest management options include the following: no action, prevention, mechanical/physical methods, cultural methods, biological control agents and pesticides. In the evaluation, Decision-makers must consider the impact to water quality, impact to non-target organisms, feasibility, cost effectiveness, and any relevant previous Pest Management Measures.

d. Monitoring Procedures.
Monitoring is required in Part III.C and, if applicable, Part III.B. Decision-makers must document relevant procedures used for monitoring including:

i.) The process for determining the location of any monitoring;
ii.) The person (or position) responsible for conducting monitoring; and
iii.) Procedures for documenting any observed impacts to non-target organisms resulting from the pesticide discharge.

e. Response Procedures.
Decision-makers must document the following procedures in the PDMP:

i.) Spill Response Procedures – At a minimum, Decision-makers must have:
- Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases to Waters of this State. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the PDMP team and
- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies.

ii.) Adverse Incident Response Procedures – At a minimum Decision-makers must have:
- Procedures for responding to any incident resulting from pesticide applications and
- Procedures for notification of the incident, both internal to the Decision-maker's agency/organization and external. Contact information for MDE, nearest emergency medical facility, and nearest hazardous chemical responder must be in locations that are readily accessible and available.

f. Documentation to Support Eligibility Considerations under Other Federal Laws.
Decision-makers must keep, with the PDMP, documentation supporting their determination with regard to Part 1.1.2.4 (Endangered and Threatened Species and Critical Habitat Protection).

g. Signature Requirements. Decision-makers must sign, date and certify its PDMP in accordance with Part II.D.

2. **Pesticide Discharge Management Plan Modifications.** Decision-makers must modify the PDMP whenever necessary to address any of the triggering conditions for corrective action in Part III.E.1 or when a change in pest control activities significantly changes the type or quantity of pollutants discharged. Changes to the PDMP must be made before the next pesticide application that results in a discharge, if practicable, or if not, no later than 90 days after any change in pesticide application activities. The revised PDMP must be signed and dated in accordance with Part II.D.

   The Operator shall also periodically review the PDMP at a minimum once per calendar year and whenever necessary update the pest problem identified and pest management strategies evaluated for the pest management area.

3. **Pesticide Discharge Management Plan Availability.** Decision-makers must retain a copy of the current PDMP, along with all supporting maps and documents, at the address provided on the NOI. The PDMP and all supporting documents must be readily available and copies of any of these documents provided, upon request, to the Department, DNR, MDA and representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS). The Department may provide copies of the PDMP or other information related to this permit that is in its possession to members of the public. Any Confidential Business Information (CBI), as defined in 40 CFR Part 2, may be withheld from the public provided that a claim of confidentiality is properly asserted and documented in accordance with 40 CFR Part 2; however, CBI must be submitted to the Department, if requested, and may not be withheld from those staff within the Department, DNR, MDA, FWS, and NMFS cleared for CBI review.

E. Corrective Action

All Operators must comply with the provisions of Part III.E for any discharges authorized under this permit, with compliance required upon beginning such discharge.

1. **Situations Requiring Revision of Pest Management Measures.**
   Operators must review and, as necessary, revise the evaluation and selection of Pest Management Measures consistent with Part III.A.1 and Part III.A.2 for the following situations:

   a. An unauthorized release or discharge associated with the application of pesticides (e.g., spill, leak, or discharge not authorized by this or another NPDES permit) occurs;

   b. Operator(s) becomes aware, or the Department concludes, that Pest Management Measures are not adequate/sufficient for the discharge to meet applicable water quality standards;

   c. Any monitoring activities indicate failure to meet applicable technology-based effluent limitations in Part III.A;

   d. An inspection or evaluation of the Operator's activities by the Department reveals that modifications to the Pest Management Measures are necessary to meet the effluent limitations in this permit; or

   e. The Operator observes, for example, during visual monitoring, or is otherwise made aware of, an adverse incident as defined in Appendix A.

2. **Corrective Action Deadlines.**
If the Operator determines that changes to the Pest Management Measures are necessary to eliminate any situation identified in Part III.E.1, such changes must be made before the next pesticide application that results in a discharge if practicable, or if not, as soon as possible thereafter.

3. **Effect of Corrective Action.**
The occurrence of a situation identified in Part III.E.1 may constitute a violation of the permit. Correcting the situation according to Part III.E.1 does not absolve the Operator of liability for any original violation. However, failure to comply with Part III.E.2 constitutes an additional permit violation. The Department will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

The Department or a court may impose additional requirements and schedules of compliance, including requirements to submit additional information concerning the condition(s) triggering corrective action or schedules and requirements more stringent than specified in this permit. Those requirements and schedules will supersede those of Part III.E.1 and III.E.2 if such requirements conflict.

4. **Adverse Incident Documentation and Reporting**

a. Twenty-Four (24)-Hour Adverse Incident Notification

i.) Adverse Incident Notification Required
Except as provided for in Part III.E.4.d, if the Operator observes or is otherwise made aware of an adverse incident, as defined in Appendix A, which may have resulted from a discharge from a pesticide application, the Operator must immediately notify the Department, Water and Science Administration Compliance Program, at 410-537-3510, and the Field Evaluation Division, at 410-537-3572, within 24 hours of becoming aware of the adverse incident and the notification must include at least the following information:

- The caller's name and telephone number;
- Operator name and mailing address;
- If covered under an NOI, the registration number assigned by the Department;
- The name and telephone number of a contact person, if different than the person providing the 24-hour notice;
- How and when the Operator became aware of the adverse incident;
- Description of the location of the adverse incident;
- Description of the adverse incident identified and the EPA pesticide registration number for each product that the Operator applied in the area of the adverse incident; and
- Description of any steps the Operator has taken or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

If the Operator is unable to notify the Department within 24 hours, the Operator must do so as soon as possible and also provide the rationale for why the Operator was unable to provide such notification within 24 hours.

The adverse incident notification and reporting requirements are in addition to what the Operator is required to submit under FIFRA section 6(a)(2) and its implementing regulations at 40 CFR Part 159.

In addition to reporting requirements (Part III.E), dead fish and/or vegetation resulting from an adverse event must be removed from the water as required in consultation with the Department and shall be disposed of on land in such a manner that will not create a nuisance.

ii.) Adverse Incident Notification Not Required

Reporting of adverse incidents is not required under this permit in the following situations:

- The Operator is aware of facts that clearly establish that the adverse incident was not related to toxic effects or exposure from the pesticide application;
- The Operator has been notified in writing by the Department that the reporting requirement has been waived for this incident or category of incidents;
- The Operator receives information notifying the Operator of an adverse incident but that information is clearly erroneous; or
- An adverse incident occurs to pests that are similar in kind to pests identified as potential targets on the FIFRA label.

b. Thirty (30)-Day Adverse Incident Written Report

Except as provided for in Part III.E.4.d, within thirty days of a reportable adverse incident pursuant to Part III.E.4.a.i, the Operator shall provide a written report of the adverse incident to the Department, Water and Science Administration Compliance Program. The adverse incident report must include at least the following information:

i.) Information required to be provided in Part III.E.4;
ii.) Date and time the Operator contacted MDE notifying the Department of the adverse incident and with whom at the Department the Operator spoke and any instructions the Operator received from the Department;
iii.) Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc);
iv.) A description of the circumstances of the adverse incident including species affected, estimated number of individual and approximate size of dead or distressed organisms;
v.) Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);
vi.) Pesticide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of pesticide product, description of pesticide ingredients, and EPA registration number;
vii.) Description of the habitat and the circumstances under which the adverse incident occurred (including any available ambient water data for pesticides applied);
viii.) If laboratory tests were performed, indicate what test(s) were performed, and when, and provide a summary of the test results within 5 days after they become available;
ix.) If applicable, explain why the Operator believes the adverse incident could not have been caused by exposure to the pesticide;

x.) Description of actions to be taken to prevent recurrence of adverse incidents; and
xi.) Signed and dated in accordance with Part II.D.

The Operator shall report adverse incidents even for those instances when the pesticide labeling states that adverse effects may occur.

c. Adverse Incident to Threatened or Endangered Species or Critical Habitat

Notwithstanding any of the other adverse incident notification requirements of this section, if the Operator becomes aware of an adverse incident to threatened or endangered species or critical habitat, that may have resulted from a discharge from the Operator's pesticide application, the Operator shall immediately notify the National Marine Fisheries Service (NMFS) and Maryland Department of Natural Resources in the case of an anadromous or marine species, or the U.S. Fish and Wildlife Service (FWS) and Maryland Department of Natural Resources in the case of a terrestrial or freshwater species. This notification must be made by telephone immediately upon the Operator becoming aware of the adverse incident and must include at least the following information:

i.) The caller's name and telephone number;
ii.) Operator name and mailing address;
iii.) The name of the affected species, size of area impacted, and, if applicable, the approximate number of animals affected;
iv.) How and when the Operator became aware of the adverse incident;
v.) Description of the location of the adverse incident;
vi.) Description of the adverse incident, including the EPA pesticide registration number for each product the Operator applied in the area of the adverse incident; and
vii.) Description of any steps the Operator has taken or will take to alleviate the adverse impact to the species.

Additional information on federally-listed threatened or endangered species and federally-designated critical habitat is available from NMFS (www.nmfs.noaa.gov) for anadromous or marine species or FWS (www.fws.gov) for terrestrial or freshwater species.

d. Notification and Reporting for Adverse Incidents Involving Multiple Operators
Where multiple Operators are authorized for a discharge that results in an adverse incident, notification and reporting by any one of the Operators constitutes compliance for all of the Operators, provided a copy of the written report required in Part III.E.4.b is also provided to all of the other authorized Operators within 30 days of the reportable adverse incident.

5. **Reportable Spills and Leaks**

a. Spills, Leaks, or Other Unpermitted Discharges Notification
Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs in any 24-hour period, the Operator shall notify the National Response Center (NRC) immediately at (800) 424-8802 or, in the Washington, DC, metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as

soon as the Operator has knowledge of the release. Contact information must be in locations that are readily accessible and available in the area where the spill, leak, or other unpermitted discharge may occur.

b. Five-day Spill, Leak, or Other Unauthorized Discharge Report
Within five (5) days of the Operator becoming aware of a spill, leak, or other unauthorized discharge triggering the notification in Part III.E.5.a above, the Operator shall submit a written report to the Water and Science Administration Compliance Program. The report shall contain the following information:

i.) Brand name or common product name including EPA registration number;
ii.) A description of the nature and location of the spill, leak or discharge;
iii.) The cause of the spill, leak or discharge;
iv.) The date on which the spill, leak or discharge occurred;
v.) The length of time that the spill, leak or discharge continued;
vi.) The volume of the spill, leak or discharge;
vii.) If the discharge is continuing, how long it is expected to continue, and what the expected total volume of the discharge will be;
viii.) A summary of corrective action taken or to be taken including date initiated and date completed or expected to be completed; and
ix.) Any steps planned or taken to prevent recurrence of such a spill or leak or other discharge, including notice of whether PDMP modifications are required as a result of the spill or leak.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

The Department may waive the written report on a case-by-case basis for reports of noncompliance if the oral report has been received within 24 hours and no adverse impact on State waters has been reported.

6. **Other Corrective Action Documentation**
For situations identified in Part III.E.1, other than for adverse incidents (addressed in Part III.E.4), or reportable spills or leaks (addressed in Part III.E.5), Operators must document the situation triggering corrective action and document planned corrective action within 30 days of becoming aware of that situation, and retain a copy of this documentation. This documentation must include the following information:

a. Identification of the condition triggering the need for corrective action review, including any ambient water quality monitoring that assisted in determining that discharges did not meet water quality standards;
b. Brief description of the situation;
c. Date the problem was identified;
d. Brief description of how the problem was identified, how the Operator learned of the situation, and date the Operator learned of the situation;
e. Summary of corrective action taken or to be taken, including date initiated and date completed or expected to be completed; and
f. Any measures to prevent reoccurrence of such an incident, including notice of whether PDMP modifications are required as a result of the incident.

F. Recordkeeping and Annual Reporting

The recordkeeping and annual reporting requirements vary depending on the type of Operator, whether a Decision-maker is a small or large entity, or whether a Decision-maker is required to submit an NOI solely because the discharge overlaps with Desirable Species, as defined in Appendix A. Table 5 references applicable requirements for the range of Operators covered under this permit.

Table 5 - Applicable Recordkeeping and Annual Reporting Requirements for Different Types of Operators..

17-PE Part	Applicable Type of Operator
F.1	Recordkeeping for All Operators
F.2	Recordkeeping for All Operators who are For-Hire Applicators
F.3	Recordkeeping for Any Decision-maker Required to Submit an NOI and Who is a Small Entity(1)
F.4	Recordkeeping for Any Decision-maker Required to Submit an NOI and Who is a Large Entity(2)
F.5	Retention of Records for All Operators
F.6	Annual Reporting for Any Decision-maker Required to Submit an NOI and Who is a Large Entity(2)
F.7	Annual Reporting for Any Decision-maker with Discharges to waters of the United States containing a Desirable Species, as defined in Appendix A, and Who is a Small Entity(1)

[1]Small Entity – As defined in Appendix A, is any (1) public entity that serves a population of 10,000 or less or (2) private enterprise that does not exceed the Small Business Administration size standard identified at:

https://www.sba.gov/federal-contracting/contracting-guide/size-standards

[2]Large Entity – As defined in Appendix A, is any (1) public entity that serves a population of greater than 10,000 or (2) private enterprise that exceeds the Small Business Administration size standard as identified at:

https://www.sba.gov/federal-contracting/contracting-guide/size-standards

The Operator shall keep records as required in this permit. These records must be accurate and complete and sufficient to demonstrate compliance with the conditions of this permit. Operator(s) can rely on records and documents developed for other obligations, such as requirements under FIFRA, and state or local pesticide programs, provided all requirements of this permit are satisfied.

The Department recommends that all Decision-makers who are or may be required to submit an NOI based on their annual treatment area, keep records of acres or linear miles treated for all applicable use patterns covered under this general permit.

1. **Recordkeeping for All Operators.** All Operators must keep the following records:
   a. A copy of any Adverse Incident Reports (See Part III.E.4.b);
   b. The Operator's rationale for any determination that reporting of an identified adverse incident is not required consistent with allowances identified in Part III.E.4.a.ii;
   c. Any corrective action documentation (See Part III.E.6); and ,
   d. A copy of any spill and leak or other unpermitted discharge documentation (See Part III.E.5.b).

2. **Recordkeeping for All Operators who are For-Hire Applicators.** Any Operator who is a For-Hire Applicator, as defined in Appendix A, must retain the following records:

   a. Documentation of equipment calibration; and
   b. Information on each treatment area to which pesticides are discharged, including:
      i.) Description or map of each treatment area indicating at a minimum, the location and size, (acres or linear feet) of treatment area, and identification of any waters, either by name or by location, to which pesticide(s) are discharged;
      ii.) Day, month and year of application;
      iii.) Pesticide use pattern(s) (i.e. mosquito and other flying insects, weed and algae, animal pest or forest canopy);
      iv.) Target pest(s);
      v.) Brand name or common product name including EPA registration number;
      vi.) Amount of pesticide concentrate and amount of diluting used, by weight or volume, in mixture applied; and
      vii.) Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not, why not, and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides.

3. **Recordkeeping for Any Decision-maker Required to Submit an NOI and Who is a Small Entity.** Any Decision-maker required to submit an NOI who is defined as a small entity, must retain the following records at the address provided on the NOI:

   a. Copy of the NOI submitted to the Department, any correspondence exchanged between the Decision-maker and the Department specific to coverage under this permit, and a copy of the registration letter with the assigned permit number;
   b. Documentation of equipment calibration (only if Decision-maker is also the Applicator);
   c. Information on each treatment area to which pesticides are discharged, including:
      i.) Description or map of each treatment area indicating at a minimum, the location and size, (acres or linear feet) of treatment area, and identification of any waters, either by name or by location, to which pesticide(s) are discharged;
      ii.) Pesticide use pattern(s) (i.e., mosquito and other flying insects, weed and algae, animal pest, or forest canopy);
      iii.) Target pest(s) and explanation of need for pest control;
      iv.) Description of pest management measure(s) implemented prior to the first pesticide application;
      v.) Company name and contact information for pesticide applicator;
      vi.) Name of each pesticide product used including the EPA registration number;
      vii.) Quantity of each pesticide product applied to each treatment area;
      viii.) Pesticide Application Start Date;
      ix.) Pesticide Application End Date; and
      x.) Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not, why not and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides.

   A worksheet for documenting this information on each treatment area is provided in Appendix B, Pesticide Discharge Evaluation Worksheet.

4. **Recordkeeping for Any Decision-maker Required to Submit an NOI and Who is a Large Entity.** Any Decision-maker required to submit an NOI who is defined as a large entity must retain the following records at the address provided on the NOI:
   a. Copy of the NOI submitted to the Department, any correspondence exchanged between the Decision-maker and the Department specific to coverage under this permit, and a copy of the registration letter with the assigned permit number;
   b. A copy of the PDMP (if applicable), including any modifications made to the PDMP during the term of this permit;
   c. Copy of annual reports (if applicable);
   d. Documentation of equipment calibration (only if Decision-maker is also the Applicator);
   e. Information on each treatment area to which pesticides are discharged, including:
      i.) Description or map of each treatment area indicating at a minimum, the location and size, (acres or linear feet) of treatment area, and identification of any waters, either by name or by location, to which pesticide(s) are discharged;
      ii.) Pesticide use pattern(s) (i.e., mosquito and other flying insects, weed and algae, animal pest, or forest canopy);
      iii.) Target pest(s) and explanation of need for pest control;
      iv.) Action Thresholds;
      v.) Method and/or data used to determine that action threshold(s) has been met;
      vi.) Description of pest management measure(s) implemented prior to the first pesticide application;
      vii.) Company name and contact information for pesticide applicator;
      viii.) Name of each pesticide product used including the EPA registration number;
      ix.) Quantity of each pesticide product applied to each treatment area;
      x.) Pesticide application date(s); and
      xi.) Whether or not visual monitoring was conducted during pesticide application and/or post-application, and if not, why not, and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides.

5. **Retention of Records for All Operators.** All required records must be assembled as soon as possible but no later than 30 days following completion of such activity. Operators must retain any records required under this permit, including copies of all reports required by this permit, for a period of at least 3 years from the date of the sample, measurement, observation, report, or other required record. Operators must make available to the Department, including an authorized representative of the Department, all records kept under this permit upon request and provide copies of such records, upon request.

6. **Annual Reporting for Any Decision-maker Required to Submit an NOI and Who is a Large Entity.** Any Decision-maker required to submit an NOI and is defined as a large entity in Appendix A, must create an annual report, once the Operator reports an adverse incident as described in Part III.E.4.a. This Annual Report must be submitted to the Department, and a copy kept on-site. Once a Decision-maker meets the obligation to create an annual report, the Decision-maker must create the annual report each calendar year thereafter for the duration of coverage under this general permit, whether or not the Decision-maker has discharges from the application of pesticides in any subsequent calendar year. Decision-makers must create the annual report and have it available for the Department upon request. The annual report must be created no later than February 15 of the following year for all pesticide activities covered under this permit occurring during the previous calendar year.

The annual report must contain the following information:

a. Decision-maker's name and contact information;
b. NPDES permit registration number(s);
c. Contact person name, title, e-mail address (if any), and phone number; and
d. For each treatment area, report the following information:
   i.) Description or map of each treatment area indicating at a minimum, the location and size, (acres or linear feet) of treatment area, and identification of any waters, either by name or by location, to which pesticide(s) are discharged;
   ii.) Pesticide use pattern(s) (i.e., mosquito and other flying insects, weed and algae, animal pest, or forest canopy) and target pest(s);
   iii.) Company name(s) and contact information for pesticide applicator(s), if different from the Decision-maker;
   iv.) Total amount of each pesticide product applied for the reporting year by the EPA registration number(s) and by application method (e.g., aerially by fixed-wing or rotary aircraft, broadcast spray, etc.);
   v.) Whether this pest control activity was addressed in the PDMP prior to pesticide application;
   vi.) If applicable, an annual report of any adverse incidents as a result of these treatment(s), for incidents, as described in Part III.E.4.a; and
   vii.) If applicable, description of any corrective action(s), including spill responses, resulting from pesticide application activities and the rationale for such action(s).

7. **Annual Reporting for Any Decision-maker with Discharges to waters of this State containing Desirable Species, as defined in Appendix A, and Who is a Small Entity.** Any Decision-maker required to submit an NOI for discharges to Waters of this State containing Desirable Species, as defined in Appendix A, and is a small entity, as defined in Appendix A, must create an annual report. Any Operator that reports an adverse incident as described in Part III.E.4.a must submit this annual report to the Department. Once a Decision-maker meets the obligation to create an annual report, the Decision-maker must create the annual report each calendar year thereafter for the duration of coverage under this general permit, whether or not the Decision-maker has discharges from the application of pesticides in any subsequent calendar year, and make it available upon request from the Department. The annual report must be created no later than February 15 of the following year for all pesticide activities covered under this permit occurring during the previous calendar year.

The annual report is due no later than February 15 of the next year.

The annual report must contain the following information for any discharges to Waters of this State containing Desirable Species:

a. Decision-maker's name and contact information;
b. NPDES permit registration number(s);
c. Contact person name, title, e-mail address (if any), and phone number; and
d. For each treatment area, report the following information:
   i.) Description or map of each treatment area indicating at a minimum, the location and size, (acres or linear feet) of treatment area, and identification of any waters, either by name or by location, to which pesticide(s) are discharged;
   ii.) Pesticide use pattern(s) (i.e., mosquito and other flying insects, weed and algae, animal pest, or forest canopy) and target pest(s);

iii.) Company name(s) and contact information for pesticide applicator(s), if different from the Decision-maker;
iv.) Total amount of each pesticide product applied for the reporting year by the EPA registration number(s) and by application method (e.g., aerially by fixed-wing or rotary aircraft, broadcast spray, etc.);
v.) The approximate date(s) of any discharge;
vi.) If applicable, an annual report of any adverse incidents as a result of these treatment(s), for incidents, as described in Part III.E.4.a; and
vii.) If applicable, description of any corrective action(s), including spill responses, resulting from pesticide application activities and the rationale for such action(s).

G. Electronic Reporting Requirement

Decision-makers must summarize and submit monitoring (Part III.B) reports electronically once per year. Your monitoring information is submitted electronically using NetDMR once you are granted access to this tool, unless you demonstrate a reasonable basis that precludes the use of NetDMR. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

1. NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. You must apply for access to NetDMR at www.epa.gov/netdmr and register for a NetDMR Webinar. Before you can submit official DMRs using NetDMR you must attend a training Webinar and successfully set-up and submit test monitoring results electronically. You must complete all requirements to gain access to NetDMR within one (1) month of authorization under this permit.
2. The permittee may be eligible for a temporary waiver by MDE from NPDES electronic reporting requirements if the permittee has no current internet access and is physically located in a geographic area (i.e., zip code) that is identified as underserved for broadband internet access in the most recent National Broadband Map from the Federal Communications Commission (FCC); or if the permittee can demonstrate that such electronic reporting of the monitoring data and reports would pose an unreasonable burden or expense to the NPDES-permitted facility. Waiver requests must be submitted in writing to the Department for written approval at least 120 days prior to the date the permittee would be required under this permit to begin using NetDMR. This demonstration shall be valid for one (1) year from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department unless the permittee submits a renewed waiver request and such request is approved by the Department. The application form for a waiver from electronic reporting requirements can be found at http://mde.maryland.gov/programs/Permits/WaterManagementPermits/Documents/eReporting%20Waiver%20Request%20Form.pdf . All subsequent hardcopy DMRs shall be sent to the Department's Compliance Program.
3. If you are required to perform numeric discharge monitoring for specific pollutants you must report the data, at least yearly, no later than February 15 of the next year.

H. Contact Information and Mailing Addresses

1. Wastewater Permits Program: When directed to contact the Department's Wastewater Permits Program use the phone number 410-537-3323 and the address:
Maryland Department of the Environment, Wastewater Permits Program, 1800 Washington Blvd, Suite 455, Baltimore, MD 21230

2. Compliance Program: When directed to contact the Department's Compliance Program use the phone number 410-537-3510 and the address:
   Maryland Department of the Environment, WSA – Compliance Program, 1800 Washington Blvd., Suite 425, Baltimore, MD 21230

PART VI. STANDARD PERMIT CONDITIONS

A. ***Submitting Additional or Corrected Information***

When you become aware that you failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Department, you must submit the facts or information to the Department within 30 days.

B. ***Adverse Impact***

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

C. ***Right of Entry***

You must permit the Secretary of the Department, the Regional Administrator for the EPA, or their authorized representatives, upon the presentation of credentials, to:

1. enter upon your premises where a discharges' source is located or where any records are required to be kept under the terms and conditions of this permit;
2. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
3. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;
4. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit;
5. sample, at reasonable times, any discharge of pollutants; and
6. take photographs (which may require direction for reasons of national security).

D. ***Availability of Reports***

Except for data determined to be confidential under the Maryland Public Information Act and/or Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data must be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

E. ***Permit Modification***

The Department may revoke this permit or modify this permit to include different limitations and requirements, in accordance with the procedures contained in COMAR 26.08.04.10 and 40 C.F.R. §§ 122.62, 122.63, 122.64 and 124.5.

F. ***Total Maximum Daily Load (TMDL)***

The permit may be reopened in accordance with Maryland's Administrative Procedures Act to incorporate future Total Maximum Daily Load requirements.

G. ***Toxic Pollutants***

You must comply with effluent standards or prohibitions for toxic pollutants established under the Federal Clean Water Act, or under Section 9-314 and Sections 9-322 to 9-328 of the Environment Article, Annotated Code of Maryland. You must be in compliance within

the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

H. *Oil and Hazardous Substances Prohibited*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve you from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland.

I. *Civil and Criminal Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve you from any civil or criminal responsibilities, liabilities, and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local or other state law or regulation.

J. *Property Rights/Compliance with Other Requirements*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

K. *Severability*

The provisions of this permit are severable. If any provisions of this permit must be held invalid for any reason, the remaining provisions must remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances must not be affected.

L. *Water Construction and Obstruction*

This permit does not authorize you to construct or place physical structures, facilities, or debris or undertake related activities in any waters of the State.

M. *Compliance with this General Permit and Water Pollution Abatement Statutes*

The permittee shall comply at all times with the terms and conditions of this permit, the provisions of the Title 7, Subtitle 2, and Title 9, Subtitles 2 and 3 of the Environment Article, Annotated Code of Maryland, and the federal Clean Water Act, 33 U.S.C. § 1251 et seq. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act and is grounds for enforcement action, changes to or termination of the permit coverage, or denial of a permit renewal application.

Operators must comply with effluent standards or prohibitions established under CWA section 307(a) for toxic pollutants within the time provided in the regulations that establish these standards, even if the permit has not yet been modified to incorporate the requirement.

N. *Action on Violations*

The issuance or reissuance of this permit does not constitute a decision by the State not to proceed in an administrative, civil, or criminal action for any violations of State law or regulations occurring before the issuance or re-issuance of this permit, nor a waiver of the State's right to do so.

O. ***Civil Penalties for Violations of Permit Conditions***

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act or in a permit issued under Section 404 of the Act, is subject to a civil penalty not to exceed $37,500 per day for each violation. Statutory penalties of the CWA are subject to the Civil Monetary Penalty Inflation Adjustment Rule (40 CFR 19.4).

P. ***Criminal Penalties for Violations of Permit Conditions***

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that:

1. Any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.
2. Any person who knowingly violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.
3. Any person who knowingly violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, is subject to a fine of not more than $250,000 or imprisonment of not more than fifteen (15) years, or both. A person that is a corporation, must, upon conviction, be subject to a penalty of not more than $1,000,000.
4. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method required to be maintained under the Act, is subject to a fine of not more than $10,000 or by imprisonment for not more than two (2) years, or by both.

Q. ***Duty to Provide Information***

You must provide within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit to the Department. You must also provide copies of records required to be kept by this permit to the Department, upon request.

R. ***Reopener Clause for Permits***

This permit must be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301, 304, and

307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation issued or approved:

1. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
2. controls any pollutant not limited in this permit. This permit, as modified or reissued under this section, must also contain any other requirements of the Act then applicable.

PART VII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

On September 5, 1974, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters under Section §402 of the federal Clean Water Act, 33 U.S.C. §Section 1342. On September 30, 1990, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a general permit program. Under the approvals described above, this general discharge permit is both a State of Maryland general discharge permit and an NPDES general discharge permit.

D. Lee Currey, Director
Water and Science Administration

Appendix A: Definitions, Abbreviations and Acronyms (17-PE)

A. **"Action Threshold"** means the point at which pest populations or environmental conditions can no longer be tolerated necessitating that pest control action be taken based on economic, human health, aesthetic, or other effects. Sighting a single pest does not always mean control is needed. Action thresholds help determine both the need for control actions and the proper timing of such actions. Action thresholds are site specific and part of the pest management practices decisions.

B. "**Active Ingredient"** means any substance (or group of structurally similar substances if specified by the Department) that will prevent, destroy, repel or mitigate any pest, or that functions as a plant regulator, desiccant, or defoliant within the meaning of FIFRA sec. 2(a). [40 CFR 152.3] Active ingredient also means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for the production of such a pesticidal substance. [40 CFR 174.3].

C. "**Adverse Incident"** means an incident that the operator has observed upon inspection or of which otherwise becomes aware, in which there is evidence that**:**

1. A person or non-target organism may have been exposed to a pesticide residue, and
2. The person or non-target organism suffered a toxic or adverse effect.

The phrase "toxic or adverse effects" includes effects that occur within Waters of this State on non-target plants, fish or wildlife that are unusual or unexpected (e.g., effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to a pesticide residue, and may include:

a. Distressed or dead juvenile and small fishes
b. Washed up or floating fish
c. Fish swimming abnormally or erratically
d. Fish lying lethargically at water surface or in shallow water
e. Fish that are listless or nonresponsive to disturbance
f. Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants
g. Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

The phrase, "toxic or adverse effects," also includes any adverse effects to humans (e.g., skin rashes) or domesticated animals or wildlife (e.g., vomiting, lethargy) that occur either directly or indirectly from a discharge to waters of the State. that are temporally and spatially related to exposure to a pesticide residue.

D. **"Annual Treatment Area Threshold"** – an area (in acres) in a calendar year to which a Decision-maker is authorizing and/or performing pesticide applications in that area for activities covered under this permit.

- For calculating annual treatment areas for Mosquitoes and Other Flying Insect Pest Control and Forest Canopy Pest for comparing with any threshold in Table 1, count each pesticide application activity to a treatment area (i.e., that area where a pesticide application is intended to provide pesticidal benefits within the pest management area) as a separate area treated. For example, applying pesticides three times a year to the same 3,000 acre site should be counted as 9,000 acres of treatment area for purposes of determining if such an application exceeds an annual treatment area threshold. The treatment area for these two pesticide use patterns is additive over the calendar year.

- For calculating annual treatment areas for Weed and Algae Control and Animal Pest Control for comparing with any threshold in Table 1, calculations should include either the linear extent times 10 feet buffer for shoreline applications or the surface area of waters for applications made to Waters of this State or at water's edge adjacent to Waters of this State. For calculating the annual treatment area, count each treatment area only once, regardless of the number of pesticide application activities performed on that area in a given year.

E. **"Applicator"** – any entity who performs the application of a pesticide or who has day-to-day control of the application (i.e., they are authorized to direct workers to carry out those activities) that results in a discharge to Waters of this State. *[there is a relationship to Operator and Decision-maker in this Appendix]*

F. **"Biological Control Agents"** means organisms that can be introduced to sites, such as herbivores, predators, parasites, and hyperparasites.

G. "**Biological Pesticides" (also called biopesticides)** include microbial pesticides, biochemical pesticides and plant-incorporated protectants (PIP). Microbial pesticide means a microbial agent intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or dessicant, that (1) is a eucaryotic microorganism including, but not limited to, protozoa, algae, and fungi; (2) is a procaryotic microorganism, including, but not limited to, Eubacteria and Archaebacteria; or (3) is a parasitically replicating microscopic element, including but not limited to, viruses. [40 CFR 158.2100(b)] Biochemical pesticide mean a pesticide that (1) is a naturally-occurring substance or structurally-similar and functionally identical to a naturally-occurring substance; (2) has a history of exposure to humans and the environment demonstrating minimal toxicity, or in the case of a synthetically-derived biochemical pesticides, is equivalent to a naturally-occurring substance that has such a history; and (3) Has a non-toxic mode of action to the target pest(s). [40 CFR 158.2000(a)(1)] Plant-incorporated protectant means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for production of such a pesticidal substance. It also includes any inert ingredient contained in the plant, or produce thereof.

H. **"BMP"** means Buffer Management Plan.

I. **"Buffer Management Plan"** is a required document, which must be approved through the offices of the Critical Area Commission, for work with-in the Critical Area.

J. "**CERCLA**" means Comprehensive Environmental Response, Compensation and Liability Act

K. **"CFR"** means Code of Federal Regulations.

L. **"Chemical Pesticides"** means to all pesticides not otherwise classified as biological pesticides.

M. **"Colorant"** refers to dyes, often considered non-toxic, which have an effect of shading waters to reduce the growth of algae or other plants requiring sun for photosynthesis.

N. **"COMAR**" means Code of Maryland Regulations.

O. "**Cultural Methods"** means manipulation of the habitat to increase pest mortality by making the habitat less suitable to the pest.

P. **"Critical Area"** is a defined buffer defined under the Critical Area Act, passed in 1984, created to address the impacts of land development on habitat and aquatic resources. The act also created a "Critical Area Commission" responsible to**:**

- Review and approve State projects on State-owned land in the Critical Area;
- Review and approve State or local agency actions resulting in major development on private lands or lands owned by local jurisdictions; and
- Review and approve all changes to a jurisdiction's Critical Area Program, including changes to ordinances, regulations, and maps.

Q. "**CWA**" means Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)

R. **"Decision-maker"** means any entity with control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to Waters of this State. *[there is a relationship to Operator and Applicator in this Appendix]*

S. **"Declared Pest Emergency Situation"** means an event defined by a public declaration by a federal agency, state, or local government of a pest problem determined to require control through application of a pesticide beginning less than ten days after identification of the need for pest control. This public declaration may be based on:

1. Significant risk to human health;
2. Significant economic loss; or
3. Significant risk to:
   a. Endangered species,
   b. Threatened species,
   c. Beneficial organisms, or
   d. the environment.

T. **"Department"** means the Maryland Department of the Environment.

U. **"Degredate"** means to cause, or to undergo degradation. For example, application of the pesticide copper sulfate to a waterbody impaired for either copper or sulfates would not be eligible for coverage under this permit, because copper sulfate can degrade into these two substances. Copper and sulfate are degradates of copper sulfate.

V. **"Desirable Species"** means the rare or important species to Maryland as determined by MD DNR, which includes "threatened species", "endangered species", "species in need of conservation", species of management concern, and the "critical habitat" required by these species.

W. **"Discharge"** means, when used without qualification, the "discharge of a pollutant."

X. **"Endangered species"** means a species whose continued existence as a viable component of the State's flora or fauna is determined to be in jeopardy, in accordance with the federal Endangered Species Act of 1973, 16 U.S.C. §§1531—1543, Natural Resources

Article, §4-2A-01 or 10-2A-01 through 10-2A-09, Annotated Code of Maryland, and COMAR 08.03.08.

Y. "eNOI" means electronic NOI system.

Z. "EPA" means U. S. Environmental Protection Agency

AA. "Facility or Activity" means any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

BB. "Federal Facility" means any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned, operated, or leased by, or constructed or manufactured for the purpose of leasing to, the federal government.

CC. "FIFRA" means Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC 136 et seq.

DD. "For-Hire Applicator" includes persons who make contractual pesticide applications for which they or their employer receives compensation (e.g., lawn care firms, pest control companies).

EE. "General permit" means a discharge permit issued for a class of dischargers.

FF. "Impaired Water" means a body of water whose quality does not meet its designated use(s). For purposes of this permit 'impaired' refers to threatened and impaired waters:

1. For which TMDLs have been established,
2. For which existing controls such as permits are expected to resolve the impairment, or
3. For which a TMDL is required.

Impaired waters compilations are also sometimes referred to as §303(d) lists, and are included in the Integrated Report of Surface Water Quality in Maryland as parts F4 and F5, found at "http://mdewin64.mde.state.md.us/WSA/IR-TMDL/index.html".

GG. "Includes" or "including" means includes or including by way of illustration and not by way of limitation.

HH. "Inert Ingredient" means any substance (or group of structurally similar substances if designated by the Agency), other than an active ingredient, that is intentionally included in a pesticide product, [40 CFR 152.3] Inert ingredient also means any substance, such as a selectable marker, other than the active ingredient, where the substance is used to confirm or ensure the presence of the active ingredient, and includes the genetic material necessary for the production of the substance, provided that genetic material is intentionally introduced into a living plant in addition to the active ingredient.

II. "IPM" means Integrated Pest Management

JJ. "Large Entity" means any entity that is not a "small entity."

KK. "MD DNR" means Maryland Department of Natural Resources.

LL. "Mechanical/Physical Methods" means mechanical tools or physical alterations of the environment, for pest prevention or removal.

MM. "Minimize" means to reduce and/or eliminate pesticide discharges to Waters of this State through the use of Pesticide Management Measures to the extent technologically available and economically practicable and achievable.

NN. "Natural heritage area" means any natural community of species designated in Regulation 08.03.08.10. NOTE: These contain one or more threatened or endangered species or wildlife species

OO. "NOI" means Notice of Intent

PP. "**Non-target Organisms"** includes the plant and animal hosts of the target species, the natural enemies of the target species living in the community, and other plants and animals, including vertebrates, living in or near the community that are not the target of the pesticide.

QQ. "NOT" means Notice of Termination.

RR. "NPDES permit" means a National Pollutant Discharge Elimination System permit issued under the federal Clean Water Act.

SS. "NRC" means National Response Center.

TT. "ONRW" means Outstanding National Resource Water.

UU. "Operator" – for the purpose of this permit, means any entity associated with the application of pesticides which results in a discharge to Waters of this State that meets either of the following two criteria:
(i) any entity who performs the application of a pesticide or who has day-to-day control of the application (*i.e.*, they are authorized to direct workers to carry out those activities); or
(ii) any entity with control over the decision to perform pesticide applications including the ability to modify those decisions.
[there is a relationship to Applicator and Decision-maker in this Appendix]

VV. "PDMP" means Pesticide Discharge Management Plan

WW. "Permittee" means the person holding a registration under this permit.

XX. "Person" means an individual, receiver, trustee, guardian, personal representative, fiduciary, or representative of any kind, and any partnership, firm, association, corporation, or other entity. Person includes the federal government, this State, any county, municipal corporation or other political subdivision of this State or any of their units.

YY. "Pest" means, consistent with 40 CFR 152.5, any organism under circumstances that make it deleterious to man or the environment, if it is:
1. Any vertebrate animal other than man;
2. Any invertebrate animal, including but not limited to, any insect, other arthropod, nematode, or mollusk such as a slug and snail, but excluding any internal parasite of living man or other living animals;

3. Any plant growing where not wanted, including any moss, alga, liverwort, or other plant of any higher order, and any plant part such as a root; or
4. Any fungus, bacterium, virus, or other microorganism, except for those on or in living man or other living animals and those on or in processed food or processed animal feed, beverages, drugs (as defined in FFDCA sec. 201(g)(1)) and cosmetics (as defined in FFDCA sec. 201(i)).

Any organism classified as endangered, threatened, or otherwise protected under federal or state laws is excluded from this definition.

ZZ. "Pest Management Area" means the area of land, including any water, for which an Operator has responsibility and is authorized to conduct pest management activities as covered by this permit (e.g., for an Operator who is a mosquito control district, the pest management area is the total area of the district).

AAA. "Pest Management Measure" means any practice used to meet the effluent limitations that comply with manufacturer specifications, industry standards and recommended industry practices related to the application of pesticides, relevant legal requirements and other provisions that a prudent Operator would implement to reduce and/or eliminate pesticide discharges to Waters of this State.

BBB. "Pesticide" means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and (3) any nitrogen stabilizer, except that the term ''pesticide'' shall not include any article that is a "new animal drug" within the meaning of section 201(w) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321(w)), that has been determined by the Secretary of Health and Human Services not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of section 201(x) of such Act (21 U.S.C. 321(x)) bearing or containing a new animal drug. The term "pesticide" does not include liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical or semi-critical device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321). For purposes of the preceding sentence, the term "critical device" includes any device that introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body and the term ''semi-critical device'' includes any device that contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. [FIFRA Section 2(u)]

The term "pesticide" applies to insecticides, herbicides, fungicides, rodenticides, and various other substances used to control pests. The definition encompasses all uses of pesticides authorized under FIFRA including uses authorized under sections 3 (registration), 5 (experimental use permits), 18 (emergency exemptions), 24(c) (special local needs registrations), and 25(b) (exemptions from FIFRA).

Note: drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation under FIFRA.

(Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc).

This permit uses the term "pesticide" when referring to the "pesticide, as applied." When referring to the chemical in the pesticide product with pesticidal qualities, the permit uses the term "active ingredient."

CCC. "Pesticide Product" means a pesticide in the particular form (including composition, packaging, and labeling) in which the pesticide is, or is intended to be, distributed or sold. The term includes any physical apparatus used to deliver or apply the pesticide if distributed or sold with the pesticide.

DDD. "Pesticide Research and Development" means activities undertaken on a systematic basis to gain new knowledge (research) and/or the application of research findings or other scientific knowledge for the creation of new or significantly improved products or processes (experimental development). These types of activities are generally categorized under the four-digit code of 5417 under the 2007 NAICS.

EEE. "Pesticide Residue" includes that portion of a pesticide application that is discharged from a point source to waters of the State and no longer provides pesticidal benefits. It also includes any degradates of the pesticide.

FFF. "Point source" means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. [40 CFR 122.2]

GGG. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. For purposes of this definition, a "biological pesticide" is considered a "biological material," and any "pesticide residue" resulting from use of a "chemical pesticide" is considered a "chemical waste." [Excerpted from 40 CFR 122.2].

HHH. "Small Entity" means any (1) private enterprise that does not exceed the Small Business Administration size standard as identified at 13 CFR 121.201, or (2) local government that serves a population of 10,000 or less.

III. "Species in need of conservation" means any species determined by the Secretary to be in need of conservation measures for its continued ability to sustain itself successfully.

JJJ."State discharge permit" means a discharge permit issued under the Environment Article, Title 9, Subtitle 3, Annotated Code of Maryland.

KKK. "Target Pest" means the organism toward which pest control measures are being directed.

LLL. "Threatened species" means a species of flora or fauna which appears likely, within the foreseeable future, to become endangered in accordance with the federal Endangered Species Act of 1973, 16 U.S.C. §§1531—1543, Natural Resources Article, §4-2A-01 or 10-2A-01 through 10-2A-09, Annotated Code of Maryland, and COMAR 08.03.08.

MMM. "Tier 3 Waters" means for antidegradation purposes, pursuant to 40 CFR 131.12(a)(3), Tier 3 waters are identified by states or tribes as having high quality waters constituting an Outstanding National Resource Water (ONRW), which may include waters of National Parks and State Parks, wildlife refuges, and waters of exceptional recreational or ecological significance.

NNN. "Total Maximum Daily Loads (TMDLs)" means a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

OOO. "Toxics Material Permit" or **"TMP"** means a state issued permit under COMAR 26.08.03.02, which provide for certain restrictions for "Use of Toxic Substances for Aquatic Life Management Purposes". The Department proposed a change to our regulations in 2018 to allow incorporation of toxic material permit (TMP) requirements into a discharge permit, specifically so that a single applicant would only need to obtain coverage under one permit.

PPP. "Treatment Area" means the entire area, whether over land or water, where a pesticide application is intended to provide pesticidal benefits within the pest management area. In some instances, the treatment area will be larger than the area where pesticides are actually applied. For example, the treatment area for a stationary drip treatment into a canal includes the entire width and length of the canal over which the pesticide is intended to control weeds. Similarly, the treatment area for a lake or marine area is the water surface area where the application is intended to provide pesticidal benefits.

QQQ. "Waters of this State" (or "State Waters") includes:

(a) Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lake, rivers, streams, tidal and nontidal wetlands, public ditches, tax ditches, and public drainage systems within this State, other those (than) designed and used to collect, convey, or dispose of sanitary sewage;

(b) The flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.

RRR. "You" and "Your" are used in this permit to refer to the Operator, as the context indicates, and that party's facility or responsibilities.

Appendix B: Pesticide Discharge Evaluation Worksheet (17-PE)

This worksheet is for any Operator who is a Decision-maker required to submit a Notice of Intent (NOI) and is a small entity, as defined in Appendix A of this permit (17PE). The information on this worksheet must be retained for each pesticide application activity.

A. General Information

1. Operator Name:

NPDES Permit Tracking Number:

2. Worksheet Preparer Name:

3. Pest Management Area: # __ of ## ____

4. Pest Management Area Name: _____

5. Indicate the pesticide use pattern for the Pest Management Area:

a. ☐ Mosquito and Other Flying Insect Pests b. ☐ Weed and Algae Pests c. ☐ Animal Pests d. ☐ Forest Canopy Pests

6. For each treatment area (use additional pages for each treatment area):

a. Provide a description of the treatment area within this Pest Management Area, including location description:

_____

_____

b. Size of treatment area (in acres or linear feet): _____ acres or _____ linear feet.

c. Name or location of any waters of the United States to which discharges occurred:

_____

_____

B. Pest Evaluation

1. Identify the target pest(s) and explain why pest control is needed:

_____

_____

_____

_____

2. Describe Pest Management Measure(s) implemented before the first pesticide application:

_____

_____

_____

_____

C. Pesticide Application

1. Name and contact information for pesticide Applicator(s):

Company Name:

Street:

City: State: Zip Code: -

Contact Name:

Phone: – – Ext.

E-mail:

2. Pesticide application start date: ___/___/____ Pesticide application end date: ___/___/____

3. Name of each pesticide product used, EPA registration number, and quantity of pesticide applied (as packaged or as formulated): Circle lbs or gallons.

Product Name		Product Name		Product Name	
EPA Reg. No.		EPA Reg. No.		EPA Reg. No.	
Quantity (lbs or gallons)		Quantity (lbs or gallons)		Quantity (lbs or gallons)	
Application method:		Application method:		Application method:	

4. Was visual monitoring conducted during pesticide application and/or post-application? ☐ Yes. ☐ No. If no, describe why not?

_____

_____

_____

5. Were any adverse effects identified during visual monitoring? ☐ Yes. ☐ No. If yes, describe.

_____

_____

_____

D. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for recording false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name:

Title:

E-Mail:

Signature/Responsible Official: _____ Date: ___/___/____

Pesticide Discharge Evaluation Worksheet Preparer (Complete if worksheet was prepared by someone other than the certifier)

Preparer Name:

Organization:

Phone: ___-___-___ Ext. ____ Date: ___/___/____

E-Mail:

Instructions for Completing the Pesticide Discharge Evaluation Worksheet (PDEW) for the PESTICIDE GENERAL PERMIT (17PE) FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

Who Must Complete a PDEW?

Any Operator, who is a Decision-maker required to submit a Notice of Intent (NOI) and is a small entity as defined in Appendix A of the permit may complete this Pesticide Discharge Evaluation Worksheet (PDEW) to meet the requirements of Part III.F.3 of the 17PE.

Pest management area, as defined in Appendix A of the permit, can be a large area (e.g., an entire town) or a very specific well-defined management area (e.g., a lake). Thus, a pest management area can have one or more treatment areas. Operators required to retain the information contained on this worksheet must do so for each treatment area. For treatment areas with the same or similar pests, the Operator can use one worksheet to document pest management activities for those multiple treatment areas.

When to Complete a PDEW?

Before any pesticide application, any Operator using this form to meet its obligations under the 17PE must complete Section B of this worksheet. Section C, except for the pesticide application end date and total quantity of pesticide applied, must be completed as soon as possible but no later than 14 days after the first pesticide application. The total quantity of pesticide applied and the pesticide application end date must be completed as soon as possible but no later than 14 days after completion of pesticide application for this project.

Any Operator using this form to meet its obligations under the 17PE must retain this worksheet for at least 3 years from the date that coverage is granted under the 17PE or when the permit expires or is terminated. These Operators must make this worksheet available to the Department, including an authorized representative of the Department, upon request.

Completing the PDEW

To complete this form, type or print in uppercase letters in the appropriate areas only. Make sure you complete all questions.

Section A. General Information

1. Enter the Operator's full legal name and the existing NPDES Permit Tracking Number assigned the Department. You can find the registration number assigned to you on your registration letter, or by searching on the Departments website search tool at "mes-mde.mde.state.md.us/WastewaterPermitPortal"
2. Enter the full legal name of the person completing the form.
3. Section A should be completed for each Pest Management Area. Indicate which Pest Management Area out of the total number of Pest Management Areas for which the section is being completed (i.e., Pest Management Area 1 of 10 total Pest Management Areas).
4. Enter the name of the Pest Management Area.
5. Identify the pesticide use pattern(s) for the Pest Management Area.
6. For each treatment area, provide a brief description and location description of the treatment area within the Pest Management Area; size of the treatment area in acres or linear feet, and name or location of any waters of the United States to which discharges occur.

Section B. Pest Evaluation

1. Identify the target pest(s) and provide a brief description of why pest control is needed.

2. Provide a brief description of any Pest Management Measure(s) implemented before pesticide application. For example, identify if you have performed physical control techniques such as pulling weeds, removing breeding habitat, or trapping animals.

Section C. Pesticide Application

1. Provide the company name and contact information of the pesticide Applicator.
2. Enter the date that the pesticide application began and ended.
3. Enter the name of each pesticide product used including the EPA Pesticide Registration Number, the quantity of pesticide applied, and the method used to apply the pesticide (e.g., fixed wing aircraft, backpack sprayer).
4. Indicate if visual monitoring was conducted during the pesticide application and/or post-application. If visual monitoring was not performed, provide a brief description of why visual monitoring was not conducted.
5. Indicate if there were any adverse effects identified during visual monitoring. Provide a brief description of any adverse effects that were identified.

Section D. Certification

Enter the certifier's printed name and title. Sign and date the form. For more information about the certification statement and signature, see Part II.D of the permit. (CAUTION: An unsigned or undated form will not be accepted.) Federal statutes provide for severe penalties for submitting false information. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, means:

(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated activity including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipal, state, federal, or other public facility: by either a principal executive or ranking elected official.

If the PDEW was prepared by someone other than the certifier (for example, if the PDEW was prepared by a consultant for the certifier's signature), include the name, organization, phone number and e-mail address of the PDEW preparer.

Appendix C: Adverse Incident Template (17-PE)

THIRTY (30)-DAY ADVERSE INCIDENT WRITTEN REPORT FOR THE PESTICIDE GENERAL PERMIT (17PE PGP) FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

This form is for Operators required to submit a written report of any reportable adverse incidents to the Department. Where multiple Operators are authorized for a discharge that results in an adverse incident, reporting by any one of the Operators constitutes compliance for all of the Operators, provided a copy of this report is also provided to all of the other authorized Operators within 30 days of the reportable adverse incident.

A. Reportable Adverse Incident

Is the adverse incident reportable? Reporting of adverse incidents is not required under the PGP in the following situations: (a) An Operator is aware of facts that indicate that the adverse incident was not related to toxic effects or exposure from the pesticide application; (b) An Operator has been notified by EPA, and retains such notification, that the reporting requirement has been waived for this incident or category of incidents; (c) An Operator receives information of an adverse incident, but that information is clearly erroneous; or (d) An adverse incident occurs to pests that are similar in kind to potential target pests identified on the FIFRA label.

☐ Yes. You must complete this report and submit it to the appropriate EPA Regional office and to the state lead agency for pesticide regulation.

☐ No. STOP. You are not required to complete this report. However, you may consider using this form to document the incident and your rationale for why reporting of the adverse incident is not required. This information may be useful to support your rationale should you be questioned on such.

B. Information from the 24-Hour Adverse Incident Notification

When an Operator observes or is otherwise made aware of an adverse incident, which may have resulted from a discharge from a pesticide application, the Operator must immediately notify the appropriate EPA Incident Reporting Contact, as identified at https://www.epa.gov/npdes/pesticide-permitting. This notification must be made by telephone within 24 hours of the Operator becoming aware of the adverse incident. Operators must include in the written report the information provided to EPA in the 24-hour adverse incident notification (PGP Part 6.4.1.1). Attach additional information if necessary.

1. Caller's Contact Information:
   a. Name: _____
   b. Telephone Number: ___ – ___ – ___ Ext ___
2. Operator Information:
   a. Operator Name: _____
   b. Mailing Address:
      Street: _____
      City: _____ State: ___ ZIP Code: _____ – _____
3. NOI NPDES Permit Tracking Number: _____ (Enter "NA" if not applicable)
4. Contact person, if different than the person providing the 24-hour notice under item 1 above:
   a. Name: _____
   b. Telephone Number: ___ – ___ – ___ Ext ___
5. Describe how and when the Operator became aware of the adverse incident:

   _____

   _____

   _____

   _____

6. Describe the location of the adverse incident:

   _____

   _____

   _____

C. Pest Management Area(s) (use additional pages for each Pest Management Area)

Pest Management Area # ___ of ## ___

1. Have any discharges from pest control activities occurred in this calendar year?

a. ☐ No discharge from pest control activities this calendar year. Note: Checking this box completes Section C if you had no discharge from pest control activities this year. Proceed to section D.

b. ☐ Yes. Proceed to question 2.

For each treatment area (use additional pages for each treatment area):

2. Indicate the pesticide use pattern for the treatment area:

a. ☐ Mosquito and Other Flying Insect Pest Control b. ☐ Weed and Algae Pest Control c. ☐ Animal Pest Control d. ☐ Forest Canopy Pest Control

3. Description of treatment area:

a. Provide a map or description of the treatment area within this Pest Management Area, including location description_____

_____

b. Size of treatment area (in acres or linear feet): _____ acres or _____ linear feet.

c. Name or location of any waters of the United States to which discharges occurred:

_____

_____

d. Target Pest(s): _____

e. Did any pesticide application activities result in a discharge to waters of the United States containing NMFS Listed Resources of Concern as defined in Appendix A of the permit?

☐ Yes ☐ No If yes, approximate date(s) of any discharges: _____

4. Name and contact information of pesticide Applicator(s) (or check here if same as provided in Section A): ☐

Company Name:

Street:

City: State: Zip Code: -

Contact Name: Title:

Phone: - - Ext

E-mail:

5. Was this pest control activity addressed in your Pesticide Discharge Monitoring Plan (PDMP) before pesticide application:

☐ Yes ☐ No ☐ Not Applicable

6. Enter the total amount of each pesticide product applied for the reporting year by the product name, EPA Pesticide Registration Number(s) and by application method. Circle if quantity indicated is in lbs or gallons, or briquettes, if applicable. Use additional pages if necessary.

Product Name _____

EPA Pesticide Registration Number :

Application method:	Quantity Applied (lbs or gallons of product):
a. ☐ Aerially by fixed-wing	_____ lbs or gallons
b. ☐ Aerially by rotary aircraft	_____ lbs or gallons
c. ☐ Land-based sprayer (includes backpack, land vehicle mounted sprayers, high pressure canopy sprayer)	_____ lbs or gallons
d. ☐ Aquatic vehicle mounted sprayer	_____ lbs or gallons
e. ☐ Direct mixture (includes metering, subsurface applications)	_____ lbs or gallons
f. ☐ Chemigation	_____ lbs or gallons
g. ☐ Other (specify): _____	_____ lbs or gallons or briquettes

Product Name _____

EPA Pesticide Registration Number :

Application method:	Quantity Applied (lbs or gallons of product):
a. ☐ Aerially by fixed-wing	_____ lbs or gallons
b. ☐ Aerially by rotary aircraft	_____ lbs or gallons
c. ☐ Land-based sprayer (includes backpack, land vehicle mounted sprayers, high pressure canopy sprayer)	_____ lbs or gallons
d. ☐ Aquatic vehicle mounted sprayer	_____ lbs or gallons
e. ☐ Direct mixture (includes metering, subsurface applications)	_____ lbs or gallons
f. ☐ Chemigation	_____ lbs or gallons
g. ☐ Other (specify): _____	_____ lbs or gallons or briquettes

D. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name:

Title:

E-Mail:

Signature/Responsible Official: _____ Date: / /

Annual Report Preparer (Complete if the Annual Report was prepared by someone other than the certifier)

Preparer Name:

Organization:

Phone: – – Ext Date: / /

E-Mail:

Instructions for Completing and Submitting the Thirty (30) Day Adverse Incident Written Report for the Pesticide General Permit (17PE) for Discharges from the Application of Pesticides

Who Must Submit a 30-day Adverse Incident Report?

All Operators who observe or are otherwise made aware of a reportable adverse incident pursuant to Part III.E.4 of the permit must submit on adverse incident report.

However, even for those identified adverse incidents for which the Operator is not required to report, the Department recommends that Operators consider using this form to document the incident and the rationale for why reporting of the adverse incident is not required. This information may be useful to support a rationale should this determination be questioned.

An adverse incident, as defined in the Appendix A of the permit, is an unusual or unexpected incident that an Operator has observed upon inspection or of which the Operator otherwise became aware, in which: (1) there is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and (2) the person or non-target organism suffered a toxic or adverse effect. See Appendix A of the permit, for the complete definition of adverse incident.

Where multiple Operators are authorized for a discharge that results in an adverse incident, notification and reporting by any one of the Operators constitutes compliance for all of the Operators, provided a copy of the written report required in Part III.E.4.b of the permit is also provided to all of the other authorized Operators within 30 days of the reportable adverse incident.

When to File the Adverse Incident Report

Operators must provide a written report of any reportable adverse incidents to the appropriate EPA Regional office and to the state lead agency for pesticide regulation within 30 days of the adverse incident pursuant to Part III.E.4.a.i of the permit.

Where to File the 30-day Adverse Incident Report

The Operator must immediately notify the Department, as identified at 410-537-3510, of the adverse incident within 24 hours. The Operator(s) must provide a written report of the adverse incident to the appropriate the Department at the address listed in Part II.H of the permit.

If an Operator becomes aware of an adverse incident affecting a desirable species (as defined in Appendix A) or designated critical habitats which may have resulted from a discharge from the Operator's pesticide application, the Operator must immediately notify the Maryland Department of Natural Resources.

Completing the 30-day Adverse Incident Report

To complete this form, type or print in uppercase letters in the appropriate areas only. Please make sure you complete all questions. Make sure you make a photocopy for your records before you send the completed original form to the Department's Compliance Program.

<u>Section A. Reportable Adverse</u>
Incident The Operator is required to submit this Adverse Incident Report if the adverse incident is reportable. Check yes if the adverse incident is reportable. If an Adverse Incident Report is not required, check no. No further action is needed on this form. Reporting of adverse incidents is not required under the 17PE PGP in the following situations:

- An Operator is aware of facts that indicate that the adverse incident was not related to toxic effects or exposure from the pesticide application;
- An Operator has been notified by EPA or the Department, and retains such notification, that the reporting requirement has been waived for this incident or category of incidents;
- An Operator receives information notifying the Operator of an adverse incident, but that information is clearly erroneous; or
- An adverse incident occurs to pests that are similar in kind to potential target pests identified on the FIFRA label.

Section B. Information from the 24-hour Adverse Incident Notification

1. Provide contact information for the person who called the Department to report the adverse incident. a. Enter the legal name of the caller. b. Enter the phone number of the caller.
2. Provide the Operator's contact information. a. Enter the legal name of the Operator. b. Enter the mailing address of the Operator.
3. If an NOI was filed as required in Part II.B of the permit, enter the NPDES Permit Tracking Number or Registration Number assigned by the Department. You can find the registration number assigned to you on your registration letter, or by searching on the Department's website search tool at "mes-mde.mde.state.md.us/WastewaterPermitPortal".
4. Provide information for a contact person, if different than the person who called the Department to report the adverse incident. a. Enter the legal name of the contact person. b. Enter the phone number of the contact person.
5. Provide a description of how and when the Operator became aware of the adverse incident.
6. Provide a description of the location of the adverse incident.
7. Provide a description of the adverse incident and the pesticide product used in the adverse incident. Include the EPA pesticide registration number for each product applied in the area of the adverse incident. Attach additional pages if necessary.
8. Provide a description of any steps the Operator has taken to correct, repair, remedy, clean up or otherwise address the adverse effects of the incident.
9. Identify any other Operators authorized for coverage under the permit for discharges from the pesticide application activities that resulted in the adverse incident. If other Operators are authorized under this permit, provide details of your notification of those other Operator(s).

Section C. Date and Time the Operator Notified the Department of the Adverse Incident

1. Enter the date that the Department was contacted to report the adverse incident.
2. Enter the time the Department was contacted to report the adverse incident.
3. Provide the legal name and title of the person contacted at the Department.
4. Provide a description of the instructions received by the Department.

Section D. Other Information Required in the Thirty (30) Day Adverse Incident Report

1. Enter the location of the adverse incident and include the names of any waters affected. Please include the appearance of those waters (sheen, color, clarity, etc.).
2. Provide a description of the circumstances of the adverse incident including species affected, estimated number of affected individuals and approximate size of dead or distressed organisms.
3. Provide a description of the magnitude and scope of the affected area. Include aquatic square area or total stream distance affected, if possible.
4. Provide the pesticide application rate, intended use site (e.g., on the bank, above waters, or directly to water), method of application, and the name of pesticide product and EPA pesticide registration number.
5. Provide a description of the habitat and the circumstances under which the adverse incident occurred (including any available ambient water data for pesticides applied).

6. Indicate which laboratory test(s) were performed and when, if laboratory tests were performed. The summary of the test results must be provided within 5 days after they become available, if not available at the time of submission of this report.
7. Provide a description of the actions to be taken to prevent recurrence of adverse incidents.

Section E. Certification

Enter the certifier's printed name and title. Sign and date the form. For more information about the certification statement and signature, see Part II.D of the permit. (CAUTION: An unsigned or undated form will not be accepted.) Federal statutes provide for severe penalties for submitting false information. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means:

(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated activity including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipal, state, federal, or other public facility: by either a principal executive or ranking elected official.

If the report was prepared by someone other than the certifier (for example, if the report was prepared by a consultant for the certifier's signature), include the name, organization, phone number and e-mail address of the report preparer and the date that the report was prepared.

Appendix D: Annual Report Template (17-PE)

ANNUAL REPORTING FORM FOR THE PESTICIDE GENERAL PERMIT (PGP) FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

This form is for an Operator who is a Decision-maker required to create an annual report as described in Part III.F.7. The completed annual report must be kept on-site.

A. General Information - For pesticides activities in calendar year: ____

1. NPDES Permit Tracking Number: ____
2. Operator Name: ____
3. Operator Contact Information:
   - a. Street: ____
   - b. City: ____ c. State: ____ d. ZIP Code: ____ – ____
   - e. Telephone: ____ – ____ – ____ Ext ____ f. Fax: ____ – ____ – ____
4. Contact Information:
   - a. Contact Name: ____
   - b. Title: ____
   - c. E-mail: ____

B. Adverse Incidents and Corrective Actions

1. Was an adverse incident observed and/or corrective actions taken for any Pest Management Area for which you have coverage under the permit?
   - a. ☐ No adverse incidents were observed or no corrective action was taken. (Proceed to Section C)
   - b. ☐ Yes, an adverse incident was observed and/or a corrective action was taken. (Complete questions 2-6 for each Pest Management Area in which adverse incidents were observed or corrective actions were taken. Copy this section for additional Pest Management Areas).

Pest Management Area #____ of ##____

2. Pest Management Area Name: _____
3. If applicable, provide the date for any adverse incidents as a result of those treatment(s), as described in Part 6.4 of the permit (use additional pages, if needed):
   Date of adverse incident observation: __ / __ / ____
4. Date and time the Operator contacted EPA to notify the Agency of the adverse incident, who the Operator spoke with at EPA, and any instructions received from EPA.
   - a. Date: __ / __ / ____
   - b. Time: _____
   - c. Who the Operator spoke with at EPA: _____
   - d. Instructions received from EPA:

     _____

     _____
5. Date of submission of Thirty (30)-Day Adverse Incident Written Report: __ / __ / ____
6. Describe any corrective action(s), including spill responses, resulting from pesticide application activities and the rationale for such action(s), subsequent to those steps described in the Thirty (30)-Day Adverse Incident Written Report:

   _____

   _____

C. Pest Management Area(s) (use additional pages for each Pest Management Area)

Pest Management Area # ___ of ## ___

1. Have any discharges from pest control activities occurred in this calendar year?

a. ☐ No discharge from pest control activities this calendar year. Note: Checking this box completes Section C if you had no discharge from pest control activities this year. Proceed to section D.

b. ☐ Yes. Proceed to question 2.

For each treatment area (use additional pages for each treatment area):

2. Indicate the pesticide use pattern for the treatment area:

a. ☐ Mosquito and Other Flying Insect Pest Control b. ☐ Weed and Algae Pest Control c. ☐ Animal Pest Control d. ☐ Forest Canopy Pest Control

3. Description of treatment area:

a. Provide a map or description of the treatment area within this Pest Management Area, including location description_____

_____

b. Size of treatment area (in acres or linear feet): _____ acres or _____ linear feet.

c. Name or location of any waters of the United States to which discharges occurred:

_____

_____

d. Target Pest(s): _____

e. Did any pesticide application activities result in a discharge to waters of the United States containing NMFS Listed Resources of Concern as defined in Appendix A of the permit?

☐ Yes ☐ No If yes, approximate date(s) of any discharges:_____

4. Name and contact information of pesticide Applicator(s) (or check here if same as provided in Section A): ☐

Company Name:

Street:

City: State: Zip Code: -

Contact Name: Title:

Phone: – – Ext

E-mail:

5. Was this pest control activity addressed in your Pesticide Discharge Monitoring Plan (PDMP) before pesticide application:

☐ Yes ☐ No ☐ Not Applicable

6. Enter the total amount of each pesticide product applied for the reporting year by the product name, EPA Pesticide Registration Number(s) and by application method. Circle if quantity indicated is in lbs or gallons, or briquettes, if applicable. Use additional pages if necessary.

Product Name _____

EPA Pesticide Registration Number :

Product Name _____

EPA Pesticide Registration Number :

Application method:	Quantity Applied (lbs or gallons of product):	Application method:	Quantity Applied (lbs or gallons of product):
a. ☐ Aerially by fixed-wing	_____ lbs or gallons	a. ☐ Aerially by fixed-wing	_____ lbs or gallons
b. ☐ Aerially by rotary aircraft	_____ lbs or gallons	b. ☐ Aerially by rotary aircraft	_____ lbs or gallons
c. ☐ Land-based sprayer (includes backpack, land vehicle mounted sprayers, high pressure canopy sprayer)	_____ lbs or gallons	c. ☐ Land-based sprayer (includes backpack, land vehicle mounted sprayers, high pressure canopy sprayer)	_____ lbs or gallons
d. ☐ Aquatic vehicle mounted sprayer	_____ lbs or gallons	d. ☐ Aquatic vehicle mounted sprayer	_____ lbs or gallons
e. ☐ Direct mixture (includes metering, subsurface applications)	_____ lbs or gallons	e. ☐ Direct mixture (includes metering, subsurface applications)	_____ lbs or gallons
f. ☐ Chemigation	_____ lbs or gallons	f. ☐ Chemigation	_____ lbs or gallons
g. ☐ Other (specify): _____	_____ lbs or gallons or briquettes	g. ☐ Other (specify): _____	_____ lbs or gallons or briquettes

D. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name:

Title:

E-Mail:

Signature/Responsible Official: _____ Date: / /

Annual Report Preparer (Complete if the Annual Report was prepared by someone other than the certifier)

Preparer Name:

Organization:

Phone: – – Ext Date: / /

E-Mail:

Instructions for Completing the Annual Reporting Form for the Pesticide General Permit (PGP) for Discharges from the Application of Pesticides

Who Must Create an Annual Report?

Any Operator who is a Decision-maker treating either category Forest Canopy or Flying Insects, required to submit a Notice of Intent (NOI) and is a large entity as defined in Appendix A of the permit and any Decision-maker treating either category Forest Canopy or Flying Insects, required to submit an NOI solely because of their application results in a discharge to Waters of this State containing Desirable Species (as defined in Appendix A), must create an annual report each calendar year (if you have reported an adverse incident). Once required to submit an annual report for one year, an annual report must be filed each subsequent year of this permit whether or not you have discharges from the application of pesticides in accordance with Section III.F.7 of the permit.

When to Create an Annual Report?

Any Operator required to create an annual report, you may either do so on the annivesery of your registration under the permit, or to coincide with your organization's calendar. However the report must be generated at least annually.

Where to File the Annual Report?

The Operator must prepare and keep the report available for the Department.

Completing the Annual Report Form

To complete this form, type or print in uppercase letters in the appropriate areas only. Make sure you complete all questions.

Section A. General Information

1. Enter your permit tracking number or Registration Number assigned by the Department. You can find the registration number assigned to you on your registration letter, or by searching on the Department's website search tool at "mes-mde.mde.state.md.us/WastewaterPermitPortal".
2. Provide the legal name of the person, firm, public organization or any other public entity who is the Decision-maker for the pesticides applications described in this report. A Decision-maker is an Operator who has control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to waters of the United States.
3. Enter the address, telephone number, and fax number of the Operator.
4. Provide the full legal name, title and e-mail address of a contact person for the Annual Report.

Section B. Adverse Incidents and Corrective Actions

1. Identify if an adverse incident was observed and corrective actions were taken for any Pest Management Area for which you have coverage under the permit. If no, proceed to Section C. If yes, complete Section B for each Pest Management Area for which an adverse incident was observed or corrective action was taken.
2. Enter the name of the Pest Management Area.
3. If applicable, enter the date of any adverse incidents resulting from the treatments, as described in Part III.E.4 of the permit. Use additional pages if there are multiple dates to be described.
4. Enter the date and time the Operator contacted the Department to notify the Agency of the adverse incident, pursuant to Part III.E.4.a.i of the permit. a. Indicate the date of the contact. b. Indicate the time of the contact. c. Indicate who the Operator spoke with at the Department. d. Indicate any instructions received from the Department.

5. Enter the date that the Thirty (30)-Day Adverse Incident Written Report was submitted, pursuant to Part III.E.4.b of the permit.
6. Provide a description of any corrective action(s) resulting from pesticide application activities and the rationale for the action(s), performed subsequently to or in addition to any actions described in the Thirty (30)-Day Adverse Incident Written Report.

Section C. Pest Management Area(s)

Section C should be completed for each Pest Management Area. Indicate which Pest Management Area out of the total number of Pest Management Areas for which the section is being completed (i.e., Pest Management Area 1 of 10 total Pest Management Areas).

1. Identify if you had a discharge from pest control activities this calendar year. Check yes if you had discharge from pest control activities this calendar year. Check no if you had no discharge from pest control activities this calendar year. Note: Checking the no box completes Section C
2. Select the box for the type of pesticide use pattern for the treatment area (use additional pages for each treatment area).
3. Provide a description of the treatment area. a. Provide a map or description of the treatment area, including a description of the location. b. Provide the size of the treatment area in acres or linear feet. c. Provide the name or location of any Waters of this State to which discharges occur. d. Provide a description of the target pest(s). e. Indicate whether any pesticide application activities resulted in a discharge to Waters of this State containing Desirable Species, as defined in Appendix A of the permit. If yes, provide approximate date(s) of the discharge.
4. Provide the company name(s), mailing address, a contact person, contact person's title, telephone number and e-mail address of the pesticide Applicator(s). If the information is the same as Section A, check the appropriate box and proceed to the next question.
5. Indicate if the pest control activity was addressed in your PDMP before pesticide application.
6. Enter the total amount of each pesticide product applied for the reporting year by the product name, EPA Pesticide Registration Number(s) and by application method. Circle whether the quantity applied is in pounds or gallons or briquettes, if applicable. Copy and attach additional pages, as necessary.

Section D. Certification

Enter the certifier's printed name and title. Sign and date the form. For more information about the certification statement and signature, see Part II.D of the permit. (CAUTION: An unsigned or undated form will not be accepted.) Federal statutes provide for severe penalties for submitting false information. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means:

(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated activity including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipal, state, federal, or other public facility: by either a principal executive or ranking elected official.

If the Annual Report was prepared by someone other than the certifier (for example, if the Annual Report was prepared by the PDMP contact or a consultant for the certifier's signature), include the name, organization, phone number and e-mail address of the Annual Report preparer.

Appendix E: Desirable Species Procedures (17-PE)

Assessing the Effects of Your Discharge and Discharge-Related Activities

You must follow the procedures in this Appendix E to certify eligibility to discharge to Waters of this State containing Desirable Species, as defined in Appendix A of the permit, and determine under which of the eligibility criteria in Part I.B.2.e, if any, you qualify. This process verifies that you meet at least one of the criteria of the permit to be eligible for coverage under this permit.

The Maryland Department of Natural Resources (MD DNR) determines the presence of protected species and coordinates strategies to protect them. The Desirable Species include plants and both game and non-game animals protected through these MD DNR. The coordinating MD DNR program who work with this permit (and with you if you have questions or concerns) is the Environmental Review Program (DNR ERP). The DNR ERP program serves to review and screen when there may be potential issues. They work with both the following programs:

- Maryland Natural Heritage Program (MD NHP). The MD NHP has been the lead state agency responsible for protecting and managing nongame, rare, threatened, and endangered species and their habitats in Maryland. The main duties of the Program biologists are to:
    a. Perform field surveys and scientific research
    b. Maintain data needed to conserve species and habitats
    c. Provide technical guidance on rare species conservation
    d. Restore ecosystems

- Sensitive Species Project Review Areas (SSPRA). The SSPRA are managed by the MD NHP. The Program creates maps that indicate areas that contain one or more threatened or endangered species or wildlife species in need of conservation. The SSPRA are dynamic and may change yearly, based on information from the MD NHP.

- Fishing and Boating Services additionally review game fish species on both the threatened and endangered species list (i.e. federally listed populations of Atlantic Sturgeon), as well as the Fishery Management Plan or species of management concern (i.e. Brook Trout). Both the Atlantic Sturgeon and Brook Trout are included in the criteria below regarding Desirable Species.

When evaluating the potential effects of your activities, you must consider effects to Desirable Species within each treatment area identified in your NOI that contains such Resources. Discharges not meeting at least one of these criteria are not eligible for coverage under this permit. No discharges to Waters of this State containing Desirable Species are eligible for coverage under the 17PE unless those discharges are specifically identified and certified on a complete and accurate NOI form submitted to the Department. These discharges will be authorized 30 days after the Department receives the NOI, unless the Department notifies you otherwise within the 30-day period, or unless the discharges are in response to a Declared Pest Emergency Situation in which case the discharges are authorized immediately for a period of at least 60 days from the date this discharge began.

Step One: Determine if Desirable Species are Present in the Treatment Area

First, you must determine whether any discharges from your pesticide application activities in any treatment areas included under your NOI are likely to overlap directly with any Desirable Species, as identified using these mapping resources or by working directly with the Environmental Review Program (DNR ERP)
The steps below, along with the web based tools, allow you to quickly self-assess if you have the potential.

a) Start by verifying if your discharge impacts Atlantic Sturgeon, by verifying if your pesticide application is directly into the Potomac River below Great Falls, or to the Susquehanna downstream of the Conowingo Dam.

b) Next verify if your discharge potentially impacts Brook Trout by determining if your pesticide application is to water designated as Use III or III-P, by using this map http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/DesignatedUsesMaps.aspx.
c) Next verify if your discharge impacts non-game species using this map https://gisapps.dnr.state.md.us/MERLIN/index.html. When reviewing the map, look under drop down list of "Living Resources" of "sensitive species".

If you have any questions on these steps, you may contact the Environmental Review Program (DNR ERP) directly. If you determine that any of your discharges are to Waters of this State containing Desirable Species, you should proceed to Step Two. If you determine that no discharges from your pesticide application activities are to Waters of this State containing Desirable Species, you can certify that the activity meets Criterion A (check box A on the NOI corresponding to Criterion A). In this case, you do not have to further consider any requirements related to Criteria B-F. Note that if you are not otherwise required to submit an NOI, you do not need to submit an NOI merely to document that you meet Criterion A. However, if you are required to submit an NOI anyway, you should document on the NOI that you meet Criterion A.

Step Two: Determine if a Previous ESA-Related Action has Already been Completed for your Activities

For each discharge to waters of the United States from Federal Operators, where these waters containing NMFS Listed Resources of Concern (these are the federally listed endangered or threatened species), Decision-makers should determine whether they are eligible under either Criterion B or C because of a previously completed ESA Section 7 consultation, or a previously issued ESA Section 10 permit, respectively as follows:

- The effects of your activities have been addressed in a consultation under ESA Section 7 on a separate Federal action and the consultation resulted in a concurrence by NMFS that the discharge was not likely to adversely affect listed species or critical habitat or NMFS concluded in a biological opinion that the discharge or discharges were not likely to jeopardize listed species or destroy or adversely modify critical habitat, either as part of your activities as planned or as modified with a reasonable and prudent alternative (check box B corresponding to Criterion B). For example, most federal agencies that apply pesticides have already consulted with NMFS, as required under 50 C.F.R. § 402.01(a), and can therefore certify under this criterion.

- The effects of your activities have been addressed through approval of a Habitat Conservation Plan under Section 10 of the ESA (check box C corresponding to Criterion C). Your pesticide discharges may be authorized by this PGP if some activity is authorized through the issuance of a permit under Section 10 of the ESA and that authorization addressed the effects of your pesticide discharges on federallylisted species and designated critical habitat. You must follow NMFS procedures when applying for an ESA Section 10 permit (see 50 CFR 222.22). Application instructions for Section 10 permits for NMFS can be obtained by accessing the NMFS website (www.nmfs.noaa.gov) or by contacting the appropriate NMFS regional office.

If you believe an existing ESA-related action may have already been completed for your planned pesticide application activities but you are uncertain of the details, you should contact your regional NMFS office (contact information available at https://www.epa.gov/npdes/pesticide-permitting-ESA-procedures). If an existing ESA-related action has not already been completed for your activities, proceed to Step Three.

Step Three: Determine if the Pesticide Application is in Response to a Declared Pest Emergency Situation

Determine if all the discharges to Waters of this State containing Desirable Species and that are to be included in the NOI are being performed in response to a Declared Pest Emergency Situation, as defined in Appendix A

of the permit (check box D corresponding to Criterion D). In such a case, an NOI must be filed no later than 15 days after beginning to discharge with that NOI identifying: 1. The location of the pest management area in detail or include a map of the location; 2. Pest(s) to be controlled; 3. Pesticide product(s) to be discharged and method of application; 4. Planned quantity and rate of discharge(s) for each method of application; 5. Number of planned discharges; 6. Approximate date(s) of planned discharge(s); and 7. The rational supporting the determination whether the discharge is likely to adversely affect Desirable Species, including the description of appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects.

Information provided for items 1 through 6 above must also include any discharges that have already occurred in the days (up to 15) prior to NOI submission. The discharge or discharges to address these Declared Pest Emergency Situations are authorized under the general permit for at least 60 days after beginning to discharge. You may continue to discharge after 60 days unless the Department advises the Operator that additional conditions or an individual permit are necessary. DNR ERP will, within 30 days of submission of the NOI, advise the Department whether the past and planned future discharges meet the eligibility criterion of not likely to adversely affect Desirable Species; whether the eligibility criterion could be met with additional conditions; or whether the eligibility criterion is not met. The Department will advise the Decision-maker within 15 days after receiving notification from DNR ERP whether the discharge or discharges qualify for coverage beyond the 60-day authorization provided under the permit. If the Department identifies additional conditions to qualify discharges as eligible for coverage beyond 60 days under the permit, those conditions remain in effect for the life of the permit. The Department expects to rely on DNR ERP's determination in identifying eligibility for continuing authorization, either with or without additional conditions. If you do not hear from the Department within 45 days of submitting your NOI, you may assume that your authorization to discharge continues unless and until notified otherwise by the Department.

If your pesticide application is not in response to a Declared Pest Emergency Situation, proceed to Step Four.

Step Four: Determine if the Pesticide Application is not likely to adversely affect Desirable Species.

The 17PE provides two options for Decision-makers to demonstrate that discharges from pesticide applications to Waters of this State containing Desirable Species are not likely to adversely affect those resources for the activities for which the Decision-maker is seeking permit coverage. These options include: (1) obtaining confirmation from DNR ERP prior to NOI submission that discharges are not likely to adversely affect Desirable Species, or (2) self-certifying in the NOI that based on your analysis, you have concluded that discharges are not likely to adversely affect Desirable Species. Descriptions of procedures that are to be followed for these two options are described below.

- Option 1 (Criterion E): For each treatment area that will include discharges to Waters of this State containing Desirable Species, you may contact DNR ERP and request input regarding your planned discharges. If DNR ERP determines that your planned discharges are found to meet eligibility criteria for use (i.e., not likely to adversely affect Desirable Species), you have satisfied your eligibility obligations under Criterion E and you may submit your NOI for coverage under the 17PE (check box E corresponding to Criterion E). As part of certifying your compliance with Criterion E, you must submit information received from DNR ERP acknowledging the discharges that they have determined are not likely to adversely affect Desirable Species and establishing any additional requirements for your permit eligibility. To maintain eligibility under the permit for those discharges, you must abide by those additional requirements for the duration of your coverage under the 17PE.

- Option 2 (Criterion F): You must self-certify in your NOI that your discharge is not likely to adversely affect Desirable Species. To do so, you will have to take appropriate measures to avoid or eliminate the likelihood of adverse effects prior to applying for 17PE coverage. These measures may be relatively simple, such as applying pesticides to waters at concentrations below those found to cause adverse effects, or during seasons when Desirable Species are not present. Provided you are able to implement appropriate measures, you may proceed with submitting your NOI for coverage under the 17PE (check

box F corresponding to Criterion F). As part of certifying your compliance with Criterion F, you must submit information to support your findings, including: 1. The location of the pest management area in detail or include a map of the location; 2. Pest(s) to be controlled; 3. Pesticide product(s) to be discharged and method of application; 4. Planned quantity and rate of discharge(s) for each method of application; 5. Number of planned discharges; 6. Approximate date(s) of planned discharge(s); and 7. The rational supporting the determination that the criterion for which the NOI is submitted is being met, including the description of appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects.

This information will be posted online and also will be sent to DNR ERP for their review.

DNR ERP will, within 30 days of submission of the NOI, advise the Department whether it believes the planned discharges meet the eligibility criteria of not likely to adversely affect Desirable Species, whether the eligibility criterion could be met with additional conditions; or whether the eligibility criterion is not met. The Department will advise the Decision-maker as to whether the intended discharges qualify to proceed under the General Permit or whether an individual permit will be required. The Department expects to rely on DNR ERP's determination in identifying eligibility for authorization, either with or without additional conditions. If you do not hear from the Department within 30 days, you may assume that your discharge is authorized without further conditions.

You must comply with any terms and conditions imposed under the eligibility requirements to ensure that your pesticide discharges and discharge-related activities are protective of listed species and/or critical habitat. If the eligibility requirements cannot be met and maintained, then you are not eligible for coverage under this 17PE. In these instances, you may consider applying to the Department for an individual permit, or revising your pesticide application activities so as to comply with these eligibility conditions and resubmitting an NOI to the Department that documents this revised eligibility.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.5

GENERAL PERMIT FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

GENERAL STATE DISCHARGE PERMIT NO. 17PE-0195
NPDES PERMIT NO. MDG87

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.6

GENERAL PERMIT FOR DISCHARGES FROM STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES

STATE DISCHARGE PERMIT NO. 20-SW
NPDES NO. MDR000

GENERAL PERMIT FOR DISCHARGES FROM STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES

DISCHARGE PERMIT NO. 20-SW NPDES PERMIT NO. MDR0000

Effective Date: February 1, 2023 Expiration Date: January 31, 2028

Contents

You are only permitted to discharge under this permit after notifying and getting approval from the Department.

PART I. APPLICABILITY

By this permit the Maryland Department of the Environment (the Department) authorizes the discharge of stormwater associated with industrial activity to waters of this state. This authorization is only for operators located in the state of Maryland, who have submitted a notice of intent (NOI) and received written approval from the Department to discharge in accordance with the eligibility requirements and other conditions in this permit and consistent with your NOI, as on file with the Department. This authorization is pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and the provisions of the Federal Clean Water Act (CWA), 33 U.S.C. §1251 *et seq.* and implementing regulations 40 CFR Parts 122, 123, 124, and 125. "You" and "Your" are used in this permit to refer to the permittee or the permit applicant, as the context indicates, and that party's facility or responsibilities.

A. Geographic Coverage

This permit applies to facilities operating within the state of Maryland and discharging to waters of this state.

B. Facilities Covered

To be eligible to apply for authorization to discharge under this permit you must either (1) have been authorized to discharge under previous permit 12-SW or (2) have a stormwater discharge associated with industrial activity, as defined in Appendix E, from a primary industrial activity included in Appendix A or (3) be notified by the Department that you are eligible for coverage under Sector AD: Non-Classified Facilities, as defined in Appendix A.

C. Limitations on Coverage

The following stormwater discharges are not eligible for coverage under this permit. Additional limitations on coverage for each sector covered under this permit are listed in Appendix D. You must determine which sector(s) listed in Appendix A apply to your industrial activities to determine which additional limitations from Appendix D apply.

1. Stormwater discharges associated with construction activity, as defined in Appendix E and 40 CFR 122.26(b)(15);

2. Stormwater discharges subject to effluent limitations guidelines (see Part I.G.2);

3. Stormwater discharges that are mixed with non-stormwater, other than those non-stormwater discharges listed in Part I.E.3;

4. Stormwater discharges for which a National Pollutant Discharge Elimination System (NPDES) permit has been terminated (other than at your request) or denied, or those for which the Department requires an individual permit to address stormwater discharges or an alternative general permit (Part I.G.2.b);

5. New dischargers discharging to water quality "impaired waters," as defined in Appendix E, are not eligible for coverage under this permit unless you:
- **a.** prevent all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retain documentation of procedures taken to prevent exposure onsite with your SWPPP; or
- **b.** document that the pollutant(s) for which the waterbody is impaired is not present at your site, and retain documentation of this finding with your SWPPP; or
- **c.** in advance of submitting your NOI, provide to the Department data to support a showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data onsite with your SWPPP. To do

this, you must provide data and other technical information to the Department sufficient to demonstrate:

i.) For discharges to impaired waters without an EPA approved or established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; or

ii.) For discharges to impaired waters with an EPA approved or established TMDL, that there are sufficient remaining wasteload allocations in an EPA approved or established TMDL to allow your discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

You are eligible to discharge to impaired waters if you receive an affirmative determination from the Department that your discharge will not contribute to the existing impairment, in which case you must maintain such determination onsite with your SWPPP.

D. Prohibited Stormwater Discharges

If you are covered (i.e., authorized to discharge) under this permit, a stormwater discharge to waters of this state that causes or contributes to a violation of a water quality standard is a permit violation and subject to corrective actions (see Part IV).

E. Eligible Discharges

Unless otherwise ineligible under Part I.C, and subject to the eligibility requirements and limitations described throughout this permit, the following discharges may be covered under this permit:

1. Stormwater discharges associated with industrial activity for any primary industrial activities and co-located industrial activities if that activity is listed in Appendix A, or discharges previously covered under permit 12-SW;

2. Industrial stormwater discharges per the Department's discretion under Sector AD in Appendix A, which includes established Sector AD.a, Sector AD.b, Sector AD.d or Sector AD.e, or on a site specific basis as determined by the Department;

3. Non-stormwater discharges from:

- **a.** water used to fight active fires (*not from fire system cleaning or testing),*
- **b.** pavement wash waters, provided that detergents or hazardous cleaning products are not used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols), and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities (see Part III.C.5), or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials and sweeping, using hydrophobic mops/rags) and you have implemented appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
- **c.** landscape watering, only if all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- **d.** routine external building wash down that does not use detergents or hazardous cleaning products and any dislodged paint chips are filtered;
- **e.** uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- **f.** irrigation drainage;
- **g.** uncontaminated ground water or spring water;

h. foundation or footing drains where flows are not contaminated with process materials; and

i. incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

4. [RESERVED].

5. Use of Chemical Additives for Sediment Control: Use of any chemical additives (defined in Appendix E) for sediment control requires prior notice, indicating your intent to use them on your NOI and listing the additives and any pertinent associated documentation in your Stormwater Pollution Prevention Plan (SWPPP). In addition, the use of Cationic Chemical Additives (defined in Appendix E) for sediment control is subject to the Department's approval policy as outlined in Appendix D Sector L (Part L.5.4) of this permit. Any substances not approved by the Department are prohibited.

F. No Exposure Certification

If you are eligible for authorization to discharge pursuant to this permit and meet the requirements for a no exposure exclusion from permitting under 40 CFR 122.26(g), you may file a No Exposure Certification. Upon written notice from the Department that you have met the requirements, you are no longer required to comply with the terms and conditions of this permit.

- To qualify for this certification, you must first verify that there is no potential for the stormwater discharged from your facility to waters of this state to be exposed to pollutants in accordance with the criteria established by the Department on form MDE/WMA/PER.067 (found on MDE's website at http://www.mde.state.md.us/ or at the link https://mdewwp.page.link/NEForm).
- If your facility is 5 acres or greater in size, your operations are within the Base Flood Elevation (BFE), or your operations are within a census tract with an EJScore >= 0.76, you shall also obtain written certification by either a Professional Engineer, a Certified Professional in Storm Water Quality (CPSWQ), a Registered Architect, a Landscape Architect or other professional as approved by the Department, that you meet the requirements of no exposure. EJScore and Base Flood Elevation (BFE) are defined in Appendix E.
- If your facility is not required to obtain written certification as in the previous condition (based on size, BFE or EJScore), you are required to provide photographic evidence to support your claim to include: satellite image of your property, your dumpsters, outside storage areas, loading docks, material handling areas, and parking areas.
- If you qualify, you will submit the completed and appropriately signed form to the Department, along with the required written certification according to the deadlines of this permit (Part II.B).
- The exemption is non-transferable and you must submit a No Exposure Certification to the Department at least once every five years.
- If your facility discharges to a Municipal Separate Storm Sewer System (MS4), you must notify the MS4 permittee/authority that your facility is exempted from obtaining an NPDES permit for stormwater associated with industrial activity. This exemption does not preclude the MS4 authority from imposing requirements for restoration of impervious surfaces at the facility.

G. Alternative Permit Coverage

The Department may require you to obtain, or you may also request, an individual permit or coverage under another general permit as described below, even though you may be eligible for coverage under this permit. If the Department requires you to apply for and obtain an alternative permit and you do not apply as required, the Department will terminate your coverage under this permit; however, The Department may grant additional time to

submit the application or NOI if you request it. Any resulting termination is effective at the end of the day that the Department specified for the application or Notice of Intent (NOI) to be submitted, after which you must cease discharges that were covered by this permit. The Department may take appropriate enforcement action for any unpermitted discharge.

1. You must meet applicable water quality standards. You are ineligible for coverage under this permit if the Department determines prior to your authorization to discharge that your discharges will not meet an applicable water quality standard. In such case, the Department may notify you that an individual permit application is necessary, or, alternatively, the Department may authorize your coverage under this permit after you implement additional control measures so that your discharges will meet water quality standards.

2. The following situations require that you apply for an individual or general permit based on your activity.

a. You are ineligible for coverage under this permit for any stormwater discharges at your facility that are subject to effluent limitations guidelines (ELG) which provided in the following table or any new source performance standards under 40 CFR Subchapter N:

40 CFR Section	ELG Regulated Discharge
40 CFR 411, Subpart C – Cement Manufacturing	Runoff from material storage piles at cement manufacturing facilities
40 CFR 418, Subpart A – Fertilizer Manufacturing	Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)
40 CFR 419 – Petroleum Refining	
40 CFR 423 – Steam Electric Power Generating	Runoff from coal storage piles at steam electric generating facilities
40 CFR 429, Subpart I – Timber Products Processing	Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas
40 CFR 443, Subpart A – Paving and Roofing Material (tars & asphalt)	Runoff from asphalt emulsion facilities
40 CFR 445, Subparts A and B – Landfills	Runoff from hazardous waste and nonhazardous waste landfills
40 CFR 449 - Airfields	Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures

For a complete list of current effluent guidelines by industry, see the indicated 40 CFR part on the Environmental Protection Agency's (EPA) website for Industrial Regulations (*http://www.epa.gov/waterscience/guide/industry.html*). If your industry is included in this list then you should review the applicable 40 CFR part to determine if you are subject to effluent limitation guidelines for stormwater. This permit may cover parts of your facilities not covered by effluent limitation guidelines or new source performance standards.

b. If you are eligible for coverage under an industry-specific general permit for the stormwater discharges, you must apply for coverage under that permit for the stormwater and process water related discharges. Currently, those specific permits are:

i.) General Discharge Permit For Discharges from Mineral Quarries, Borrow Pits, and Concrete and Asphalt Plants: (General Permit No. 15-MM or replacement),
ii.) General Permit for Discharges from Surface Coal Mines and Related Facilities: (General Discharge Permit No. 06-CM or replacement),
iii.) General Permit for Discharges from Marinas including Boat Yards and Yacht Basins (Maryland General Permit No. 16-MA or replacement), and
iv.) General Discharge Permit for Animal Feeding Operations (General Permit No. 09-AF/MDG01 or replacement).

3. You may request to be excluded from coverage under this permit by applying for an individual state or NPDES discharge permit or submitting an NOI for coverage under another general permit. The Department may grant your request if the Department determines your reasons are adequate. If you are issued an individual NPDES permit or apply for coverage under an industry-specific general permit, the Department may terminate your coverage under this permit.

H. Continuation of an Expired General Permit and Permit Coverage

Upon the expiration of the 20-SW, the Department may administratively extend the 20-SW. To maintain 20-SW Coverage, You must submit a Continuation of Registration statement at least 60 days before the expiration of the 20-SW. Late Continuation of Registration statements will not be accepted.

I. Duty to Reapply

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain authorization as required by the new permit once the Department issues it.

PART II. AUTHORIZATION UNDER THIS PERMIT

A. How to Obtain Authorization

If you are eligible for coverage under this permit, per PART I, to obtain authorization you must
• Select, design, install, and implement control measures in accordance with Part III.A and Part III.B to meet numeric and non-numeric effluent limits;
• Submit a complete and accurate Notice of Intent (NOI) or Permit Transfer Request with Permit Fee as indicated below; and
• Develop and submit to the Department, a Stormwater Pollution Prevention Plan (SWPPP) according to the requirements in Part III.C and, where applicable, Part III.A.2 of this permit.

Based on a review of your NOI or Transfer Request, the Department may delay your authorization for further review, notify you that additional effluent limitations are necessary, or deny coverage under this permit and require submission of an application for an individual NPDES permit. In these instances, the Department will notify you in writing of the delay, of the need for additional effluent limits, or of the request for submission of an individual NPDES permit application.

1. Notice of Intent (NOI) and Transfer Requests

a. Notice of Intent (NOI)
You must complete all information required on this permit's corresponding NOI form (MDE-WMA-PER004), or an equivalent electronic form provided by the Department. Detailed instructions are included on the NOI form. If you operate multiple facilities,

you must submit an NOI for each noncontiguous site.

You are required to provide the following information on the appropriate NOI form.

- Facility Operator Information including your name, mailing address, email address, telephone number, IRS Employer Identification Number (EIN) and Worker's Comp Insurance company and policy.
- Facility Information including the facility location, including physical address and coordinates in degrees decimal; the primary and any subsequent co-located Standard Industrial Classification (SIC) codes relevant to this permit, verification if this is a new discharger or if there is any preexisting NPDES permit number for stormwater coverage, the total acres of property at that address and whether the facility is presently inactive and unstaffed.
- Outfall coordinates in degrees decimal, for each outfall discharging stormwater associated with Industrial Activity.
- Information on the receiving waters of the industrial stormwater. Identify the receiving water body(s) and 8 digit identifier for your discharges, including whether they qualify as high quality Tier II, and identification of any impairments. Specify the MS4 jurisdiction you operate in.
- Identify who has prepared the Stormwater Pollution Prevention Plan (SWPPP), including email and phone number, along with how you have provided the SWPPP to the Department.
- Identify if your facility is subject to the Chesapeake Bay Restoration requirements, quantifying the total impervious surface area (square feet), the untreated impervious surface area (in square feet) and the impervious surface area subject to 20% restoration requirement (in acres).
- Identify which industry sector benchmarks apply to the operation, for each applicable outfall.
- Selection of either annual payments, or an upfront payment for 5 years and annual payments thereafter, or if you are exempt.
- Identify if your operation is within a census tract with an EJScore >=0.76. EJScore is defined in Appendix E.
- Identify if your operation is within the Base Flood Elevation (BFE). Base Flood Elevation is defined in Appendix E.
- If you intend to use cationic chemical additives, include the approved product you intend to use.
- Provide the signatory name, title and contact information and space for the actual signature. Provide the NOI preparer information, including phone number and email address.

b. Transfer of Authorization.
For transfer of ownership, you can complete the Permit Transfer Request Form for General NPDES Permits referred to as MDE/WMA/PER.079 found on the Department's website or at https://mdewwp.page.link/GPXferFormabout:blank. Detailed instructions are included with the form. If you operate multiple facilities, you must submit a Transfer Request for each noncontiguous site. The authorization under this permit is not transferable to any person except in accordance with this section. Authorization to discharge under this permit may be transferred to another person if:

- The current permittee notifies the Department in writing of the proposed transfer.
- A written agreement, indicating the specific date of the proposed transfer of permit coverage and acknowledging the responsibilities of the current and new permittee for compliance with the terms and conditions of this permit, is submitted to the Department.
- The new permittee either confirms in writing that the type of discharge, number

of outfalls, and other information given on the original NOI remain correct or updates this information.

- The new permittee confirms in writing that either they will follow the existing SWPPP or that they have developed a new SWPPP.
- Neither the current permittee nor the new permittee receives notification from the Department, within 30 days of receipt of items above, of intent to terminate coverage under this permit.

2. Permit Fee

a. You must submit the initial permit fee to the Department with the NOI form for the fee in effect at the time that the payment is due as specified in COMAR 26.08.04.09-1(C)(1)(a).

b. Make the initial fee payable to the Maryland Department of the Environment and send it together with the completed NOI to:

Maryland Department of the Environment
P.O. Box 2057
Baltimore, MD 21203-2057

c. If you pay the NOI fee by a check that does not clear for any reason, you will have 30 calendar days from the date the payment fails to make proper payment, including any interest and other charges. If payment is not received by the 31st calendar day following the failed payment, your coverage under this permit must be considered void from the outset. When payment is made successfully and authorization issued, you should save the cancelled check or other proof of payment, a copy of the completed NOI, and the letter confirming your authorization from the Department. These documents must be provided to the Department upon request.

d. A new owner of a facility as a result of a transfer of ownership is responsible for any fees unpaid by the former owner.

3. SWPPP

Proper formats for submitting your SWPPP are provided below.

a. You should not include any confidential information in your submitted SWPPP, which will be a public document available for review by the public.

b. You must submit an electronic copy of the SWPPP to the Department and have a hard copy available onsite. Your electronic copy (PDF, JPEG or Word) of the SWPPP must be provided to the Department by one of these methods.

i.) Including a file on electronic media (CD, DVD, USB drive, or other approved media) along with your mailed copy of the NOI.

ii.) Emailing the file to swppp.permit@maryland.gov when you send your NOI to the Department. The email cannot exceed 25 MB and so you may need to use more than one email to deliver the entire file. The email subject line should include "20SW", your previous registration number (if you did have previous coverage under 12SW) and your facility name.

iii.) Posting a copy of the SWPPP using your NetDMR account when you send your NOI to the Department.

iv.) Including a link (URL) to your SWPPP on your NOI, which provides access to your SWPPP on a publicly available company website.

v.) Other electronic means that you make accessible to the Department such as a link to DropBox, Google Drive, SkyDrive, etc.

B. Deadlines for Coverage

You will be in violation of state and federal requirements to obtain a permit and subject to enforcement action by the Department if you fail to submit a i) No Exposure Certification, or ii) an NOI, SWPPP and fee payment or iii) transfer request in a timely manner as provided in

the following table. Late NOIs will be accepted, but authorization to discharge will not be retroactive.

Category	NOI Submittal Deadline
Existing Dischargers – in operation as of Effective Date of this permit and previously authorized for coverage under 12-SW, that are not subject to Chesapeake Bay Restoration Requirements (Part III.A).	Within 6 months after the effective date of this permit. Authorization to discharge under 12-SW continues in the interim.
Existing Dischargers – in operation as of Effective Date of this permit and previously authorized for coverage under 12-SW that are subject to Chesapeake Bay Restoration Requirements (Part III.A).	Within 6 months after the effective date of this permit. Authorization to discharge under 12-SW continues in the interim.
New Dischargers or New Sources	A minimum of 60 days prior to commencing discharge.
New Owner/Operator of Existing Discharger - transfer of ownership and/or operation of a facility whose discharge is authorized under this permit	A minimum of 30 days prior to date that the transfer will take place to the new owner/operator.
Other Eligible Dischargers – in operation prior to permit effective date, but not covered under the 12-SW or another NPDES permit.	Immediately, to minimize the time discharges from the facility will continue to be unauthorized.

C. Required Signatures

1. Certification

Any person signing documents in accordance with part II.C.2 and II.C.3 above must include the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2. All applications, including NOIs, transfer requests, and No Exposure Certifications must be signed by a Signatory as follows:

a. *For a corporation*: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

i.) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

ii.) the manager of one or more properties belonging to the owner, provided the manager is authorized to make management decisions which govern the operation of the regulated facility having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary

systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. *For a partnership or sole proprietorship:* By a general partner or the proprietor, respectively; or

c. *For a municipality, State, Federal, or other public agency:* By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

i.) the chief executive officer of the agency; or

ii.) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of the EPA).

3. Your SWPPP, including changes to your SWPPP to document any corrective actions taken as required by Part IV, the Comprehensive Site Compliance Evaluation, and all reports submitted to the Department, must be signed by a person described in Part II.C.2 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. the authorization is made in writing by a Signatory;

b. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. the signed and dated written authorization is included in the SWPPP and made available to the Department upon request.

4. If an authorization for a representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of PART II.C.3 must be submitted to the Department prior to submitting or with any reports, information or applications that must be signed by a duly authorized representative.

D. Failure to Notify

If you (1) engage in an activity covered under this permit, (2) fail to notify the Department of your intent (Part II.A) to be covered under this permit within the deadlines established in this permit (Part II.B), and (3) discharge to waters of this state without an NPDES discharge permit, then you are in violation of the Federal Clean Water Act and of the Environment Article, Annotated Code of Maryland, and may be subject to penalties.

E. Additional Notification

If stormwater from your facility discharges into a Municipal Separate Storm Sewer System (MS4) you must notify the MS4 owner/operator that you are authorized to discharge under this permit. If the MS4 owner/operator notifies you of additional requirements that you must meet to discharge into that system then you must comply with those requirements to remain authorized to discharge under this permit.

F. Changes in Permit Coverage

Certain planned changes in stormwater discharge or termination of permit coverage, both described below in this section, require notification to the Department's Water Permits

Program at this address:

Maryland Department of the Environment
Wastewater Permits Program
1800 Washington Blvd, Ste 455
Baltimore, MD 21230

1. Planned Changes
When possible, consider the contours/elevations at a particular site and aim to site new structures on the higher elevations at a site and put parking or other structures that can be flooded at the lower elevations, in anticipation of climate change effects. You must give written notice to Department's Water Permits Program as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1); or

c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan; or

d. Anticipated Noncompliance Notification - You shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

2. Termination of Permit Coverage

a. Submitting a Notice of Termination
To terminate permit coverage, you must submit a complete and accurate Notice of Termination (NOT) https://mdewwp.page.link/GPNOT to the Wastewater Permits Program, or an equivalent electronic form provided by the Department. Your authorization to discharge under this permit terminates at midnight of the day that a complete Notice of Termination is processed and acknowledged by the Department. If you submit a Notice of Termination without meeting one or more of the conditions identified in Part II.F.2.b, then your Notice of Termination is not valid. You are responsible for meeting the terms of this permit until your authorization is terminated.

b. When to Submit a Notice of Termination
You must submit a Notice of Termination within 30 days after one or more of the following conditions have been met:

i.) All operations at your facility have permanently ceased and there will be no further exposure of stormwater to any industrial activity, process, material or transport at the facility, and you have already implemented necessary sediment and erosion controls as required by Part III.B.1.b.v; or

ii.) You move your operation to a new location (After submitting an NOT you must then apply for coverage at the new location per Part II.); or

iii.) A new owner or operator has taken over responsibility for the facility; or

iv.) You have obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit, unless the Department has required that you obtain such coverage under Part I.E.4, in

which case coverage under this permit will terminate automatically.

c. The Department may terminate your coverage under this general permit if the Department finds good cause to do so.

G. Requirement to Post a Sign of your Permit Coverage.

You must post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to your facility and at potentially impacted public access areas. You must use a font large enough to be readily viewed from a public right-of-way and conduct periodic maintenance of the sign to ensure that it is legible, viable, and factually correct. At minimum, the sign must include:

1. The State and NPDES permit number (i.e., permit tracking number assigned to your NOI);
2. The Department's wastewater permits portal URL (https://mdewwp.page.link/WWPPortal); and
3. A contact name and phone number for obtaining additional facility information.

PART III. STORMWATER MANAGEMENT REQUIREMENTS

A. Chesapeake Bay Restoration Requirements

You must comply with the requirements in this section if you meet ALL of these criteria:

- your facility is located within the Chesapeake Bay Watershed;
- your facility is 5 acres or greater in size;
- any portion of your facility is located within a Phase I or Phase II municipal separate storm sewer system (MS4) jurisdiction[1]; and
- your facility is not owned by or leased from an entity that is permitted as an MS4.

All facilities not owned by or leased from an entity that is permitted as an MS4, including those (Refer to Appendix G).

1. Control Measures for Nutrient Reduction

a. You must select, design, install and implement restoration of 20% of the untreated impervious surface area at your facility or equivalent control measures for the reduction of nutrients.

i.) Restoration of impervious surfaces and allowed equivalent control measures are defined in paragraph "c" below.

ii.) "Untreated" means not meeting the definition of treatment in Appendix E, "Treatment of Impervious Surfaces." The amount of required restoration is determined from the impervious areas within your permitted industrial area as defined in paragraph "b" below. However the control measures may be implemented outside this industrial area, including but not limited to restoration of parking lots within your entire facility, or projects offsite in coordination with your local stormwater authority as described in paragraphs "c" or "d" below.

iii.) The control measures must be fully implemented within the time frame described in paragraph "e" below and must be consistent with other MDE policies as described in paragraphs "f" and "g" below.

b. The total area of untreated impervious surfaces that existed at your facility on January 1, 2006, as determined to the best of your ability, shall be your baseline for determining the applicable amount of control measures. For the purposes of this

[1] Including operators in the 13-IM-5500 (MDR055500) Phase 2 jurisdictions.

permit requirement, impervious surfaces are those surfaces that do not allow stormwater to infiltrate into the ground and may include any driveway, road or parking lot that is paved (concrete, asphalt) or used for vehicular storage or traffic, any building or storage facility rooftop, any water resistant material covers, any sidewalks/paths, any decks, any paved storage areas, any tanks or containment structures or any surfaces that are paved or covered for other reasons. These impervious surfaces also must collect or convey stormwater discharges associated with industrial activity (as defined in Appendix E "Stormwater Discharges Associated with Industrial Activity"), for your primary industrial or co-located industrial activities at your facility.

c. Control measures must be designed and implemented using any combination of the following three methods. Any treatment of impervious surfaces added since January 1, 2006 may be counted towards meeting the 20% requirement (including restoration completed under the previous permit 12SW).

i.) Practices found in the Design Manual (as defined in Appendix E, "Design Manual"), or other Proprietary Practices (as defined in Appendix E, "Proprietary Practices") approved by the Department. Restoration of impervious surfaces is defined as the treatment of untreated impervious surfaces with structural or non-structural stormwater management practices using structural best management practices (BMPs) found in the Design Manual, or through other Proprietary Practices approved by the Department, based upon designs that treat the volume from one inch of rainfall. Successful implementation of these structural BMPs in the industrial environment also requires some flexibility to accommodate site specific conditions. Restoration opportunities should be pursued where they make sense and where engineering adjustments allow for the successful functioning of any BMP used. The sources of pollutants that may impede the practices may require specific consideration such as pretreatment.

ii.) Practices found in the Accounting Guidance (as defined in Appendix E, "Accounting Guidance"). This nutrient accounting guidance provides several approved equivalent controls used by municipalities ranging from street sweeping to septic system upgrades, which can be considered by industrial facilities. In addition, this guidance addresses situations where site constraints prevent the capture of the full one inch or Water Quality Volume (WQv) treatment, and in these situations the impervious area considered as treated shall be pro-rated based on the total volume treated. The total impervious surface area draining to a BMP may be considered treated when the full WQv is provided for one inch of rainfall; otherwise, proportional treatment will be granted based on the percentage of the WQv captured. For example, if only a half inch of rainfall is treated, then only one half of the impervious surface area in the drainage area shall be considered treated.

iii.) Other equivalent control measures. Measures that achieve reduction of 5.4 lbs total nitrogen (TN) per year shall be considered equivalent to restoration of one acre of impervious surface area. The equivalent measures may include any of these options.

- New controls required by this permit for erosion and sediment control, or for reduced use of fertilizer. Refer to EPA Chesapeake Bay Program Office Phase 5.3 Community Watershed Model, dated December 2010, for guidance on evaluating reductions (later Model performance data may also be used in this evaluation). This is referred to by document number "EPA 903S10002 - CBP/TRS-303-10" and can be found at the website "http://ches.communitymodeling.org/models/CBPhase5/documentation.php" . New erosion and sediment control reduction efficiencies are found in this document under "6.7.3 Erosion and Sediment Control" and reduced use of

fertilizer load reductions are found under “6.7.10 Urban Nutrient Management”.

- New controls to achieve the benchmarks for nitrogen required by this permit, if benchmarks are applicable for your facility. The control design and resulting TN reductions must be fully documented and approved by the Department.
- Reducing an existing TN load allocation under an individual NPDES permit, issued to the permittee.

d. You must implement these control measures (Part III.A.1.c) at your facility(s) unless infeasible (as defined in Appendix E, "Infeasible"). If it is infeasible to implement any or all of these practices at your facility(s), you may satisfy the restoration requirement by working through your local jurisdiction to implement project(s) offsite or through trading to acquire credits, but only as authorized under, and in accordance with the Maryland Water Quality Trading Program regulations (COMAR 26.08.11). If you intend to trade to meet these requirements, you must

i.) notify the Department and address all applicable regulatory requirements, including all reporting and notification requirements under Appendix G of this permit;

ii.) translate the restoration requirements from impervious acres to Total Nitrogen (TN), Total Phosphorus (TP) and Sediment (TSS), using the calculation method prescribed by COMAR 26.08.11; and

iii.) complete the acquisition of verified credits no later than 3 months (end of March) following the end of the calendar year in which the credits are applicable.

e. Existing facilities with prior coverage under the 12-SW subject to the Chesapeake Bay restoration requirements were required to implement control measures to meet the 20% restoration within the five (5) year term of the previous permit, beginning with the effective date of that permit or up to four (4) years from the date that the facility filed the NOI. This permit does not relieve such facilities from meeting those prior permit terms. Facilities with prior coverage under the 12-SW that were not previously subject to the Chesapeake Bay restoration requirements or facilities that are newly covered under 20-SW for the first time which are now subject to the Chesapeake Bay restoration requirements, must implement control measures within four (4) years from the date an NOI is filed.

f. The reduction of nutrients associated with compliance with the 20% restoration requirement shall not generate any marketable credits. Reductions beyond the requirements in this permit may be eligible as marketable credits in accordance with Maryland Water Quality Trading Program regulations (COMAR 26.08.11).

g. This requirement must be implemented in a manner that is consistent with any other permits, schedules or requirements by the Department for the control or mitigation of pollutants at the site.

2. Nutrient Control Measure Planning and SWPPP Documentation

For those facilities that were entirely developed or entirely redeveloped after 2002, such that all impervious surfaces have been treated with stormwater BMPs in the Design Manual, you must complete only step “a” and step “b” below and document the results in your SWPPP. For all other facilities, you must develop a plan by completing all the following steps and document in your SWPPP (required in Part III.C.4 of this permit) the results of each step.

a. Identify all impervious surfaces that are subject to this permit, as defined in Part III.A.1.a, and calculate the total impervious surface area for your facility.

b. Identify the impervious surface area treated with existing stormwater best management practices (BMPs) that provide the full one inch or WQv treatment (as defined in Appendix E, "Treatment of Impervious Surfaces").

c. Identify the impervious surface area partially treated by existing stormwater best management practices (BMPs) that don't provide the full one inch or WQv treatment. Convert the partially treated area total to its equivalent fully treated area total by applying a proportional factor based on the percentage of the WQv captured. This result is the "adjusted partially treated area." For example, if only a half inch of rainfall is treated, then only one half of the impervious surface area in the drainage area shall be considered treated.

d. Subtract the treated area result in "b" above and the adjusted partially treated area result in "c" above from the total impervious surface area result in "a" above. The resulting value represents the untreated impervious surface area.

e. Multiply the untreated impervious surface area (result in "d" above) by 20% to calculate the impervious surface area subject to the 20% control measure requirement. Convert this area to acres by dividing your square feet of impervious area by 43,560.

f. Determine all of your available options as follows:

i.) restoration control measures using the Design Manual and/or Proprietary Practices as referenced in Part III.A.1.c.i;

ii.) control measure alternatives through the Accounting Guidance as referenced in Part III.A.1.c.ii; and

iii.) equivalent control measures as referenced in Part III.A.1.c.iii.

g. Evaluate and then select practices from the options (identified in "f" above) that you will implement to comply with the control measure requirement of this permit (result in "e" above).

h. If after evaluating your potential options for nutrient reductions, you determine it is infeasible to meet the nutrient reduction requirements at your facility, provide your rationale and describe your alternate plan and schedule consistent with Part III.A.1.d for coordinating with the local jurisdiction to implement equivalent off-site projects.

i. Document your selection of BMPs and equivalent measures, including calculations that show your approach will achieve the nutrient reduction requirement.

j. Provide a schedule and basis for all options you selected that cannot be implemented within 30 days of registration under this permit.

k. Specify appropriate routine maintenance schedules for all new and existing BMPs. Include in your plan a procedure for inspection and documentation of those inspections for all structural, nonstructural and other equivalent control measures.

l. Modify the resulting plan as needed to keep implementation on pace to meet the permit deadline in Part III.A.1.e.

3. Nutrient Control Measure Verification

a. When the required selection of BMPs and equivalent measures have been implemented, you shall obtain written certification by either a Professional Engineer (PE), a Certified Professional in Storm Water Quality (CPSWQ), a Registered Architect, or a Landscape Architect. The certification shall be kept with your SWPPP. This certification is to provide verification that:

- the type and capacity of the control(s) specified in the SWPPP meet the current design standards specified in the Design Manual, approved Proprietary Practices specification or Accounting Guidance satisfying the permit restoration requirements;
- all equivalent measures specified in the SWPPP have been implemented to achieve the planned nutrient reduction levels;
- all structural BMPs in the SWPPP are properly maintained in accordance with approved design plans;
- all BMPs are supported by procedures in the SWPPP for required inspections and testing;
- all BMPs are fully implemented; and

- the professional signing the verification has visited and examined the facility.

b. You must provide an updated SWPPP and complete the Nutrient Reduction Progress Report Form, provided in Appendix F, and send both documents to the Department within four (4) years from the date you file an NOI.

4. Ongoing Requirements:

a. For those facilities that have certified their implementation of the Chesapeake Bay Restoration requirements of this permit (see Part III.A.3), and for those facilities who have reached their required deadline for certification, you must continue to maintain structural practices, and/or continue to perform any non-structural requirements (such as street sweeping or trading), yearly as required by this permit, as long as this permit remains effective (or administratively extended). You must document these continued maintenance, ongoing non-structural practices or trading requirements in your SWPPP (Part III.C.5.v).

b. Operators seeking to achieve nutrient reduction via trading must continue to provide additional information verification of compliance annually. (Refer to Appendix G).

B. Control Measures and Effluent Limits

In the technology-based limits included in Part III.B.1 and in Appendix D, the term "minimize" means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

1. Control Measures

Considering the control measure selection and design considerations, you must select, design, install, and implement control measures (including best management practices) to meet the non-numeric effluent limits, as described below. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer's specifications. Note that you may deviate from such manufacturer's specifications where you provide justification for such deviation and include documentation of your rationale in the part of your SWPPP that describes your control measures. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges, you must modify these control measures as expeditiously as practicable. Regulated stormwater discharges from your facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at your facility.

a. *Control Measure Selection and Design Considerations*

You must consider the following when selecting and designing control measures:

i.) preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;

ii.) using control measures in combination is more effective than using control measures in isolation for minimizing pollutants in your stormwater discharge;

iii.) assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

iv.) minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, pervious pavement, or improving soils on-site by adding organic matter, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;

v.) attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;

vi.) conserving and/or restoring riparian buffers will help protect streams from stormwater runoff and improve water quality;

vii.) using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants; and

viii.) adapting operations to address climate change impacts by implementing structural improvements, enhanced pollution prevention measures, and other mitigation measures, to minimize impacts from stormwater discharges from major storm events that cause extreme flooding conditions, such as the following:

- Reinforce materials storage structures to withstand flooding and additional exertion of force;
- Prevent floating of semi-stationary structures by elevating to the Base Flood Elevation (BFE)[2] level or securing with non-corrosive device;
- When a delivery of materials is expected, and a storm is anticipated within 48 hours, delay delivery until after the storm or store materials as appropriate (refer to emergency procedures);
- Temporarily store materials and waste above the BFE level;
- Temporarily reduce or eliminate outdoor storage;
- Temporarily relocate any mobile vehicles and equipment to upland areas;
- Develop scenario-based emergency procedures for major storms that are complementary to regular stormwater pollution prevention planning and identify emergency contacts for staff and contractors; and
- Conduct staff training for implementing your emergency procedures at regular intervals.

b. *Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT)*

i.) *Minimize Exposure.* You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). You must store solid chemical products, chemical solutions, paints, oils, solvents, acids, caustic solutions and waste materials under cover on an impervious surface. In minimizing exposure, you should pay particular attention to the following:

- use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);
- clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;
- use spill/overflow protection equipment;
- drain fluids from equipment and vehicles prior to onsite storage or disposal;
- perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
- ensure that all washwater drains to a proper collection system (i.e., not the stormwater drainage system).

[2] Base Flood Elevation (BFE) is the computed elevation to which floodwater is anticipated to rise during the base flood. BFEs are shown on the Federal Emergency Management Agency's Flood Maps and on the flood profiles, which can be access through https://msc.fema.gov/portal/search. Refer also to Appendix E.

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit. These wastewaters must be covered under the vehicle washing general permit (https://mdewwp.page.link/VWGP), a separate NPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or disposed of otherwise in accordance with applicable law.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters or if discharges are authorized under another NPDES permit.

ii.) *Good Housekeeping.* You must keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers. A good practice for ensuring housekeeping activities are performed at regular intervals would be keeping a schedule for routine grounds maintenance and cleanup. Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids and could leak, ensure that discharges have a control (e.g., secondary containment, treatment). Consistent with Part I.E.3 above, this permit does not authorize dry weather discharges from dumpsters or roll off boxes;*

iii.) *Maintenance.* You must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters. You must maintain all stormwater control measures used to restore impervious surfaces. You must also maintain all control measures that are used to achieve the effluent limits required by this permit in effective operating condition. This includes cleaning catch basins when the depth of debris reaches two-thirds (2/3) of the sump depth and keeping the debris surface at least six inches below the lowest outlet pipe. Particular care should be taken to inspect compaction dumpsters to prevent debris around or under the dumpster as well as prevent hydraulic fluid leakage. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). *Maintenance Deadlines*.If you find that your control measures need to be replaced or repaired, you must conduct the necessary maintenance immediately in order to minimize pollutant discharges. If you find that your control measures need to be repaired or replaced, you must immediately take all reasonable steps to prevent or minimize the discharge of pollutants until the final repair or replacement is implemented, including cleaning up any contaminated surfaces so that the material will not be discharged during subsequent storm events. Final repairs/replacement of stormwater controls should be completed as soon as feasible but must be no later than the timeframe established in Part IV.A.2 for corrective actions, i.e., within 14 days or, if that is infeasible, within 45 days. If the completion of stormwater control repairs/replacement will exceed the 45 day timeframe, you may take the minimum additional time necessary to complete the maintenance, provided that you notify the Department Compliance Program of your intention to exceed 45 days, and document in your SWPPP your rationale for your modified maintenance timeframe. If a control measure was never installed, was installed incorrectly or not being properly operated or maintained, you must conduct corrective action as specified in Part IV. Note: In this context, the term “immediately” means the day you identify that a control measure needs to be maintained, repaired, or replaced, you must take all reasonable steps to

minimize or prevent the discharge of pollutants until you can implement a permanent solution. However, if you identify a problem too late in the work day to initiate action, you must perform the action the following work day morning. "All reasonable steps" means you must respond to the conditions triggering the action, such as, cleaning up any exposed materials that may be discharged in a storm event (e.g., through sweeping, vacuuming) or making arrangements (i.e., scheduling) for a new Stormwater Control Measure (SCM) to be installed.

iv.) *Spill Prevention and Response Procedures.* You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. These procedures are complementary to and do not replace any requirements of RCRA (42 U.S.C. §6901), the Department's Land and Materials Administration Oil Control Program, NFPA 30 Flammable and Combustible Liquids Code or the Spill Prevention, Control and Countermeasure (SPCC) Plan (as a requirement of 40 CFR § 112), At a minimum, you must implement:

- Procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Quarterly inspection procedures for containers that are susceptible to spillage or leakage (e.g., used oil) to ensure the containment structures have no leaks/cracks, and that the outlets are properly sealed. Check that plugs are properly affixed, that valves are in working condition, and that neither are leaking;
- Procedure for the discharge of any stormwater from a containment structure, requiring that a sample is taken to ensure that no visible or odorous pollutants are discharged. If a sample contains a visible sheen, floating solids or a noxious smell, then you must discharge the remaining wastewater to a sanitary sewer system or haul it to a recycler or TSDF (Treatment Storage & Disposal Facilities) or disposal facility;
- Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your stormwater pollution prevention team as described in Part III.C.1; and
- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you must notify the Department's Emergency Spill Response number at (866) 633-4686 and EPA's National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC, metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as you have knowledge of the discharge. Local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

v.) *Erosion and Sediment Controls.* You must stabilize exposed areas and contain

runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions you must take to meet this limit, you must place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Department's Soil Erosion & Sediment Control Handbook, EPA's internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific Industrial Stormwater Fact Sheet Series, (https://mdewwp.page.link/ISWGuidance), and National Management Measures to Control Nonpoint Source Pollution from Urban Areas (https://mdewwp.page.link/NPSFS).

vi.) *Management of Runoff.* You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Department's Design Manual, EPA's internet-based resources relating to runoff management, including the sector-specific Industrial Stormwater Fact Sheet Series, (https://mdewwp.page.link/ISWGuidance), and National Menu of Stormwater BMPs (https://mdewwp.page.link/SWBMPs).

vii.) *Salt Storage Piles or Piles Containing Salt.* You must enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. Refer to Sector Specific requirements for Sector AD.d for additional requirements for Salt Terminals. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES or State discharge permit.

viii.) *Sector Specific Non-Numeric Effluent Limits.* Appendix A of this permit identifies your specific Industry Sector. You must achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Appendix D: Sector-Specific Requirements for Industrial Activity.

ix.) *Employee Training.* You must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your stormwater pollution prevention team described in Part III.C.1, below. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. As part of the employee training program you must address, at a minimum, the following activities (as applicable): an overview of what is in the SWPPP; used oil management, spent solvent and paint management, disposal of spent abrasives (e.g., blasting materials, etc.), spill prevention and control, fueling procedures, general good housekeeping practices (e.g., dumpster/debris removal), used battery management, waste recycling (e.g., metals, plastics), used container controls (e.g., re-banding barrels, plugging drums), the location of all the controls required by this permit, and how they are to be maintained, etc. The Department recommends training be conducted at least annually (or more often if employee turnover is high).

x.) *Non-Stormwater Discharges.* You must eliminate non-stormwater discharges not authorized by a NPDES or State discharge permit. See Part I.E.3 for a list of non-stormwater discharges authorized by this permit.

xi.) *Waste, Garbage and Floatable Debris.* You must ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged. The Department recommends practices including placing garbage or recycling containers at traffic areas, and identifying a schedule for personnel to walk site for trash and litter daily/weekly/monthly, etc.

xii.) *Dust Generation and Vehicle Tracking of Industrial Materials.* You must minimize generation of dust and offsite tracking of raw, final, or waste materials.

2. Water Quality-Based Effluent Limitations

a. *Water Quality Standards*

Your discharge must be controlled as necessary to meet applicable water quality standards. The Department expects that compliance with the other conditions in this permit will control discharges as necessary to meet applicable water quality standards. There shall be no discharge that causes visible oil sheen, and no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour of point of discharge. If at any time you become aware, or the Department determines, that your discharge causes or contributes to an exceedance of applicable water quality standards, then you must (1) take corrective action, (2) document the corrective actions, and (3) report the corrective actions to the Department's Water and Science Administration Compliance Program as required by Part IV. Additionally, if information in your NOI or required reports or if information from other sources indicates that your discharge is not controlled as necessary to meet applicable water quality standards, the Department may impose additional control measures (to meet narrative water quality-based effluent limit above in Part III.B) on a site-specific basis or require you to obtain coverage under an individual permit. You must implement all measures necessary to be consistent with an available wasteload allocation in an EPA established or approved TMDL, including the restoration requirements (Part III.A).

b. *Discharges to Water Quality Impaired Waters*

You are considered to discharge to an impaired water if the first Waters of This State to which you discharge is identified by the State, or EPA as not meeting an applicable water quality standard, and:

- Requires development of a TMDL (pursuant to section 303(d) of the CWA);
- Is addressed by an EPA-approved or established TMDL; or
- Is not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR130.7(b)(1).

Note: For discharges that enter a separate storm sewer system prior to discharge, the first Waters of This State to which you discharge is the waterbody that receives the water from the storm sewer system.

i.) *Existing Discharge to an Impaired Water with an EPA-Approved or Established TMDL.* If you discharge to an impaired water with an EPA-approved or established TMDL, the Department will inform you if any additional monitoring, limits or controls are necessary for your discharge to be consistent with the assumptions and requirements of any available wasteload allocation in an EPA approved or established TMDL, or if coverage under an individual permit is necessary in accordance with Part I.G.

ii.) *Existing Discharger to an Impaired Water without an EPA-Approved or Established TMDL*. If you discharge to an impaired water without an EPA-approved or established TMDL, the Department will inform you as to what actions are required to comply with Part III.B.2.a, and the monitoring requirements of Part V.B.3. Note that the impaired waters monitoring requirements of Part V.B.3 also apply where the Department determines that

your discharge is not controlled as necessary to meet applicable water quality standards in an impaired downstream water segment, even if your discharge is to a receiving water that is not identified as impaired according to Part III.B.2.b.

iii.) *New Discharger or New Source to an Impaired Water*. If your authorization to discharge under this permit relied on Part I.C.5 for a new discharger or a new source to an impaired water, you must implement and maintain any measures that enabled you to become eligible under Part I.C.5, as determined by the Department and modify such measures as necessary pursuant to any corrective actions. The Department will also inform you as to what actions are required to comply with Part III.B.2.a and the monitoring requirements of Parts V.B.3.

c. *Tier II Antidegradation Requirements for New or Increased Dischargers*
If you are a new discharger or are required to notify the Department of a modified discharge (Part II.F.1), and you discharge directly to waters designated by the State as Tier II for antidegradation purposes under 40 CFR 131.12(a), you must perform an antidegradation review (COMAR 26.08.02.04-1), including the social and economic justification (SEJ) and alternatives analysis provisions, and establish stormwater controls to protect the water resource. The Department may notify you that additional analyses, control measures, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part I.G.

d. *Criteria Selection*
Any additional numerical water quality-based limits for any specific discharger under Part III.B.2 of the permit shall be based solely on Maryland's Numeric Water Criteria for Designated Uses in COMAR 26.08.02.03-3 and Maryland's Criteria for Toxic Substances in Surface Waters in COMAR 26.08.02.03-2, applied at end of pipe, or the applicable wasteload allocation in a final approved TMDL. For any additional control requested by the Department you must include a plan to implement BMPs to address the pollutant of concern in your SWPPP.

C. Stormwater Pollution Prevention Plan (SWPPP) Requirements

The SWPPP is intended to document the selection, design, and installation of control measures. The SWPPP does not contain effluent limitations; the limitations are contained in Part III.A, and Part III.B of the permit, and, for some Industry Sectors, Appendix D of the permit.

Upon registration under this Permit, if you are also subject to other individual NPDES permits or have coverage under an industry-specific general permit for the discharge of stormwater associated with industrial activity, then the requirements of this permit supersede the SWPPP requirements of the other permit(s). All other requirements of the other permit(s) remain in full effect.
Your SWPPP must contain all of the following elements, as described below. You must also meet all of this section's additional SWPPP requirements.

- Stormwater pollution prevention team (see Part III.C.1);
- Site description (see Part III.C.2);
- Summary of potential pollutant sources (see Part III.C.3);
- Description of control measures (see Part III.C.4);
- Schedules and procedures (see Part III.C.5); and
- Signature requirements (see Part III.C.6).

The SWPPP is a living document. Facilities must keep their SWPPP up-to-date throughout their permit coverage, such as making revisions and improvements to their stormwater management program based on new information and experiences with major storm events. As distinct from the SWPPP, the additional documentation requirements (see Part.III.C.8) are so that you document the implementation (including inspection, maintenance, monitoring, and corrective action) of the permit requirements.

1. Stormwater Pollution Prevention Team

You must identify the staff members (by name or title) that comprise the facility's stormwater pollution prevention team as well as their individual responsibilities. Your stormwater pollution prevention team is responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

2. Site Description

Your SWPPP must include the following:

a. *Activities at the Facility.* Provide a description of the nature of the industrial activities at your facility.

b. *General location map.* Provide a general location map (e.g., U.S. Geological Survey (USGS) quadrangle map) with enough detail to identify the location of your facility. Ideally this map will extend one-quarter of a mile beyond the property boundaries of the facility and identify any water body where discharge is conveyed. At least one public roadway must be identified on the map.

c. *Site map.* Provide a map showing:

i.) the size of the property in acres;

ii.) the location and extent of significant structures and impervious surfaces

iii.) the location and extent for planned restoration of impervious surfaces, or other nutrient reduction control measures;

iv.) directions of stormwater flow (use arrows);

v.) locations of all existing structural control measures or BMPs;

vi.) locations of all receiving waters in the immediate vicinity of your facility, indicating if any of the waters are impaired and, if so, whether the waters have TMDLs established for them;

vii.) locations of all stormwater conveyances including ditches, pipes, and swales;

viii.) locations of potential pollutant sources identified under Part III.C.3;

ix.) locations where significant spills or leaks identified under Part III.C.3 have occurred;

x.) locations of all stormwater monitoring points;

xi.) locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall No. 1, No. 2, etc), indicating if you are treating one or more outfalls as substantially identical, and an approximate outline of the areas draining to each outfall;

xii.) municipal separate storm sewer systems, where your stormwater discharges to them;

xiii.) locations and descriptions of all non-stormwater discharges identified under Part I.E.3;

xiv.) locations of the following activities where such activities are exposed to precipitation:

- fueling stations;
- vehicle and equipment maintenance and/or cleaning areas;
- loading/unloading areas;

- locations used for the treatment, storage, or disposal of wastes;
- liquid storage tanks;
- processing and storage areas;
- immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
- transfer areas for substances in bulk; and
- machinery;
- manufacturing buildings and

xv.) locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.

3. Summary of Potential Pollutant Sources

You must document areas at your facility where industrial materials or activities are exposed to stormwater and from which allowable non-stormwater discharges are released. Industrial materials or activities include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products. Material handling activities include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each area identified, the description must include:

a. *Activities in the area.* A list of the industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).

b. Pollutants. A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list must include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to stormwater in the 3 years prior to the date you prepare or amend your SWPPP. In addition to your own evaluation, the following resources or guidelines must be taken into account when determining the potential pollutants.

i.) The Department has included on the industrial stormwater website, the industry specific fact sheets produced by EPA, that do include potential pollutants based on your industrial activity.

ii.) Certain industries are potential sources of Polychlorinated Biphenyls (PCBs), and should be aware of these for any required monitoring in this permit. These industries are included in Table III.C.3.b.ii below.

Table III.C.3.b.ii - Activities with higher likelihood as sources of Polychlorinated Biphenyls (PCB)

Sector or Subsector or (specific SICs)	Sector Description
(SIC 7600)	Miscellaneous Repair Service
(SIC 9700)	National Security and International Affairs
AA	FABRICATED METAL PRODUCTS
AB (SIC 3711-3799)	Transportation Equipment
AC (SIC 3612)	Transformers
B	PAPER AND ALLIED PRODUCTS
C (SIC 2812-2899)	Chemicals & Allied Products
F	PRIMARY METALS
M	AUTOMOBILE SALVAGE YARDS
N1	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling.
P (SIC 4212-4215, 4231)	Motor Freight Transportation
P (SIC 4011)	Railroads, Line Haul Ops

Q	Water Transportation
R1	Ship and Boat Building or Repairing Yards
U	Food and Kindred Products
V (SIC 2211-2299)	Textile Mill Products
X	Printing Publishing & Allied Industries
Y1	Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere Classified

iii.) You must identify potential sources of certain per- and polyfluoroalkyl substances (PFAS) at your operation which could be exposed to stormwater and list and address these sources in your SWPP. The PFAS compounds of interest are those addressed in EPA methods 533 and 537.1. Sources would include areas where fire retardants were discharged or stored, or where PFAS containing material used in your production process is stored or disposed of or may be accidentally spilled. For more information review https://www.epa.gov/pfas/basic-information-pfas. You should also be aware that the Department may require ongoing monitoring under this permit if a PFAS-related impairment is identified in your receiving stream.

c. *Spills and Leaks.* You must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You must document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance, in the 3 years prior to the date you prepare or amend your SWPPP. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and Countermeasure (SPCC) plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112.
Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of the reporting requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 relating to spills or other releases of oils or hazardous substances.

d. *Non-Stormwater Discharges.* You must document that you have evaluated for the presence of non-stormwater discharges and that all unauthorized discharges have been eliminated. Documentation of your evaluation must include:

i.) The date of any evaluation;
ii.) A description of the evaluation criteria used;
iii.) A list of the outfalls or onsite drainage points that were directly observed during the evaluation;
iv.) The different types of non-stormwater discharge(s) and source locations; and
v.) The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, wash water is collected and hauled away, exterior vehicle washwater is discharged to groundwater under the vehicle washing general permit, or an NPDES permit application was submitted

for an unauthorized cooling water discharge.

e. *Salt Storage.* You must document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.

f. *Sampling Data History.* You must summarize what you have observed (visual monitoring) or sampled for benchmarks (DMR data) as potential problems from stormwater during the previous permit term.

4. Description of Control Measures to Meet Technology- and Water Quality-Based Effluent Limits

You must document the location and type of control measures you have installed and implemented at your site to achieve the non-numeric effluent limits in Part III.B.1.b and, where applicable, in Appendix D Sector-Specific Requirements for Industrial Activity, and the water quality-based effluent limits in Part III.B.2, and describe how you are addressing the control measure selection and design considerations, if applicable, in Part III.A.1.a. This documentation must describe how the control measures at your site address both the pollutant sources identified in Part III.C.3 and any stormwater run-on that commingles with any discharges covered under this permit.

5. Schedules and Procedures

a. Pertaining to Control Measures Used to Comply with the Effluent Limits in Part III.B. The following must be documented in your SWPPP:

i.) *Good Housekeeping (See Part III.B.1.b.ii or Appendix D)* – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers;

ii.) *Maintenance (See Part III.B.1.b.iii or Appendix D)* – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;

iii.) *Spill Prevention and Response Procedures (See Part III.B.1.b.iv or Appendix D)* – Procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by a NPDES permit for the facility, provided that you keep a copy of that other plan onsite and make it available for review consistent with Part III.C.8; and

iv.) *Employee Training (See Part III.B.1.b.ix or Appendix D)* – The SWPPP must identify how often training will take place. All training must be held at least once per calendar year (or more often if employee turnover is high).

v.) *Restoration Requirements* – You must identify the ongoing maintenance of restoration practices, non-structural practices, or ongoing trading required by this permit.

b. *Pertaining to Inspection and Monitoring*

i.) You must document in your SWPPP your procedures for performing, as appropriate, the three types of inspections specified by this permit, including:

- Routine facility inspections (see Part V.A.1);
- Quarterly visual assessment of stormwater discharges (see Part V.A.3); and
- Comprehensive site inspections (see Part V.A.2).

ii.) For each type of inspection performed, your SWPPP must identify:

- Person(s) or positions of person(s) responsible for inspection; and
- Specific items to be covered by the inspection, including schedules for specific outfalls.

iii.) If benchmark monitoring is required for your industry or industries, per Appendix D your SWPPP must document:

- Locations where samples are collected, including any determination that two or more outfalls are substantially identical;
- Parameters for sampling and the frequency of sampling for each parameter;
- Schedules for monitoring at your facility;
- Any numeric control values (benchmarks, TMDL-related requirements, or other requirements) applicable to discharges from each outfall; and
- Procedures (e.g., responsible staff, logistics, laboratory to be used, etc.) for gathering storm event data, as specified in Part V.C.

iv.) You must document the following in your SWPPP if you plan to use the substantially identical outfall exception for your quarterly visual assessment requirements in Part V.A.3 or your benchmark monitoring requirements in Part V.B:

- Location of each of the substantially identical outfalls;
- Description of the general industrial activities conducted in the drainage area of each outfall;
- Description of the control measures implemented in the drainage area of each outfall;
- Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges;
- An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%); and
- Why the outfalls are expected to discharge substantially identical effluents.

v.) If you are invoking the exception for inactive and unstaffed sites relating to routine facility inspections and quarterly visual assessments, you must include in your SWPPP the information to support this claim as required by Parts V.A.4. If you are invoking the exception for inactive and unstaffed sites for benchmark monitoring, you must include in your SWPPP the information to support this claim as required by Part V.B.5.

6. Signature Requirements

You must sign and date your SWPPP in accordance with Part II.C, including the date of signature.

7. Required SWPPP Modifications

You must modify your SWPPP whenever necessary to address any of the triggering conditions for corrective action in Part IV and to ensure that they do not reoccur, or to reflect changes implemented when a review following the triggering conditions in Part IV.B indicates that changes to your control measures are necessary to meet the effluent limits in this permit. Changes to your SWPPP document must be made in accordance with the corrective action deadlines in Parts IV.A and IV.B, and must be signed and dated in accordance with Part II.C.

8. Documentation Requirements

You must retain a copy of the current SWPPP required by this permit at your facility. This SWPPP may be paper or stored as an electronic file accessible by the site, however it must be immediately available to employees at the facility and to the Department. The Department encourages you to post your SWPPP online and provide the website address on your NOI. You are required to keep the following inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit:

a. A copy of the NOI submitted to the Department along with any correspondence exchanged between you and the Department specific to coverage under this permit;

b. A copy of this permit (an electronic copy easily available to SWPPP personnel is also acceptable);
c. A copy of the relevant portion of any other facility document referred to in your SWPPP, such as a Spill Prevention, Control and Countermeasure (SPCC) Plan;
d. Descriptions and dates of any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants to Waters of This State, through stormwater or otherwise; the circumstances leading to the release and actions taken in response to the release; and measures taken to prevent the recurrence of such releases (see Part III.B.1.b.iv);
e. Records of employee training, including date training received (see Part III.B.1.b.ix);
f. Documentation of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance/repair schedules (see Part III.B.1.b.iii);
g. All inspection reports, including the Routine Facility Inspection documentation (see Part V.A.1), the Quarterly Visual Monitoring Form in Appendix B, and the Comprehensive Site Inspection reports (see Part V.A.2);
h. Description of any deviations from the schedule for visual assessments and/or monitoring, and the reason for the deviations (e.g., adverse weather or it was impracticable to collect samples within the first 30 minutes of a measurable storm event) (see Parts V.C.5);
i. Description of any corrective action (Part IV.A and Part IV.B) taken at your site, including triggering event and dates when problems were discovered, and modifications occurred as required under Part IV.C;
j. Documentation of any benchmark exceedances and how they were responded to, including either (1) corrective action taken, (2) a finding that the exceedence was due to natural background pollutant levels, or (3) a finding that no further pollutant reductions were technologically available and economically practicable and achievable in light of best industry practice consistent with Part IV ;
k. Documentation to support any determination that pollutants of concern are not expected to be present above natural background levels if you discharge directly to impaired waters, and that such pollutants were not detected in your discharge or were solely attributable to natural background sources.
l. Schedule of compliance for nutrient control measure planning per Part III.A.2.

If during the term of this permit, your site becomes inactive, you must contact the Department immediately and provide, in writing, the date of inactivity, the facility contact phone number and the location of the SWPPP and additional documentation. These must be made available during normal working hours. Note inactivity does not refer to seasonal closures.

D. Additional Requirements for Facilities Subject To SARA Title III, Section 313 Requirements

If you are subject to SARA Title III, Section 313 (42 U.S.C.11023) reporting requirements, in your SWPPP you must, in addition to the requirements of this Part, provide additional narrative on the preventive measures used to eliminate the exposure of these chemicals to stormwater run-on or run-off. To identify if your facility is subject to this requirement, visit the Maryland Department of the Environment's Community Right-to-Know website (*http://www.mde.state.md.us*). A list of the Section 313 chemicals can be found at the EPA's LIST OF LISTS Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act

(*http://www.epa.gov/*). Additionally, SARA Title III, Section 313 water priority chemicals are often identified on Material Data Safety Sheets (MSDS).

PART IV. CORRECTIVE ACTIONS AND ADDITIONAL IMPLEMENTATION MEASURES (AIM)

A. Corrective Action

1. Conditions Requiring SWPPP Review and Revision to Ensure Effluent Limits are Met

When any of the following conditions occur, or are detected during an inspection, monitoring or other means, or the Department or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, you must review and revise, as appropriate, your SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation, and implementation of your control measures) so that this permit's effluent limits are met and pollutant discharges are minimized:

a. an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit) occurs at your facility;

b. a discharge violates a numeric effluent limit;

c. your control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits in this permit;

d. a required control measure was never installed, was installed incorrectly, or not in accordance with Parts III.A, III. B and/or in Appendix D, or is not being properly operated and maintained; or

e. whenever a visual assessment (Part V.A.3) shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

2. Corrective Action Deadlines

a. Immediate Actions. You must immediately take all reasonable steps to minimize or prevent the discharge of pollutants until you can implement a permanent solution, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events. In Part IV, the term "immediately" means that the day you find a condition requiring corrective action, you must take all reasonable steps to minimize or prevent the discharge of pollutants until you can implement a permanent solution. However, if you identify a problem too late in the work day to initiate corrective action, you must perform the corrective action the following work day morning. The term "all reasonable steps" means you must respond to the conditions triggering the corrective action, such as cleaning up any exposed materials that may be discharged in a storm event (e.g., through sweeping, vacuuming) or making arrangements (i.e., scheduling) for a new Stormwater Control to be installed.

b. Subsequent Actions. If additional actions are necessary beyond those implemented pursuant to Part IV.A.2.a, you must complete the corrective actions (e.g., install a new or modified control and make it operational, complete the repair) before the next storm event if possible or within no more than 14 calendar days from the time of discovery that the condition in IV.A.1 is not met. If it is infeasible to complete the

corrective action within 14 calendar days, you must document why it is infeasible to complete the corrective action within the 14-day timeframe. You must also identify your schedule for initiating the work and complete the corrective action identified as soon as practicable after the 14-day timeframe but no longer than 45 days after discovery. If the completion of corrective action will exceed the 45-day timeframe, you may take the minimum additional time necessary to complete the corrective action, provided that you notify the Department Compliance program of your intention to exceed 45 days, your rationale for an extension, and a completion date, which you must also include in your corrective action documentation (see Part IV.C). Where your corrective actions result in changes to any of the controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 14 calendar days of completing corrective action work. These time intervals are not grace periods, but are schedules considered reasonable for documenting your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

3. Effect of Corrective Action

If the event triggering the review is a permit violation (e.g., non-compliance with an effluent limit), correcting it does not remove the original violation. Additionally, failing to take corrective action in accordance with this section is an additional permit violation. The Department may consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

4. Substantially Identical Outfalls

If the event triggering corrective action is linked to an outfall that represents other substantially identical outfalls, your review must assess the need for corrective action for each outfall represented by the outfall that triggered the review. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event. Any corrective actions must be conducted within the timeframes set forth in Part IV.A.2.

B. Additional Implementation Measures (AIM)

If any of the following events in Parts IV.B.1, IV.B.2, or IV.B.3 occur, you must follow the response procedures described in those parts, called “additional implementation measures” or “AIM.” There are multiple AIM levels: AIM Benchmark Action Level 1 through Benchmark Action Level 3. You are required to respond to different AIM levels which prescribe increasingly robust responses depending on the nature, duration, and magnitude of the benchmark exceedance. In the context of the following parts “year you are subject to benchmarks” means 4 quarters of monitoring. See Part IV.B.4 for AIM exceptions.

1. Benchmark Action Level 1 (AIM Level 1):

a. AIM Level 1 Triggering Events. If, during the first year you are subject to benchmarks (Year 1), any of the following events occur, you are in AIM Level 1. You must follow the AIM Level 1 responses (Part IV.B.1.b) and deadlines (Part IV.B.1.c).

i.) One Annual Average Over the Benchmark Threshold. If one annual average for a parameter is over the benchmark threshold during Year 1, you are in AIM Level 1. An annual average exceedance can occur from the average of four quarterly samples for a parameter, or from less than four samples with results such that an exceedance is mathematically certain (i.e., if the sum of quarterly

sample results to date is already more than 4 times the benchmark threshold).

ii.) One Single Sampling Event Over 4 Times the Benchmark Threshold. If one single sampling event during Year 1 for a parameter is over 4 times the benchmark threshold, you are in AIM Level 1.

b. AIM Level 1 Responses. Except as provided in Part IV.B.4 (AIM Exceptions) if any of the triggering events in Part IV.B.1.a occur, you must:

i.) Review Stormwater Control Measures. Immediately review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the benchmark threshold for the applicable parameter (Examples include: review sources of pollution, spill and leak procedures, and/or non-stormwater discharges; conducting a single comprehensive clean-up, making a change in subcontractor, implementing a new control measure, and/or increasing inspections.) and

ii.) Implement Additional Measures. After reviewing your control measures, you must implement additional implementation measures to ensure the effectiveness of your control measures to bring your exceedances below the parameter's benchmark threshold; or if you determine nothing further needs to be done with your control measures, you must document per Part III.C and include in your annual report why you expect your existing control measures to bring your exceedances below the parameter's benchmark threshold; and

iii.) Continue Quarterly Benchmark Monitoring. After compliance with (i) and (ii) in this Part, you must continue quarterly benchmark monitoring into the next year. You must also attach your updated Comprehensive Annual Report to your next DMR.

c. AIM Level 1 Deadlines: If any modifications related to control measures are necessary, you must implement those actions or modifications within 14 days of the occurrence of the triggering event under Part IV.B.1.a, unless doing so within 14 days is infeasible. If doing so within 14 days is infeasible, you must document per Part IV.C why it is infeasible and implement such modifications within 45 days. **Exception:** You do not have to implement any modifications if, with the Department agreement, you determine and document in your SWPPP that the exceedance is solely attributable to natural background sources or run-on sources, consistent with Part IV.B.5 (AIM Exceptions).

2. Benchmark Action Level 2: (AIM Level 2)

a. AIM Level 2 Triggering Events. If, during the second year you are subject to benchmarks (Year 2), any of the following events occur, you are in AIM Level 2. You must follow the AIM Level 2 responses (Part IV.B.2.b) and deadlines (Part IV.B.2.c).

i.) The second Annual Average Over the Benchmark Threshold. If your second annual average for a parameter is over the benchmark threshold during Year 2, you are in AIM Level 2. An annual average exceedance can occur from the average of four quarterly samples for a parameter, or from less than four samples with results such that an exceedance is mathematically certain (i.e., the sum of quarterly sample results to date is already more than four times the benchmark threshold).

ii.) One Single Sampling Event Over 4 Times the Benchmark Threshold. If one single sampling event during your second year of coverage for a parameter is over 4 times the benchmark threshold, you are in AIM Level 2.

b. AIM Level 2 Responses. Except as provided in Part IV.B.4 (AIM Exceptions), if any of the triggering events in IV.B.2.a occur, you must:

i.) Install Permanent Controls. Install structural source controls (e.g. permanent controls such as permanent cover, berms, and secondary containment), and/or treatment controls (e.g., sand filters, hydrodynamic separators, oil-water separators, retention ponds, the use of Chemical Additives (Part I.E.5), and infiltration structures), except as provided in Part IV.B.5 (AIM Exceptions). The treatment technologies or treatment train you install must be appropriate for the pollutants that triggered AIM Tier 2 and must be more rigorous than the pollution prevention-type measures employed under AIM Level 1 in Part IV.B.1. You must select controls with pollutant removal efficiencies that are sufficient to bring your exceedances below the benchmark threshold. You must have a professional engineer, stormwater professional or geologist assist with the installation of such controls for the discharge point in question and for substantially similar discharge points, unless you individually monitor those substantially similar discharge points and demonstrate that AIM Level 2 requirements are not triggered at those discharge points; and/or

ii.) Alternative Option: As an alternative or adjunct to structural source controls and/or treatment controls, you may increase impervious surface restoration for your industrial stormwater about the baseline required by this permit, if such an approach is appropriate and feasible for your site-specific conditions. If this approach is feasible, the execution must be compliant with regulations for ground water protection and underground injection control (UIC). The analysis that shows infiltration/retention is appropriate for your site-specific conditions must be provided to the Department BEFORE you can choose this option and the Department must concur with your conclusions. Successful compliance with the provisions in this part may allow the Department to waive benchmark monitoring requirements (if this removes an outfall) and may generate marketable credits (refer to Part III.A); and

iii.) Continue Quarterly Benchmark Monitoring. After compliance with (i) and/or (ii) (if the Department approves) in this Part, you must continue quarterly benchmark monitoring into the next year. You must also attach your updated Comprehensive Annual Report to your next DMR.

c. AIM Level 2 Deadlines. You must install the appropriate structural source and/or treatment control measures within 30 days of the occurrence of the triggering event under Part IV.B.2.a. If it is not feasible within 30 days, you may take up to 90 days to install such measures, documenting in your SWPPP why it is infeasible to install the measure within 30 days. The Department may also grant you an extension beyond 90 days, based on an appropriate demonstration by you, the operator. Exception: You do not have to install structural source controls or treatment controls if, with the Department agreement, you determine and document in your SWPPP that the exceedance is solely attributable to natural background sources or run-on sources, consistent with Part IV.B.4 (AIM Exceptions).

3. Benchmark Action Level 3+: (AIM Level 3)

a. AIM Level 3 Triggering Events. If during the third or subsequent year you are subject to benchmarks (Year 3+) any of the following events occur, you are in AIM Level 3. You must follow the AIM Level 3 responses (Part IV.B.3.b) and deadlines (Part IV.B.3.c).

i.) The fourth Annual Average Over the Benchmark Threshold. If your third or subsequent year's annual average for a parameter is over the benchmark threshold during Year 3+, you are in AIM Level 3. An annual average exceedance can occur from the average of four quarterly samples for a parameter, or from less than four samples with results such that an exceedance is mathematically certain (i.e., the sum of quarterly sample results to date is already more than four times the benchmark threshold).

ii.) One Single Sampling Event Over 4 Times the Benchmark Threshold. If one single sampling event during your third or subsequent year of coverage for a parameter is over 4 times the benchmark threshold, you are in AIM Level 3.

b. AIM Level 3 Responses. Except as provided in Part IV.B.4 (AIM Exceptions), if any of the triggering events in IV.B.3.a occur, you must:

i.) consult a professional engineer, stormwater professional or geologist to prepare an action plan. You may take up to 30 days to select the professional, and an additional 30 days to prepare the action plan for the Department, which must include milestone dates and either option below:

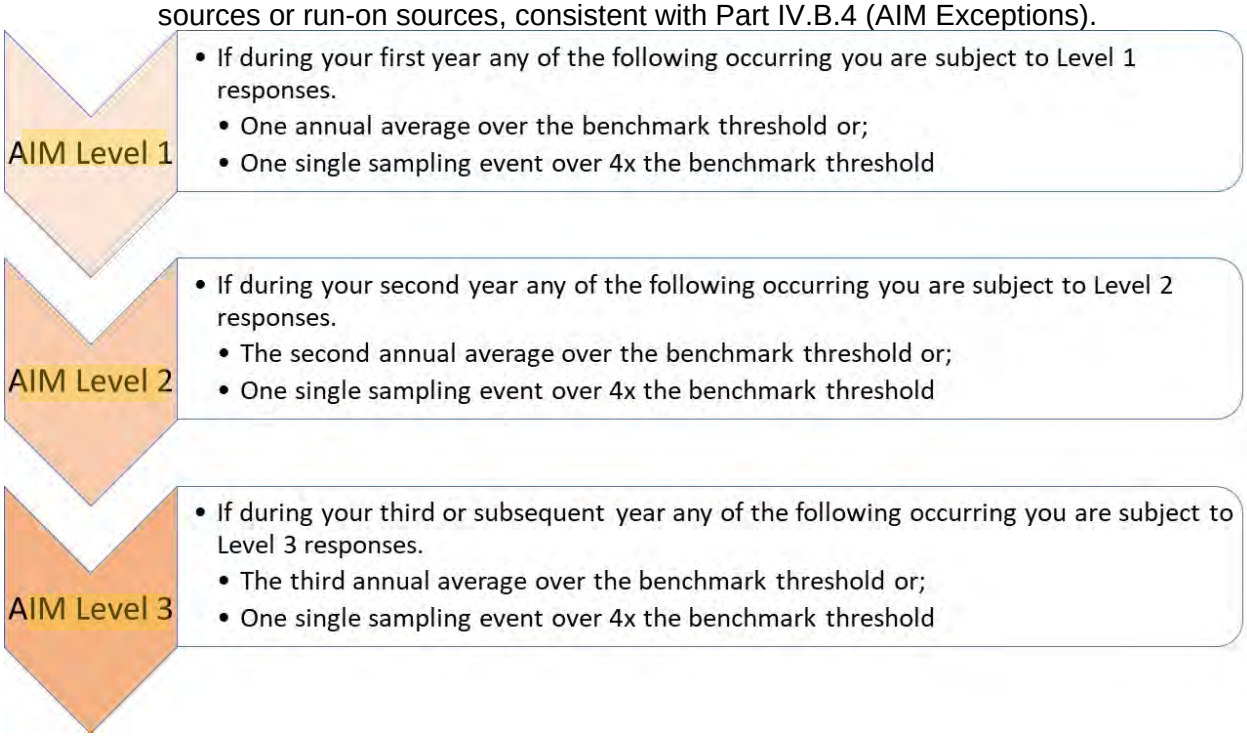
- installing additional structural source controls (see Part IV.B.2.b.i), enhancing existing structural source controls, enclosing operations in storm resistant shelters (see Part III.B.1.a.i) and/or addition of treatment controls or
- an adequate demonstration to the Department that your discharge does not result in any exceedance of water quality standards and the Department approves such demonstration within 60 days of receipt (the Department may take up to 180 days upon notice to you before the 60th day that the Department needs such extra time). The demonstration to the Department, which shall be made publicly available, must include the following minimum elements in order to be considered for approval by the Department:
  - the water quality standards applicable to the receiving water;
  - the flow rate of the stormwater discharge;
  - the instream flow rates of the receiving water immediately upstream and downstream of the discharge point;
  - the ambient concentration of the parameters) of concern in the receiving water immediately upstream and downstream of the discharge point demonstrated by full-storm composite sampling;
  - the concentration of the parameter(s) of concern in the stormwater discharge demonstrated by full-storm, flow-weighted composite sampling;
  - any relevant dilution factors applicable to the discharge; and
  - the hardness of the receiving water.

  If the Department disapproves such demonstration within 60 days (or 180 days if the Department notifies you that it needs more than 60 days), you must install structural source controls and/or treatment controls within 30 days of such disapproval (or 60 days if you document in your SWPPP why it is infeasible within 30 days; the Department may also grant an extension beyond 60 days based on an appropriate demonstration by you, the operator). It is recommended that you work with the Department well in advance of the required demonstration and prepare to install controls if the demonstration cannot be approved. If the Department does not reject the plan within the required 60 days or does not provide for an extension, you are obligated to proceed with plan implementation. However, the Department may impose additional requirements.

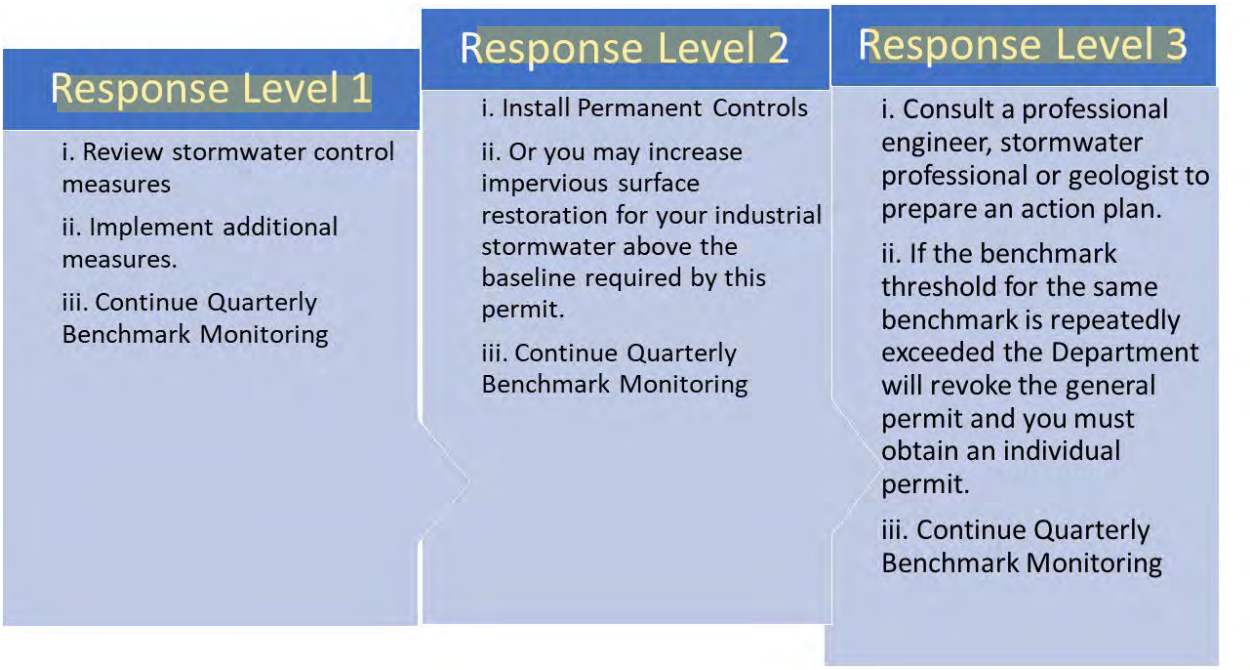
ii.) If you continue to exceed the quarterly benchmark threshold for the same parameter and cannot demonstrate at least a 20% reduction from the previous year performance, even after installation of structural source controls or treatment controls as required in Part IV.B.3.b.i, the Department will revoke coverage under this permit through the development of an individual permit to address site specific water quality limits, or a final determination to deny permit coverage, unless you are under a consent order.

iii.) Continue Quarterly Benchmark Monitoring. After compliance with (i), or (ii), in this Part, you must continue quarterly benchmark monitoring into the next year. You must also attach your updated Comprehensive Annual Report to your next DMR.

c. AIM Level 3 Deadlines. You must install the appropriate structural source and/or treatment control measures within 90 days of the occurrence of the triggering event under Part IV.B.3.a. If it is not feasible within 90 days, you may take up to an additional 30 days to install such measures, documenting in your SWPPP why it is infeasible to install the measure within 90 days. The Department may also grant you an extension beyond 120 days, based on an appropriate demonstration by you, the operator. Exception: You do not have to install structural source controls or treatment controls if, with the Department agreement, you determine and document in your SWPPP that the exceedance is solely attributable to natural background sources or run-on sources, consistent with Part IV.B.4 (AIM Exceptions).



The above image shows a simplified view of how a site would progress through the AIM levels.



The above image shows the actions a site is required to take as they progress through the aim levels. Refer to IV.B for the detailed requirements.

4. AIM Exceptions.

At any point or Benchmark Action Level of AIM, the below exceptions from AIM requirements and additional benchmark monitoring below may apply. You must still review your stormwater control measures, SWPPP, and other on-site activities to determine if actions or modifications are necessary or appropriate.

a. Natural Background Pollutant Levels: You are not required to perform AIM or additional benchmark monitoring for any parameters for which you can demonstrate with Department agreement that the benchmark exceedance is attributable solely to the presence of that pollutant in the natural background (i.e. you would not have exceeded the benchmark if it were not for the contribution of that natural background pollutant). You are not required to perform corrective action or additional benchmark monitoring provided that all the following conditions are met, and you submit your analysis and documentation to the Department's Permitting Program:

i.) The four-quarter average concentration of your benchmark monitoring results (or fewer than four-quarters of data that trigger an exceedance) is less than or equal to the concentration of that pollutant in the natural background; and

ii.) You document and maintain with the SWPPP as required in Part III.C, your supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. You must include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your stormwater discharge; and

iii.) You notify the Departments Permitting Program and get concurrence, and include the concurrence on your final quarterly benchmark monitoring report that the benchmark exceedances are attributable due to natural background pollutant levels. The Department will take into consideration any impairments for that pollutant, potential impacts to receiving waters, in addition to the methodologies and information provided (refer to Part III.B.2).

Natural background pollutants are those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring, such as other industrial facilities or roadways.

b. Run-On: You are not required to perform AIM or additional benchmark monitoring for any parameters for which you can demonstrate and obtain the Department's agreement that run-on from a neighboring source (e.g., a source external to your facility) is the cause of the exceedance, provided that all the following conditions are met and you submit your analysis and documentation to the Department for concurrence:

i.) After reviewing and revising your SWPPP, as appropriate, you should notify the other facility or entity contributing run-on to your discharges and request that they abate their pollutant contribution.

ii.) If the other facility or entity fails to take action to address their discharges or sources of pollutants, you should contact the Department's Compliance Program.

c. Due to an abnormal event: You must immediately document per Part IV.C that the AIM triggering event was abnormal, a description explaining what caused the abnormal event, and how any measures taken within 14 days of such event will prevent a reoccurrence of the exceedance. You must also collect a sample during the next measurable storm event to demonstrate that the result is less than the benchmark threshold, in which case you do not trigger any AIM requirements based on the abnormal event. You must report the result of this sample in NetDMR in lieu of the result from the sample that caused the AIM triggering event. You may avail yourself of the "abnormal" demonstration opportunity at any AIM Level, one time per parameter, and one time per discharge point, which shall include substantially identical discharge points (SIDP), provided you qualify for the exception.

d. For Aluminum and Copper benchmark parameters only: Demonstrated to not result in an exceedance of your facility-specific value using the national recommended water quality criteria in-lieu of the applicable benchmark threshold: To be eligible for the exception, you must demonstrate to the Department that your stormwater discharge(s) that exceeded the applicable benchmark threshold would not result in an exceedance of a derived facility-specific value. The demonstration to the Department, which will be made publicly available, must meet the minimum elements below in order to be considered for and approved by the Department. If you exceed the benchmark threshold for aluminum or copper, you must still comply with any applicable AIM requirements and additional benchmark monitoring until the demonstration is made to and approved by the Department. In this case, the Department suggests that samples collected for any continued benchmark monitoring also be analyzed for the required input parameters for each model for efficiency. If you are an existing operator and you anticipate an exceedance of the benchmark(s) based on previous monitoring data and expect to utilize this exception(s), the Department recommends you begin the required data collection in your first year of permit coverage.

i.) Aluminum (only for discharges to freshwater):
Conditions for this exception are:

- Use of EPA's 2018 National Recommended Aluminum Aquatic Life Criteria: https://www.epa.gov/wqc/aquatic-life-criteria-aluminum;
- In-stream waterbody sampling for the three water quality input parameters for the recommended criteria model: pH, total hardness, and dissolved organic carbon (DOC); and

- Completion of sampling events sufficient to capture spatial and temporal variability. Sampling events must adequately represent each applicable season at the facility's location, which would likely be over the course of at least one year. An equal number of ambient waterbody samples must be collected at a single upstream and downstream location from the operator's discharge point(s) to the receiving Waters of this State. Where there exists no ambient source water upstream of the operator's discharge point(s) to the receiving waters of this State, samples of the ambient downstream waterbody conditions are sufficient.

The demonstration provided for aluminum to the Department must include, at minimum:

- A description of the sampling, analysis, and quality assurance procedures that were followed for data collection, following the guidance in Section 3 of EPA's Industrial Stormwater Monitoring and Sampling Guide. https://mde.maryland.gov/programs/Permits/WaterManagementPermits/Documents/GDP%20Stormwater/EPA%20Industrial%20Stormwater%20Guidance/EPA_Monitoring_Guide.pdf ;
- The input parameters and export of results from the Aluminum Criteria Calculator, available at: https://mdewwp.page.link/ISWGuidance; and,
- A narrative summary of results.

ii.) Copper (only for discharges to freshwater):

Conditions for this exception are:

- Use of EPA's 2007 National Recommended Freshwater Copper Aquatic Life Criteria: https://www.epa.gov/wqc/aquatic-life-criteria-copper;
- In-stream waterbody sampling for the 10 water quality input parameters to the BLM for copper: pH; dissolved organic carbon (DOC); alkalinity; temperature; major cations (calcium, magnesium, sodium, and potassium); and major anions (sulfate, chloride);
- The water quality input parameters, with the exception of temperature, must fall within the range of conditions recommended for use in the Biotic Ligand Model (BLM), found in Table 1-1 of the Data Requirements document: https://www.epa.gov/sites/production/files/2015-11/documents/copperdata-requirements-training.pdf; and
- Completion of sampling events sufficient to capture spatial and temporal variability. Because some of the BLM input parameters are known to vary seasonally, the Department suggests a possible starting point of at least one sampling event per season. Sampling events must adequately represent each applicable season at the facility's location, which would likely be over the course of at least one year. An equal number of ambient waterbody samples must be collected at a single upstream and downstream location from the operator's discharge point(s) to the receiving Waters of this State. Where there exists no ambient source water upstream of the operator's discharge point(s) to the receiving Waters of this State, samples of the ambient downstream waterbody conditions are sufficient.

The demonstration provided for copper to the Department must include, at minimum:

- A description of the sampling, analysis, and quality assurance procedures that were followed for data collection, following the guidance in Section 3 of EPA's Industrial Stormwater Monitoring and Sampling Guide. https://mde.maryland.gov/programs/Permits/WaterManagementPermits/Documents/GDP%20Stormwater/EPA%20Industrial%20Stormwater%20Guidan

ce/EPA_Monitoring_Guide.pdf;
- A discussion of how the data collected reflects the site-specific characteristics and how the operator considered special circumstances that may affect copper toxicity throughout the expected range of receiving water conditions;
- The input file and export of the results from the BLM software, which can be requested at: https://www.epa.gov/wqs-tech/copper-biotic-ligandmodel; and
- A narrative summary of results.

C. Corrective Action and AIM Documentation

1. Documentation within 24 Hours.

You must document the existence of any of the conditions listed in Parts IV.A.1, IV.B.1.a, IV.B.2.a, and/or IV.B.3.a within 24 hours of becoming aware of such condition. You are not required to submit this documentation to the Department, unless specifically required or requested to do so. However, you must summarize your findings in the annual report per Part V.A.2. Include the following information in your documentation:

a. Description of the condition or event triggering the need for corrective action review and/or AIM response. For any spills or leaks, include the following information: a description of the incident including material, date/time, amount, location, and reason for spill, and any leaks, spills or other releases that resulted in discharges of pollutants to Waters of this state, through stormwater or otherwise;

b. Date the condition/triggering event was identified;

c. Description of immediate actions taken pursuant to Part IV.A.2.a to minimize or prevent the discharge of pollutants. For any spills or leaks, include response actions, the date/time clean-up completed, notifications made, and staff involved. Also include any measures taken to prevent the reoccurrence of such releases (see Part III.B.1.b.iv); and

d. A statement, signed and certified in accordance with Part II.C.1.

2. Documentation within 14 Days.

You must also document the corrective actions and/or AIM responses you took or will take as a result of the conditions listed in IV.A.1, IV.B.1.a, IV.B.2.a, and/or IV.B.3.a within 14 days from the time of discovery of any of those conditions/triggering events. Provide the dates when you initiated and completed (or expect to complete) each corrective action and/or AIM response. If infeasible to complete the necessary corrective actions and/or AIM responses within the specified timeframe, per Parts IV.A.2, IV.B.1.c, IV.B.2.c, and/or IV.B.3.c, you must document your rationale and schedule for installing the controls and making them operational as soon as practicable after the specified timeframe. If you notified the Department regarding an allowed extension of the specified timeframe, you must document your rationale for an extension, and attach your documented rationale to your next discharge monitoring report through NetDMR. Include any additional information and/or rationale that is required and/or applicable to the specified corrective action and/or AIM response in Part IV. You are not required to otherwise submit this documentation to the Department, unless specifically required or requested to do so. In addition, you must summarize your corrective actions and/or AIM responses in the annual report required in Part V.A.2.

PART V. INSPECTIONS, MONITORING, AND REPORTING

A. Site Inspections and Evaluations

You must conduct the following inspections or evaluations at your facility in accordance with the monitoring procedures outlined in Part V.C. You must keep a copy of the documentation from all inspections and evaluations onsite with your SWPPP per Part III.C.8.g.

1. Routine Facility Inspection

At least once per quarter, you must conduct a site assessment that will review the effectiveness of the SWPPP. At least once each calendar year, the routine facility inspection must be conducted during a period when a stormwater discharge is happening. The facility inspections must be documented with a checklist (refer to Part V.A.2.a.i - Part V.A.2.a.viii for a minimum list of what to include) or other summary signed in accordance with Part II.C.1 of this permit, by qualified personnel, with at least one member of your stormwater pollution prevention team participating. The checklist must include a certification that the site is in compliance with the SWPPP and this permit, or a record of the deficiencies and necessary follow up actions. Refer to Part IV.C Corrective Action and AIM Documentation and Part IV.A.2 Corrective Action Deadlines for appropriate time frames.

2. Comprehensive Site Compliance Evaluation

You must conduct a comprehensive site compliance evaluation once a year. The evaluation must be performed by qualified personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility and who can evaluate the effectiveness of all existing BMPs. The personnel conducting the evaluation may be either facility employees (such as pollution prevention team members) or contractors you hire. If a scheduled compliance evaluation overlaps with a routine facility inspection, the annual compliance evaluation may be used as one of the four routine facility inspections. The Comprehensive Site Compliance Evaluation must be documented and signed in accordance with Part II.C.1 of this permit.

a. Evaluations must include all areas where industrial materials or activities are exposed to stormwater, at a minimum:

- ***i.)*** Industrial materials, residue or trash that may have or could come into contact with stormwater;
- ***ii.)*** Leaks or spills from industrial equipment, drums, barrels, tanks or other containers that have occurred within the past three years;
- ***iii.)*** Offsite tracking of industrial or waste materials or sediment where vehicles enter or exit the site;
- ***iv.)*** Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;
- ***v.)*** Evidence of, or the potential for, pollutants entering the drainage system;
- ***vi.)*** Evidence of pollutants discharging to surface waters at all facility outfalls;
- ***vii.)*** The condition of and around any outfall, including flow dissipation measures to prevent scouring;
- ***viii.)*** Inspection of BMPs/control measures;
- ***ix.)*** Training performed, inspections completed, maintenance performed, quarterly visual examinations, and effective operation of BMPs (including those required for Chesapeake Bay Restoration); and
- ***x.)*** Visual and analytical monitoring results from the past year.

b. A report must be written summarizing the scope of the evaluation, name(s) of personnel performing the evaluation, the date of the evaluation, and all observations relating to the implementation of the SWPPP. Based on the results of the evaluation, the SWPPP must be modified as necessary. Include a summary of any incomplete

actions remaining related to Corrective Actions triggered under Part IV, and include the AIM Documentation as required under Part IV.C. If your EJScore is >= 0.76, and you are required to report Benchmarks, then you must submit your annual Comprehensive Site Compliance Evaluation using NetDMR. EJScore is defined in Appendix E and identified on your NOI, and will be indicated on your authorization letter.

3. Quarterly Visual Sampling/Inspections

You are required to begin visual inspections in the first full quarter after you have been notified that you are covered by this permit. For example, if you obtain permit coverage in June, then your first monitoring quarter is July 1 - September 30 of that year. Once each quarter, you must collect a stormwater sample from each outfall (except in adverse weather conditions, substantially identical outfalls, or inactive and unstaffed sites as noted below) and assess the sample visually. Samples may be taken during any precipitation event (except as noted in Areas Subject to Snow below) where there is a measurable discharge and must be sampled within the first 30 minutes of the storm event. In the case of snowmelt, samples must be taken during a period with a measurable discharge from your site. These samples are not required to be collected consistent with 40 CFR 136 procedures but must be collected in such a manner that the samples are representative of the stormwater discharge.

- **a.** The Quarterly Visual Monitoring Form found in Appendix B of this permit must be completed for each sample, evaluated during the comprehensive site evaluation, and be kept with the SWPPP so as to be available to an inspector as necessary.
- **b.** Adverse Weather Conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions. When adverse weather conditions prevent the collection of samples during the quarter, a substitute sample must be taken during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter must be included in SWPPP records.
- **c.** *Areas Subject to Snow:* In areas subject to snow, at least one quarterly visual assessment must capture snowmelt discharge. The assessment should identify the date when the sample was taken.
- **d.** *Substantially identical outfalls:* If your facility has two or more outfalls that you believe discharge substantially identical effluents, as documented in Part III.C.5.b, you may conduct quarterly visual assessments of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform visual assessments on a rotating basis of each substantially identical outfall throughout the period of your coverage under this permit. If stormwater contamination is identified through visual assessment performed at a substantially identical outfall, you must assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

4. Inactive and Unstaffed Sites Exceptions to Routine Facility Inspections.

The requirement to conduct routine facility inspections and visual monitoring on a quarterly basis does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. Such a facility is only required to conduct an annual comprehensive site inspection in accordance with the requirements of Part V.A.2. To invoke this exception, you must maintain a statement in your SWPPP pursuant to Part III.C.5.b.v indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement must be signed and certified in accordance with Part II.C.2. If circumstances change and

industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately resume quarterly facility inspections. Consistent with Part V.B.3.b.ii, you must indicate in a "Change NOI" form that the facility has materials or activities exposed to stormwater or has become active and/or staffed. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must include the same signed and certified statement as above and retain it with your records pursuant to Part III.C.5.b.v.

B. Industry Specific Benchmarks and Impaired Waters Monitoring Requirements

This permit stipulates pollutant benchmark concentrations that may be applicable to your discharge (Part V.B.1). Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity. Impaired water monitoring requirements below (Part V.B.3) are based on the impairment status of the receiving waters (refer to Part III.B.3.b). Benchmark or impaired water monitoring, if required, must be conducted according to the monitoring below (Part V.C) or as specified for the impaired water by the Department (Part V.B.3).

1. Applicability of Benchmark Monitoring

You must monitor for any benchmark parameters specified for the industrial sector(s), both primary industrial activity and any co-located industrial activities, applicable to your discharge. Your industry-specific benchmark concentrations are listed in the sector-specific sections of Appendix D. The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are primarily for your use to determine the overall effectiveness of your control measures and to assist you in knowing when Additional Implementation Measures (AIM) may be necessary to comply with the effluent limitations in Part III.B. Failure to conduct any required measures would be a permit violation.

If your facility is in one of the industrial sectors subject to benchmark concentrations that are hardness-dependent, you are required to submit to the Department with your first benchmark discharge monitoring report (Part V.B.4) a hardness value, established consistent with the procedures in Appendix C, which is representative of your receiving water, if you plan to modify your benchmark based on receiving water hardness.

At your discretion, you may take more than four samples during separate discharge events to determine the average benchmark parameter value for facility discharges.

2. Benchmark Monitoring Schedule

You must conduct benchmark monitoring quarterly for four (4) full quarters, starting the first full monitoring period (found in Part V.C.7) that occurs, after registering under this permit. For example, if you obtain permit coverage in June, then your first monitoring period is July 1 – September 30. If the annual average for any parameter does not exceed the benchmark threshold, you have fulfilled your benchmark monitoring requirements for that parameter for the permit term and you can request to discontinue benchmark monitoring for that parameter by 1) entering all data for the parameters in NetDMR, 2) requesting the Department's Permit Program to verify your calculation and 3) receiving confirmation from the Department. For averaging purposes, use a value of zero for any individual sample parameter, analyzed using procedures consistent with Part V.C, which is determined to be less than the method detection limit. For sample values that fall between the method detection level and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value

halfway between zero and the quantitation limit. You must comply with Part IV (Additional Implementation Measures) and continue quarterly benchmark monitoring for any parameter with data exceeding the benchmark threshold as specified in Part IV.

3. Impaired Waters Monitoring.

For the purposes of this permit, your facility is considered to discharge to an impaired water if the first Waters of This State to which you discharge is identified by the State or EPA pursuant to section 303(d) of the CWA as not meeting an applicable water quality standard (i.e., without an EPA-approved or - established TMDL, see Part V.B.3.a below), or has been removed from the 303(d) list either because the impairments are addressed by an EPA-approved or established TMDL or is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1) (see Part V.B.3.b below). For discharges that enter a separate storm sewer system prior to discharge, the first Waters of this State to which you discharge is the waterbody that receives the stormwater discharge from the separate storm sewer system.

a. Facilities Required to Monitor Discharges to Impaired Waters without an EPA-approved or established TMDL:

Beginning in the first full quarter following your date of discharge authorization, you must monitor for pollutants of concern once per year at each discharge point (except substantially identical discharge points) discharging stormwater to impaired waters without an EPA-approved or established TMDL, as follows:

i.) Determine which pollutant of concern to monitor for:

- Review the potential pollutants you have listed in your SWPPP (Part III.C.3) and any sector specific benchmark monitoring pollutants, and compare these to the list of pollutants for which the waterbody is impaired and for which a standard analytical method exists (see 40 CFR Part 136). The pollutant of concern will be where there is an overlap.
- Except where otherwise directed by the Department, if the pollutant of concern for the impaired waterbody is suspended solids, turbidity, or sediment/sedimentation, you must monitor for Total Suspended Solids (TSS).
- If a pollutant of concern is expressed in the form of an indicator or surrogate pollutant, you must monitor for that indicator or surrogate pollutant.
- No monitoring is required when a waterbody's biological communities are impaired but no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modifications, impaired hydrology, or other non-pollutant.
- Operators should consult the Department for any available guidance regarding required monitoring parameters under this part.

ii.) If the monitored pollutant is not detected in your discharge, or is within the acceptable range for a given parameter for the waterbody to meet its designated use (e.g., pH or temperature), for three consecutive years, or it is detected but you have determined that its presence is caused solely by natural background sources (see iv below), you may discontinue monitoring for that pollutant.

iii.) If the monitored pollutant is detected in your discharge, or is outside the acceptable range for a given parameter for the waterbody to meet its designated use (e.g., pH or temperature), for three consecutive years, or it is

detected but you have determined that its presence is caused solely by natural background sources (see iv below), you must continue to monitor for the pollutant(s) annually until no longer detected, after which you may discontinue monitoring for that pollutant.

iv.) Natural Background Condition: To support a determination that the pollutant's presence is caused solely by natural background sources, you must document:

- An explanation of why you believe that the presence of the pollutant of concern in your discharge is not related to the activities or materials at your facility; and
- Data and/or studies that tie the presence of the pollutant of concern in your discharge to natural background sources in the watershed.

You must submit this determination to the Department's Permitting Program and receive verification that the request was granted, and maintain request and verification with your SWPPP, as required by Part III.C.8.

Natural background pollutants include those that occur naturally as a result of native soils, and vegetation, wildlife, or ground water. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources that are not naturally occurring. However, you may be eligible to discontinue annual monitoring for pollutants that occur solely from these sources and should consult the Department's Compliance Program for related guidance.

b. Facilities Required to Monitor Discharges to Impaired Waters With an EPA-approved or established TMDL.

For stormwater discharges to waters for which there is an EPA-approved or established TMDL, you are not required to monitor for the pollutant(s) for which the TMDL was written unless the Department informs you, upon examination of the applicable TMDL and its wasteload allocation, that you are subject to such a requirement consistent with the assumptions and requirements of the applicable TMDL and its wasteload allocation. The Department's notice will include specifications on monitoring parameters and frequency. If there are questions, you may consult the Department's Compliance Program for guidance regarding required monitoring under this Part.

c. Impaired Water Exception for Inactive and Unstaffed Sites
The requirement for impaired waters monitoring does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must do the following:

i.) Maintain a statement with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Part II.C.

ii.) If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable impaired waters monitoring requirements under Part V.B as if you were in your first year of permit coverage. You must submit an NOI indicating this change in operations, now that your facility has materials or activities exposed to

stormwater or has become active and/or staffed.

iii.) If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must submit an NOI indicating this change in operations. You may discontinue impaired waters monitoring once you have submitted the NOI, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

4. Submitting Benchmark or Impaired Water Discharge Monitoring Reports (DMRs)
You must summarize and submit benchmark or Impaired Water monitoring information electronically using NetDMR once you are granted access to this tool, unless you demonstrate a reasonable basis that precludes the use of NetDMR. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

a. NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. You must apply for access to NetDMR at www.epa.gov/netdmr and register for a NetDMR Webinar, unless you are able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs ("opt-out request"). Before you can submit official DMRs using NetDMR you must attend a training Webinar and successfully set-up and submit test monitoring results electronically. You must complete all requirements to gain access to NetDMR within six (6) months of authorization under this permit, including applying for access within one (1) month of being registered.

b. Opt-out requests must be submitted in writing to the Department for written approval at least sixty (60) days prior to the date you would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department unless the permittee submits a renewed opt-out request and such request is approved by the Department. All opt-out requests and subsequent hardcopy DMRs should be sent to the following addresses with "Attn: DMRs":

Maryland Department of the Environment
WMA – Compliance Program
1800 Washington Blvd., Suite 425
Baltimore, MD 21230

c. If you are required to perform monitoring and report for specific pollutants you must report the quarterly measurements no later than 28 days following the Monitoring Period (Part V. C.7), and according to the other Monitoring Procedures (Part V.C). Failure to sample and report is considered a permit violation.

1. Benchmark Exception for Inactive and Unstaffed Sites
The requirement for benchmark monitoring does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must do the following:

- Maintain a statement onsite with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Part II.C; and
- If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no

longer applies and you must immediately begin complying with the applicable benchmark monitoring requirements under Part V.B as if you were in your first year of permit coverage. You must indicate in your first benchmark monitoring report that your facility has materials or activities exposed to stormwater or has become active and/or staffed.

- If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must provide written notification to the Department's Compliance Program of this change in your next benchmark monitoring report. You may discontinue benchmark monitoring once you have notified the Department, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

2. Substantially identical outfalls

If your facility has two or more outfalls that you believe discharge substantially identical effluents, as documented in Part III.C.5.b, you may perform benchmark or impaired water monitoring of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform benchmark or impaired water monitoring on a rotating basis of each substantially identical outfall throughout the period you are required to under this permit. If stormwater contamination is identified through benchmark monitoring performed at a substantially identical outfall, you must assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

3. Additional Monitoring Required by the Department.

The Department may notify you of additional discharge monitoring requirements that the Department determines are necessary to meet the permit's effluent limitations. Any such notice will briefly state the reasons for the monitoring, locations, and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements.

C. Monitoring Procedures

You must collect and analyze stormwater samples and document monitoring activities for visual and benchmark monitoring consistently with the procedures described in this section and the industry specific benchmark monitoring requirements.

1. Monitored Outfalls

You must conduct monitoring as required by this permit at each outfall authorized by this permit, except when an outfall is exempt from monitoring as a substantially identical outfall. If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas, you may monitor the effluent of just one of the outfalls and report that the results also apply to the substantially identical outfall(s). As required in Part III.C.5, your SWPPP must identify each outfall authorized by this permit and describe the rationale for any substantially identical outfall determinations.

2. Commingled Discharges

If discharges authorized by this permit commingle with discharges not authorized under this permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable. The following are some examples of mixed water source situations that should not be sampled.

a. A common ditch that carries stormwater from properties upstream. In this case, the stormwater from the permitted facility is mixed with other water. You should find a location or locations where your facility's stormwater alone can be sampled.
b. A partially submerged storm sewer pipe where it discharges into the receiving water body. In this case, this final discharge point should not be used as a sampling point because the stormwater flow is mixed with the receiving water.
c. A manhole that carries stormwater not only from the permitted facility but from other stormwater sources as well. If taking a grab sample from a manhole, you should make sure that the flow in that pipe is entirely from your facility.

3. Measurable Storm Events

All required monitoring must be performed on a storm event that results in an actual discharge from your site ("measurable storm event") that follows the preceding measurable storm event by at least 72 hours (3 days). The 72-hour (3-day) storm interval does not apply if you are able to document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. In the case of snowmelt, the monitoring must be performed at a time when a measurable discharge occurs at your site.

For each monitoring event, except snowmelt monitoring, you must identify the date and duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event. For snowmelt monitoring, you must identify the date of the sampling event.

4. Sample Type

You must take a minimum of one grab sample from a discharge resulting from a measurable storm event as described above. Samples must be collected within the first 30 minutes of a measurable storm event. However, the Department does not advocate impractical or potentially unsafe sampling methods during periods of adverse weather conditions. Therefore, if it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge.

For benchmark monitoring, you may use a composite sampling method instead of taking grab samples as described above. This composite method may be either flow-weighted or time weighted. Flow-Weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge. Composite samples must be initiated during the first 30 minutes of the same storm event. If it is not possible to initiate composite sampling within the first 30 minutes of a measurable storm event, you must initiate composite sampling as soon as possible after the first 30 minutes and keep documentation with the SWPPP explaining why it was not possible to initiate composite sampling within the first 30 minutes. Composite sampling may not be used to measure parameters that have a short holding time for processing or that degrade or transform quickly such as pH, temperature, and oil and grease (O&G).

If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department.

5. Adverse Weather Conditions
When adverse weather conditions, as described in Part V.A.3.b, prevent the collection of samples according to the relevant monitoring schedule, you must take a substitute sample during the next qualifying storm event. Adverse weather does not exempt you from having to file a benchmark monitoring report in accordance with your sampling schedule. You must keep a record with your SWPPP of any failure to monitor as specified, indicating the basis for not sampling during the usual reporting period.

6. Representative Sampling
You must take all required samples and measurements at times to be representative of the quantity and quality of the discharges during the specified monitoring periods. At a minimum, samples must be taken once every quarter unless otherwise specified.

The sampling and analytical methods used must conform to procedures for the analysis of pollutants as identified in 40 CFR 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" except for visual monitoring which is not subject to 40 CFR 136, or unless otherwise specified. You must select test procedures with quantitation limits at or below benchmark values for all benchmark parameters for which you are required to sample and for impaired waters based on guidance from the Department.

7. Monitoring Periods
Visual (Part V.A.3) and benchmark (Part V.B.2) monitoring are required on a quarterly basis, following these 3-month intervals:
a. January 1 – March 31;
b. April 1 – June 30;
c. July 1 – September 30; and
d. October 1 – December 31.

8. Data Recording Requirements
If you are required to perform monitoring, you must record the following information for each sample:
a. The exact place, date, and time of sampling or measurement;
b. The person(s) who performed the sampling or measurement;
c. The dates and times the analyses were performed;
d. The person(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of all required analyses.

D. Additional Reporting Requirements

In addition to the reporting requirements stipulated in Part IV, you must submit the following reports to the Department. If you discharge through an MS4, you must also submit these reports to the MS4 operator.

1. Noncompliance which may Endanger Health or the Environment
You must report any noncompliance which may endanger health or the environment to WSA Compliance within 24 hours. The following shall be included as information which must be reported under this paragraph.
- Any unanticipated bypass which exceeds any effluent limitation in the permit.
- Any upset which exceeds any effluent limitation in the permit.
- Violation of a maximum daily discharge limitation for any of the pollutants.

a. 24-hour reporting – Any information must be provided orally within 24 hours from the time you become aware of the circumstances; and

b. 5-day follow-up reporting to the 24 hour reporting – A written submission must also be provided within five days of the time you become aware of the circumstances.

2. Hazardous Substances or Oil in Stormwater Discharge(s) Reporting

a. This permit does not authorize the discharge of hazardous substances or oil resulting from an onsite spill.

b. You must prevent the discharge of hazardous substances or oil in the stormwater discharge(s) from your facility in accordance with your SWPPP. This permit does not relieve you of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. If a spill or discharge of hazardous substances or oil occurs you must do the following:

i.) Notify the Department by calling its Emergency Response Division at (866) 633-4686 and notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, at (202) 426-2675 in accordance with the requirements of COMAR 26.10.01.03, 40 CFR 117 and 40 CFR 302 respectively as soon as he or she has knowledge of the discharge;

ii.) Submit to the Department a written description within 10 working days of knowledge of the incident including: the type and estimate of the amount of material released, the date it occurred, the circumstances leading to it, and steps to be taken in accordance with Part V.C.1.c, below, and any other information as required by COMAR 26.10.01.03; and

iii.) Modify the SWPPP within 14 calendar days of knowledge of the incident to (1) provide a description of the release, the circumstances leading to it, and the date it occurred and (2) identify measures to prevent the reoccurrence of respond to such releases and modify the plan where appropriate.

E. Records Retention

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), you shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

PART VI. STANDARD PERMIT CONDITIONS

A. Duty to Comply

You must comply at all times with the terms and conditions of this permit, the provisions of the Environment Article, Title 7, Subtitle 2 and Title 9, Subtitles 2 and 3 of the Annotated Code of Maryland, and the Clean Water Act, 33 U.S.C. § 1251 et seq. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act, and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit coverage. As detailed in Part IV (Corrective Actions) of this permit, failure to take any required corrective actions constitute an independent, additional violation of this permit and the Clean Water Act. As such, any actions and time periods specified for remedying noncompliance do not absolve parties of the initial underlying noncompliance. However, where corrective action is triggered by an event that does not itself constitute permit noncompliance, there is no permit violation provided you take the required corrective action within the relevant deadlines established in Part IV.

B. Property Rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

C. Water Construction and Obstruction

This permit does not authorize you to construct or place physical structures, facilities, or debris or undertake related activities in any Waters of this State. Operations within the floodplain may require additional permit coverage and may justify flood insurance in those flood prone areas, especially due to climate change effects on increased frequency of flooding.

D. Right of Entry

You must permit the Secretary of the Department, the Regional Administrator for the EPA, or their authorized representatives, upon the presentation of credentials, to:

1. enter upon your premises where a discharges' source is located or where any records are required to be kept under the terms and conditions of this permit;
2. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
3. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;
4. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit;
5. sample, at reasonable times, any discharge of pollutants; and
6. take photographs (which may require direction for reasons of national security).

E. Duty to Provide Information.

You must provide within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit to the Department. You must also provide copies of records required to be kept by this permit to the Department, upon request.

F. Availability of Reports

Except for data determined to be confidential under the Maryland Public Information Act and/or Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data, plans or reports prepared pursuant to this permit, including self-inspection information, must be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

G. Submitting Additional or Corrected Information

When you become aware that you failed to submit any relevant facts or submitted incorrect information in the NOI or in any other approved plans or report to the Department, you must submit the facts or information to the Department within 30 days.

H. Removed Substances

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters or facility operations, must be disposed of in a manner to prevent any wastes or runoff from wastes from contacting Waters of this State. You must comply with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal.

I. Toxic Pollutants

You must comply with effluent standards or prohibitions for toxic pollutants established under section 307(a) of the Federal Clean Water Act, or under Section 9-314 and Sections 9-322 to 9-328 of the Environment Article, Annotated Code of Maryland. You must be in compliance within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

J. Oil and Hazardous Substances Prohibited

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve you from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland. Permittees may be subject to additional requirements and regulations dictated by the Department's Oil Control Program and Emergency Planning and Community Right-to-Know Act (EPCRA) (40 CFR 116). Any requirements listed in this permit which control grease, oil or fuel are to address potential pollutants not governed directly by Oil Pollution Prevention (40 CFR 112), as the handling and storage of fuel and other petroleum products has a potential to cause negative impacts to waters of this state.

K. Proper Operation and Maintenance.

You shall at all times properly operate and maintain all systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the installation and operation of backup, auxiliary, or similar systems or controls, by a permittee when necessary to achieve compliance with the conditions of the permit.

L. Bypass

Any bypass of treatment facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

1. the bypass is unavoidable to prevent a loss of life, personal injury or substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources;
2. there are no feasible alternatives;
3. notification is received by the Department within 24 hours (if orally notified, then followed by a written submission within five calendar days of the permittee's becoming aware of the bypass). Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten calendar days before the date of bypass or at the earliest possible date if the period of advance knowledge is less than ten calendar days; and
4. the bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects.

M. Upset

Conditions Necessary for Demonstration of an Upset. An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based effluent limitations only if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

1. an upset occurred and that the permittee can identify the specific cause(s) of the upset;
2. the permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;
3. the permittee submitted a 24-hour notification of upset in accordance with the reporting requirements of Corrective Actions above;

4. the permittee submitted, within five (5) calendar days of becoming aware of the upset, documentation to support and justify the upset; and
5. the permittee complied with any remedial measures required to minimize adverse impact.

N. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this general permit.

O. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to Waters of this State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

P. Permit Actions.

Authorization under this permit may be modified, revoked and reissued, or terminated for cause. At any time at the discretion of the Department or the U.S. Environmental Protection Agency, or if there is evidence indicating that stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, the Department may require the owner or operator of such discharge to obtain an individual permit or alternative general permit coverage. A request by the permittee for a modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not suspend the permittee's obligation to comply with all permit conditions.

Q. Reopener Clause for Permits

The Department may revoke this permit or modify this permit to include different limitations and requirements, in accordance with the procedures contained in COMAR 26.08.04.10 and 40 C.F.R. §§ 122.62, 122.63, 122.64 and 124.5, to comply with any applicable TMDL, or any effluent standard or limitation issued or approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation issued or approved:

1. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
2. controls any pollutant not limited in this permit.

This permit, as modified or reissued under this section, must also contain any other requirements of the Act then applicable.

R. Severability.

The provisions of this permit are severable. If any provisions of this permit must be held invalid for any reason, the remaining provisions must remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances must not be affected.

S. Civil and Criminal Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 309 of the CWA, with Title 9 of the Environment Article, Annotated Code of Maryland, any applicable State or Federal law, or regulation under authority preserved by section 510 of the CWA.

T. Action on Violations

The issuance or reissuance of this permit does not constitute a decision by the State not to proceed in an administrative, civil, or criminal action for any violations of State law or regulations occurring before the issuance or re-issuance of this permit, nor a waiver of the State's right to do so.

U. Civil Penalties for Violations of Permit Conditions.

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act and EPA regulations at 40 C.F.R. Part 19 provide that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under Section 402 of the Act or in a permit issued under Section 404 of the Act, is subject to a civil penalty not to exceed $37,500 per day for each violation. Statutory penalties of the CWA are subject to the Civil Monetary Penalty Inflation Adjustment Rule (40 CFR 19.4). Nothing in this permit precludes the institution of any legal action or relieves You from any responsibilities, or penalties for which You are or may be subject to under the CWA, Title 9 Environmental Article or any applicable federal or State law.

V. Criminal Penalties for Violations of Permit Conditions.

In addition to the criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that:

1. Any person who negligently violates Section 301, 302, 306, 307, 308, 311(b)(3), 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both; In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to a fine of not more than $50,000 per day of violation or by imprisonment of not more than two years, or both;
2. Any person who knowingly violates Section 301, 302, 306, 307, 308, 311(b)(3), 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three years, or both; in the case of a second or subsequent conviction for a knowing violation, a person shall be subject to a fine of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both;
3. Any person who knowingly violates Sections 301, 302, 306, 307, 308, 311(b)(3), 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury, is subject to a fine of not more than $250,000 or imprisonment for not more than 15 years, or both; in the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both; an organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not more than $1,000,000 for a first violation and up to $2,000,000 for second or subsequent convictions;

Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

W. Administrative Penalties for Violations of Permit Conditions.

In addition to administrative penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

1. Class I Penalty. Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500).
2. Class II Penalty. Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $187,500).

X. Penalties for Falsification and Tampering

Per the Environment Article, §9-343, Annotated Code of Maryland, any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. Per the federal Clean Water Act, any person who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under the Act, or who knowingly makes any false statement, representation, or certification in any records or other documents submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

PART VII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

On September 5,1974, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters under Section 402 of the Federal Clean Water Act, 33 U.S.C. Section 1342.

On September 30, 1990, the Administrator of the EPA approved the proposal submitted by the State of Maryland for the operation of a general permit program.

Under the approvals described above, the general discharge permit is both a State of Maryland general discharge permit and a NPDES general permit.

D. Lee Currey
D. Lee Currey (Nov 8, 2022 08:50 EST) Nov 8, 2022

D. Lee Currey, Director
Water and Science Administration

Appendix A: Industry Specific Sectors

These Industry Sector descriptions are categorized by Standard Industrial Classification (SIC), and in a few cases by "Activity Code". More detailed descriptions of the SIC codes can be found at Department of Labor's - Occupation, Safety and Health Administration (OSHA) website (http://www.osha.gov/pls/imis/sicsearch.html). References to "sectors" in this permit (e.g., sector-specific monitoring requirements) refer to these groupings.

SIC Code or Activity Code	Activity Represented
SECTOR A: TIMBER PRODUCTS	
2421	(Subsector A1) General Sawmills and Planing Mills
2491	(Subsector A2) Wood Preserving
2411	(Subsector A3) Log Storage and Handling
2426	Hardwood Dimension and Flooring Mills
2429, 2499	(Subsector A4) Special Product Sawmills, Not Elsewhere Classified and Wood Products, Not Elsewhere Classified
2431-2439 (except 2434, see Sector W)	Millwork, Veneer, Plywood, and Structural Wood
2441	Nailed and Lock Corner Wood Boxes and Shook
2448	Wood Pallets and Skids
2449	Wood Containers, Not Elsewhere Classified
2451, 2452	Wood Buildings and Mobile Homes
2493	Reconstituted Wood Products
SECTOR B: PAPER AND ALLIED PRODUCTS	
2631	Paperboard Mills
2611	Pulp Mills
2621	Paper Mills
2652-2657	Paperboard Containers and Boxes
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS	
2873-2879	(Subsector C1) Agricultural Chemicals (includes composting)
2812-2819	(Subsector C2) Industrial Inorganic Chemicals
2841-2844	(Subsector C3) Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
2861-2869	Industrial Organic Chemicals
2891-2899	Miscellaneous Chemical Products
3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
2911	Petroleum Refining
SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS	
2951, 2952	(Subsector D1) Asphalt Paving and Roofing Materials (except Bituminous concrete)
2992, 2999	Miscellaneous Products of Petroleum and Coal

SIC Code or Activity Code	Activity Represented
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS	
3251-3259, 3261-3269	(Subsector E1) Structural Clay Products and Pottery and Related Products
3271-3275	(Subsector E2) Lime & Gypsum Products
3211	Flat Glass
3221, 3229	Glass and Glassware, Pressed or Blown
3231	Glass Products Made of Purchased Glass
3241	Hydraulic Cement
3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS	
3312-3317	(Subsector F1) Steel Works, Blast Furnaces, and Rolling and Finishing Mills
3321-3325	(Subsector F2) Iron and Steel Foundries
3351-3357	(Subsector F3) Rolling, Drawing, and Extruding of Nonferrous Metals
3363-3369	(Subsector F4) Nonferrous Foundries (Castings)
3331-3339	Primary Smelting and Refining of Nonferrous Metals
3341	Secondary Smelting and Refining of Nonferrous Metals
3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)	
	(Reserved)
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES	
	(Reserved)
SECTOR I: OIL AND GAS EXTRACTION AND REFINING	
1311, 1321, 1381-1389	(Subsector I1) Crude Petroleum and Natural Gas, Natural Gas Liquids, Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING	
	(Reserved)
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES	
HZ	(Subsector K1) Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
SECTOR L: LANDFILLS AND LAND APPLICATION SITES	
LF, 4953	(Subsector L1) All Landfills with a refuse disposal permit or Land Application Sites with a marginal land permit
	(Subsector L2) All Landfills with a refuse disposal permit or Land Application Sites with a marginal land permit, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: AUTOMOBILE SALVAGE YARDS	
5015	Automobile Salvage Yards

SIC Code or Activity Code	Activity Represented
SECTOR N: SCRAP RECYCLING FACILITIES	
5093	(Subsector N1) Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling.
	(Subsector N2) Source-separated Recycling Facility. "Source-Separated Recycling" are facilities that only receive recyclable materials separated at the source from solid waste, primarily from non-industrial and residential sources (i.e., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans); including recycling facilities commonly referred to as material recovery facilities (MRF). Additional separation of the collected recyclables can occur at the facility and still considered source-separated recycling, if the stream of material was separated at the source of any trash, commonly called single stream recycling in the state.
	(Subsector N3) Non- metallic Recycling Facility. Scrap made up entirely of paper, rags, or other non- metallic materials.
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES	
SE	Steam Electric Generating Facilities, including coal handling sites
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING	
4011, 4013	Railroad Transportation *
4111-4173	Local and Highway Passenger Transportation *
4212-4231 (except 4221-4226)	Motor Freight Transportation and Warehousing *
4311	United States Postal Service *
5171	Petroleum Bulk Stations and Terminals *
	* Only those facilities which have vehicle maintenance onsite (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations are included for the facilities specified above in this Sector.
4221-4226	Storage facilities must include stormwater discharges from all areas (except access roads and rail lines) where material handling, equipment, or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to stormwater. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate produce, finished product, by-product, or waste product. Exception: Warehouses of either preassembly parts or finished products that are not located at an industrial facility (i.e. located off-site) are not required to have coverage.
SECTOR Q: WATER TRANSPORTATION	
4412-4499 (except 4493)	(Subsector Q1) Water Transportation Facilities
	Only those facilities listed which have vehicle maintenance shops or equipment cleaning operations are included in this sector. The facility associated with industrial activity are those portions involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations.
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS	
3731, 3732	(Subsector R1) Ship and Boat Building or Repairing Yards

SIC Code or Activity Code	Activity Represented
SECTOR S: AIR TRANSPORTATION FACILITIES	
4512-4581	(Subsector S1) Air Transportation Facilities
	Only those facilities listed which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations are included in this sector. The facility associated with industrial activity are those portions involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations or airport deicing operations.
SECTOR T: TREATMENT WORKS	
TW, 4952	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA .
SECTOR U: FOOD AND KINDRED PRODUCTS	
2041-2048	(Subsector U1) Grain Mill Products
2074-2079	(Subsector U2) Fats and Oils Products
2011-2015	Meat Products
2021-2026	Dairy Products
2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
2051-2053	Bakery Products
2061-2068	Sugar and Confectionery Products
2082-2087	Beverages
2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS	
2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
3131-3199	Leather and Leather Products
SECTOR W: FURNITURE AND FIXTURES	
2434	Wood Kitchen Cabinets
2511-2599	Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING	
2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES	
3011, 3021, 3052, 3053, 3061, 3069	(Subsector Y1) Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere Classified
3081-3089	Miscellaneous Plastics Products
3931	Musical Instruments
3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods

SIC Code or Activity Code	Activity Represented
3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING	
3111	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS	
3411-3499, 3911-3915	Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services, Jewelry, Silverware, and Plated Ware
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY	
3511-3599 (except 3571-3579 see Sector AC)	Industrial and Commercial Machinery
3711-3799 (except 3731, 3732 see Sector R)	Transportation Equipment
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS	
3571-3579	Computer and Office Equipment
3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
3612-3699	Electronic and Electrical Equipment and Components
SECTOR AD.a: DEPARTMENT OF PUBLIC WORKS AND HIGHWAY MAINTENANCE FACILITIES	
DPW, HM	Department of Public Works (DPW) and Highway Maintenance (HM) facilities that have operations including vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations and salt storage for road deicing activities. Department of public works and highway maintenance facilities where no vehicle repair is occurring are not required to apply for coverage. NOTE: Coverage under this permit is not required for a municipally owned and operated facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 12-SW permit.
DPW, HM	(Subsector AD.a1) Department of Public Works (DPW) and Highway Maintenance (HM) facilities <u>that store or dewater street sweeping or stormdrain inlet cleaning debris.</u> NOTE: Coverage under this permit is not required for a municipally owned and operated facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 12-SW permit.
SECTOR AD.b: SCHOOL BUS MAINTENANCE FACILITIES	
82xx	School Bus Maintenance facilities that have operations including vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication), and equipment cleaning operations. NOTE: Coverage under this permit is not required for a municipally owned and operated facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 12-SW permit.

SECTOR AD.d: SALT TERMINALS	
5169	Salt Terminal operations. NOTE: Coverage under this permit is not required for a facility unless the facility is notified by the Department that coverage is needed, or the facility was covered under the 12-SW permit.
SECTOR AD.e: INACTIVE LANDFILLS	
LF	All Landfills <u>without</u> a refuse disposal permit that have been notified by the Department that coverage is needed, or the facility was covered under the 12-SW permit
SECTOR AD: NON-CLASSIFIED FACILITIES	
AD	Other stormwater discharges to waters of the state designated by the Department as needing a permit (see 40 CFR 122.26.(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Department may assign a facility to Sector AD.

Appendix B: **Quarterly Visual Monitoring Form**

Fill out a separate form for each outfall sampled.

Sample Location					
Quarter / Year:		**Date / Time Collected:**		**Date / Time Examined:**	
Qualifying Storm Event?	Yes No	**Runoff Source:**	Rainfall Snowmelt		
Collector's Name & Title					
Examiner's Name & Title					

Parameter	Parameter Description	Parameter Characteristics
1. Color	Does the stormwater appear to have any color? **Yes** **No (Clear)**	If Yes, describe: *Yellow Brown Red Gray Other*:
2. Clarity	Is the stormwater <u>not</u> clear? **Yes** **No**	If not clear, which of the following best describes the clarity of the stormwater? *Suspended Solids Milky/Cloudy Opaque Other:*
3. Oil Sheen	Can you see a rainbow effect or sheen on the water surface? **Yes** **No**	Which best describes the sheen? *Rainbow sheet Floating oil globules Other:*
4. Odor	Does the sample have an odor? **Yes** **No**	If Yes, describe: *Chemical Musty Rotten Eggs Sewage Sour Milk Oil/Petroleum Other:*
5. Floating Solids	Is there anything on the surface of the sample? **Yes** **No**	If Yes, describe: *Suds Oily Film Garbage Sewage Water Fowl Excrement Other:*
6. Suspended Solids	Is there anything suspended in the sample? **Yes** **No**	Describe:
******Leave sample undisturbed for 30 minutes.******		
7. Settled Solids	Is there anything settled on the bottom of the sample? **Yes** **No**	Describe: (*note type, size and material after sample is not disturbed for 30 minutes)*
8. Foam	Does foam or material form on the top of the sample surface if you shake it? **Yes** **No**	Describe:

9. If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.

Stormwater Collector's Signature and Date:

Stormwater Examiner's Signature and Date:

Note – Sample should be collected and analyzed in a colorless glass or plastic bottle.

Instructions for Completing the Visual Monitoring Form

Per PART V. INSPECTIONS, MONITORING, AND REPORTING, you must collect a stormwater sample from each outfall once each quarter for the entire permit term and conduct a visual assessment of each sample. You must follow the monitoring procedures outlined in Part V.C. These samples should be collected in such a manner that they are representative of the stormwater discharge from that outfall. Each assessment must be kept onsite with your SWPPP and available for inspection and review by the Department at anytime.

First, fill out all information on the top of the visual monitoring form. A qualifying storm event is any storm where there is a measurable discharge. Then, take a grab sample in a clear container. Evaluate the sample in a well-lit area for the following parameters:

1. **Color:** Record the best description of the sample color in the appropriate space on the form.
2. **Clarity**: This parameter refers to how cloudy the sample is. It is *usually* an indication of fewer pollutants in the water if the sample is clear or transparent. If the clarity has changed since the last sample, try to identify what might have caused this to happen.
   - **Clear** – Sample doesn't block any light; can be seen through regardless of color.
   - **Cloudy** – Sample blocks some light; objects not clear but can be identified looking through the sample.
   - **Very Cloudy** – Sample blocks most light; objects cannot be identified looking through the sample.
   - **Opaque** – Sample blocks all light; objects cannot be seen when looking through the sample.
3. **Oil Sheen:** Record whether or not an oil sheen is present. If a film of iridescent color is noted on the surface of the sample or a rainbow effect appears to be floating on the surface of the water, this usually indicates oil is present.
4. **Odor:** If sample has no odor other than natural rainwater or snowmelt, write "NO" on the visual monitoring form. Note the presence of any of the following odors if detected, such as gasoline, diesel, oil, solvents (WD-40, other petroleum products, etc.), garbage, fishy, sweet/sugary, any other unusual odors not normally present in clean runoff from the area sampled.
5. **Floating Solids:** A contaminated flow may contain solids or liquids floating on the surface. Identifying floatables can aid in finding the source of the contamination. Examples of floatables are spoiled food products, oils, plant parts, solvents, sawdust, foams and fuel. Give a general description of the type of floating solids present (wood chips, leaf debris, algae, etc) in the general comments section for each sample. Identify amount of floating solids as described below.
   - **High** – More than 20% of the surface of the sample is covered with floating solids.
   - **Moderate** – Less than 20% of the surface of the sample is covered with floating solids.
   - **Slight** – Only a few floating particles observed on the surface of the sample.
   - **None** – No floating solids present on the surface of the sample.
6. **Suspended solids:** Record whether or not suspended solids are present in the sample. Suspended solids are particles floating inside the column of water, not on top, and may contribute to changes in water color or clarity. Cracked or deteriorated concrete or peeling surface paint at an outfall usually indicates the presence of severely contaminated discharges. Contaminants causing this type of damage are usually very acidic or basic.

---------- WAIT 30 MINUTES ----------

Leave the sample undisturbed for 30 minutes to allow the water and anything in it to settle.

7. **Settled Solids:** After 30 minutes has passed, give a general description of the type of settled solids present (sand, decayed plant matter, rust particles, etc.) in the general comments section.
8. **Foam:** After completing #7, shake the bottle gently. Record foam results on the form as they most closely match one of the descriptions listed below.
   - **None** – Most bubbles break down within ten (10) seconds of shaking; only a few large bubbles persist longer than ten (10) seconds.
   - **Moderate** – Many small bubbles are present but these bubbles persist for less than two (minutes) after shaking.
   - **High** – Many small bubbles are present and they persist longer than two (2) minutes after shaking.
9. Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample. This should include the identified source if there are visible indicators present in the sample. The person performing test must sign and date each form**.**

Appendix C:

Calculating for Fresh Water Benchmarks for Hardness Dependent Metals

Overview - For any sectors required to conduct benchmark samples for a hardness-dependent metal, per Appendix D, the following table includes 'hardness ranges' from which benchmark values are determined. To determine which hardness range to use, you must collect data on the hardness of your receiving water(s). Once the site-specific hardness data have been collected, the corresponding benchmark value for each metal is determined by comparing where the hardness data fall within 25 mg/L ranges, as shown in Table Appendix C-1. If the hardness is 100 mg/L, the metal benchmark values are still valid.

Table Appendix C-1. Hardness Ranges to Be Used to Determine Benchmark Values for Cadmium, Copper, Lead, Nickel, Silver, and Zinc.

All Units mg/L	Benchmark Values (mg/L, total)					
	Cadmium	Copper	Lead	Nickel	Silver	Zinc
0-25 mg/L	0.0005	0.0038	0.014	0.15	0.0007	0.04
25-50 mg/L	0.0008	0.0056	0.023	0.20	0.0007	0.05
50-75 mg/L	0.0013	0.0090	0.045	0.32	0.0017	0.08
75-100 mg/L	0.0018	0.0123	0.069	0.42	0.0030	0.11
100-125 mg/L	0.0023	0.0156	0.095	0.52	0.0046	0.13
125-150 mg/L	0.0029	0.0189	0.122	0.61	0.0065	0.16
150-175 mg/L	0.0034	0.0221	0.151	0.71	0.0087	0.18
175-200 mg/L	0.0039	0.0253	0.182	0.80	0.0112	0.20
200-225 mg/L	0.0045	0.0285	0.213	0.89	0.0138	0.23
225-250 mg/L	0.0050	0.0316	0.246	0.98	0.0168	0.25
250+ mg/L	0.0053	0.0332	0.262	1.02	0.0183	0.26

How to Determine Hardness for Hardness-Dependent Parameters.
You may select one of three methods to determine hardness, including; individual grab sampling, grab sampling by a group of operators which discharge to the same receiving water, or using third-party data. Regardless of the method used, you are responsible for documenting the procedures used for determining hardness values. Once the hardness value is established, you are required to include this information in your first benchmark report submitted to the Department so that the Department can make appropriate comparisons between your benchmark monitoring results and the corresponding benchmark. You must retain all report and monitoring data in accordance with Part III.C.8 of the permit. The three method options for determining hardness are detailed in the following sections.

1. *Permittee Samples for Receiving Stream Hardness*
This method involves collecting samples in the receiving water and submitting these to a laboratory for analysis. If you elect to sample your receiving water(s) and submit samples for analysis, hardness must be determined from the closest intermittent or perennial stream downstream of your point of discharge. The sample can be collected during either dry or wet weather. Collection of the sample during wet weather is more representative of conditions during storm water discharges; however, collection of in-stream samples during wet weather events may be impracticable or present safety issues.
Hardness must be sampled and analyzed using approved methods as described in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

2. *Group Monitoring for Receiving Stream Hardness*
You can be part of a group of permittees discharging to the same receiving waters and collect samples that are representative of the hardness values for all members of the group. In this scenario, hardness of the receiving water must be determined using 40 CFR Part 136 procedures and the results shared by group members. To use the same results, hardness measurements must be taken on a stream reach within a reasonable distance of the discharge points of each of the group members.

3. *Collection of Third-Party Hardness Data*
You can submit receiving stream hardness data collected by a third party provided the results are collected consistent with the approved 40 CFR Part 136 methods. These data may come from a local water utility, previously conducted stream reports, TMDLs, peer reviewed literature, other government publications, or data previously collected by the permittee. Data should be less than 10 years old.

Water quality data for many of the nation's surface waters are available on-line or by contacting EPA or a state environmental agency. EPA's data system STORET, short for STOrage and RETrieval, is a repository for receiving

water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Similarly, state environmental agencies and the U.S. Geological Service (USGS) also have water quality data available that, in some instances, can be accessed online. “Legacy STORET” codes for hardness include: 259 hardness, carbonate; 260 hardness, noncarbonated; and 261 calcium + magnesium, while more recent, “Modern STORET” data codes include: 00900 hardness, 00901 carbonate hardness, and 00902 noncarbonate hardness; or the discrete measurements of calcium (00915) and magnesium (00925) can be used to calculate hardness. Hardness data historically has been reported as “carbonate,” “noncarbonate,” or “Ca + Mg.” If these are unavailable, then individual results for calcium (Ca) and magnesium (Mg) may be used to calculate hardness using the following equation:

$$\text{mg/L } CaCO_3 = 2.497 \text{ (Ca mg/L)} + 4.118 \text{ (Mg mg/L)}$$

When interpreting the data for carbonate and non-carbonate hardness, note that total hardness is equivalent to the sum of carbonate and noncarbonate hardness if both forms are reported. If only carbonate hardness is reported, it is more than likely that noncarbonate hardness is absent and the total hardness is equivalent to the available carbonate hardness.

Appendix D: Sector-Specific Requirements for Industrial Activity

You must comply with Appendix D sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Contents

Sector A – Timber Products.

A.1 Covered Stormwater Discharges.

The requirements in Sector A apply to stormwater discharges associated with industrial activity from Timber Products facilities as identified by the SIC Codes specified under Sector A in Appendix A of the permit.

A.2 Limitation on Coverage.

A.2.1 *Prohibition of Discharges.* (See also Part I.C Limitations on Coverage) Not covered by this permit: stormwater discharges from areas where there may be contact with the chemical formulations sprayed to provide surface protection. These discharges must be covered by a separate NPDES/State discharge permit.

A.2.2 Intentionally Left Blank

A.3 Additional Technology-Based Effluent Limits.

A.3.1 *Good Housekeeping.* (See also Part III.B.1.b.ii) In areas where storage, loading and unloading, and material handling occur, perform good housekeeping to limit the discharge of wood debris, minimize the leachate generated from decaying wood materials, and minimize the generation of dust.

A.4 Additional SWPPP Requirements.

A.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas.

A.4.2 *Inventory of Exposed Materials.* (See also Part III.C.3) Where such information exists, if your facility has used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving, document in your SWPPP the following: areas where contaminated soils, treatment equipment, and stored materials still remain and the management practices employed to minimize the contact of these materials with stormwater runoff.

A.4.3 *Description of Stormwater Management Controls.* (See also Part III.C.4) Document measures implemented to address the following activities and sources: log, lumber, and wood product storage areas; residue storage areas; loading and unloading areas; material handling areas; chemical storage areas; and equipment and vehicle maintenance, storage, and repair areas. If your facility performs wood surface protection and preservation activities, address the specific control measures, including any BMPs, for these activities.

A.5 Additional Inspection Requirements.

See also Part V.A. If your facility performs wood surface protection and preservation activities, inspect processing areas, transport areas, and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with stormwater discharges.

A.6 Sector-Specific Benchmarks

Tables A-1 through A-4 identify benchmarks that may apply to your specific subsectors of Sector A. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table A-1 - Subsector A1 Benchmarks (General Sawmills and Planing Mills for SIC 2421)

PARAMETER	Benchmark	Units	Frequency	Sample Type

Chemical Oxygen Demand (COD)	120.0	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)[1]	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table A-2 - Subsector A2 Benchmarks (Wood Preserving for SIC 2491)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Arsenic (freshwater)	150	µg /L	1/quarter	Grab
Total Recoverable Arsenic (saltwater)	69	µg /L	1/quarter	Grab
Total Recoverable Copper (freshwater)[1]	14	µg /L	1/quarter	Grab
Total Recoverable Copper (saltwater)	4.8	µg /L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table A-3 - Subsector A3 Benchmarks (Log Storage and Handling for SIC 2411)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter	Grab

Table A-4 - Subsector A4 Benchmarks (Special Products Sawmills, not elsewhere classified and Wood Products Facilities not elsewhere classified for SIC 2426 and 2499)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Chemical Oxygen Demand (COD)	120.0	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter	Grab

A.7 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas are required to meet specific effluent limits (40 CFR Part 429, Subpart I) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector B – Paper and Allied Products.

B.1 Covered Stormwater Discharges.

The requirements in Sector B apply to stormwater discharges associated with industrial activity from Paper and Allied Manufacturing Products facilities as identified by the SIC Codes specified under Sector B in Appendix A of the permit.

B.2 Sector-Specific Benchmarks

Table B-1 identifies benchmarks that may apply to your specific subsectors of Sector A. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table B-1 - Subsector B1 Benchmarks (Paperboard Mills for SIC Code 2631)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Chemical Oxygen Demand (COD)	120.0	mg/L	1/quarter	Grab

Sector C – Chemical and Allied Products Manufacturing, and Refining.

C.1 Covered Stormwater Discharges.

The requirements in Sector C apply to stormwater discharges associated with industrial activity from Chemical and Allied Products Manufacturing, and Refining facilities, as identified by the SIC Codes specified under Sector C in Appendix A of the permit.

C.2 Limitations on Coverage.

C.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not covered by this permit: non-stormwater discharges containing inks, paints, or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill, including materials collected in drip pans; washwater from material handling and processing areas; and washwater from drum, tank, or container rinsing and cleaning.

C.2.2 *Prohibition of Contaminated Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not authorized by this permit from manufacturers or formulators of Aldrin/Dieldrin, DDT, Endrin, Toxaphene, Benzidine, or Polychlorinated Biphenyls (PCBs): All discharges from the manufacturing or incineration areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by these toxic pollutants as a result of the manufacturing process, including but not limited to: stormwater and other runoff; and water used for routine cleanup or cleanup of spills. These limitations do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of these toxic pollutants; or to stormwater runoff that exceeds that from the ten-year 24-hour rainfall event. (See also effluent standards in 40 CFR Subchapter D Part 129)

C.3 Sector-Specific Benchmarks

Tables C-1through C-4 identifies benchmarks that may apply to your specific subsectors of Sector C. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table C-1 - Subsector C1 Benchmarks (Agricultural Chemicals for SIC 2873-2879)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Zinc[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.090	mg/L	1/quarter	Grab
Phosphorus	2.0	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table C-2 - Subsector C2 (Industrial Inorganic Chemicals for SIC 2812-2819) Benchmarks

PARAMETER	Benchmark	Units	Frequency	Sample Type

Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab

Table C-3 – Subsector C3 (Soaps, Detergents, Cosmetics and Perfumes for SIC 2841 – 2844) Benchmarks

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Zinc[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.090	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table C-4 – Subsector C4 (Plastics, Synthetics, and Resins for SIC 2821-2824) Benchmarks

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Zinc[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.090	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

C.4 Effluent Limitations Based on Effluent Limitations Guidelines (Limitation)

Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874) required to meet specific effluent limits (40 CFR Part 418, Subpart A) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector D – Asphalt Paving and Roofing Materials and Lubricant Manufacturing.

D.1 Covered Stormwater Discharges.

The requirements in Sector D apply to stormwater discharges associated with industrial activity from Asphalt Paving and Roofing Materials and Lubricant Manufacturing facilities, as identified by the SIC Codes specified under Sector D in Appendix A of the permit.

D.2 Limitations on Coverage.

The following stormwater discharges associated with industrial activity are not authorized by this permit (See also Part I.C Limitations on Coverage)

D.2.1 Discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products, that are subject to nationally established effluent limitation guidelines found in 40 CFR Part 419 (Petroleum Refining); or

D.2.2 Discharges from oil recycling facilities; or

D.2.3 Discharges associated with fats and oils rendering.

D.2.4 Discharges from bituminous concrete manufacturing facilties. These discharges are covered by a separate general permit, Maryland General Permit No. 15-MM or replacement.

D.3 Sector-Specific Benchmarks and Visual Monitoring

Table D-1 identifies benchmarks that apply to the specific subsectors of Sector D. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities. Asphalt plants shutdown during winter months should note on the visual monitoring form for that quarter that no samples were taken due to the seasonal shutdown.

Table D-1 Subsector D1 Benchmarks (Asphalt Paving and Roofing Materials SIC 2951, 2952)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter[1]	Grab

[1] For asphalt plants shutdown during the winter months, use report code "NODI-9" on your Discharge Monitoring Report (DMR) to indicate that quarter discharge benchmark will not be evaluated.

D.4 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges from asphalt emulsion facilities are required to meet specific effluent limits (40 CFR Part 443, Subpart A) and are therefore not covered by this permit. You must obtain an alternative general or an individual discharge permit to discharge this type of effluent.

Sector E – Glass, Clay, Cement, Concrete, and Gypsum Products.

E.1 Covered Stormwater Discharges.

The requirements in Sector E apply to stormwater discharges associated with industrial activity from Glass, Clay, Cement, Concrete, and Gypsum Products facilities, as identified by the SIC Codes specified under Sector E in Appendix A of the permit.

E.2 Additional Technology-Based Effluent Limits.

E.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) With good housekeeping, prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust, or other significant material in stormwater from paved portions of the site that are exposed to stormwater. Consider sweeping regularly or using other equivalent measures to minimize the presence of these materials. Indicate in your SWPPP the frequency of sweeping or equivalent measures. Determine the frequency based on the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week if cement, aggregate, kiln dust, fly ash, or settled dust are being handled or processed. You must also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, or buildings, or under other covering.

E.3 Additional SWPPP Requirements.

E.3.1 *Drainage Area Site Map*. (See also Part III.C.2) Document in the SWPPP the locations of the following, as applicable: bag house or other dust control device; recycle/sedimentation pond, clarifier, or other device used for the treatment of process wastewater; and the areas that drain to the treatment device.

E.3.2 *Certification.* (See also Part III.C.3.d : Non-Stormwater Discharges) For facilities producing ready-mix concrete, concrete block, brick, or similar products applying for coverage under this permit, include in the non-stormwater discharge certification a description of measures that ensure that process waste waters resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with NPDES/State discharge permit requirements or are recycled.

E.4 Sector-Specific Benchmarks.

Tables E-1 and E-2 identify benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities. You may be subject to requirements for more than one sector/subsector.

Table E-1 Subsector E1 Benchmarks (Clay Product Manufacturers SIC 3251-3259, 3261-3269)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab

Table E-2 Subsector E2 Benchmarks (Concrete and Gypsum Product Manufacturers SIC 3271-3275)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter	Grab

E.5 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges from material storage piles at cement manufacturing facilities are required to meet specific effluent limits (40 CFR Part 411, Subpart C) and are therefore not covered by this permit. You must obtain an alternative general or an individual discharge permit to discharge this type of effluent.

Sector F – Primary Metals.

F.1 Covered Stormwater Discharges.

The requirements in Sector F apply to stormwater discharges associated with industrial activity from Primary Metals facilities, as identified by the SIC Codes specified under Sector F in Appendix A of the permit.

F.2 Additional Technology-Based Effluent Limits

F.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) As part of your good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and, where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

F.3 Additional SWPPP Requirements.

F.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in the SWPPP where any of the following activities may be exposed to precipitation or surface runoff: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operations, etc., and could result in a discharge of pollutants to waters of the United States.

F.3.2 *Inventory of Exposed Material.* (See also Part III.C.3) Include in the inventory of materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities are possible

F.4 Additional Inspection Requirements. (See also Part V.A) As part of conducting your quarterly routine facility inspections, address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material losses due to wind or stormwater runoff.

F.5 Sector-Specific Benchmarks.

Tables F-1 through F-4 identify benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table F-1 - Subsector F1 Benchmarks (Steel Works, Blast Furnaces, and Rolling and Finishing Mills for SIC 3312-3317)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab

Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)[1]	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table F-2 - Subsector F2 Benchmarks (Iron and Steel Foundries for SIC 3321-3325)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100.0	mg/L	1/quarter	Grab
Total Recoverable Copper (freshwater)[1]	14	µg /L	1/quarter	Grab
Total Recoverable Copper (saltwater)	4.8	µg /L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table F-3 - Subsector F3 Benchmarks (Rolling, Drawing, and Extruding of Nonferrous Metals for SIC 3351-3357)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Copper (freshwater)[1]	14	µg /L	1/quarter	Grab
Total Recoverable Copper (saltwater)	4.8	µg /L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Table F-4 - Subsector F4 Benchmarks (Nonferrous Foundries (SIC 3363-3369)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Copper (freshwater)[1]	14	µg /L	1/quarter	Grab
Total Recoverable Copper (saltwater)	4.8	µg /L	1/quarter	Grab

Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector G – Not currently covered in this permit.

Sector H – Not currently covered in this permit.

Sector I – Oil and Gas Extraction.

I.1 Covered Stormwater Discharges.

The requirements in Sector I apply to stormwater discharges associated with industrial activity from Oil and Gas Extraction facilities as identified by the SIC Codes specified under Sector I in Appendix A of the permit.

Discharges of stormwater runoff from field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are exempt from NPDES/ State discharge permit coverage unless, in accordance with 40 CFR 122.26(c)(1)(iii), the facility:

- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or
- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- Contributes to a violation of a water quality standard.

Any stormwater discharges that require permit coverage as a result of meeting one of the conditions of 122.26(c)(1)(iii) may be covered under this permit unless otherwise required to obtain coverage under an alternative NPDES/State discharge general permit or an individual NPDES/State discharge permit as specified in Part I.C Limitations on Coverage.

I.2 Limitations on Coverage.

I.2.1 *Stormwater Discharges Subject to Effluent Limitation Guidelines.* This permit does not authorize stormwater discharges from petroleum drilling operations that are subject to nationally established effluent limitation guidelines found at 40 CFR Part 435, respectively.

I.2.2 *Non-Stormwater Discharges. (See also* Part C.3.d: Non-Stormwater Discharges) Discharges of vehicle and equipment washwater, including tank cleaning operations, are not authorized by this permit. Alternatively, washwater discharges must be authorized under a separate NPDES/State discharge permit, or be discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.

I.3 Additional Technology-Based Effluent Limits.

I.3.1 *Vegetative Controls.* Implement vegetative practices designed to preserve existing vegetation, where attainable, and revegetate open areas as soon as practicable after grade drilling. Consider the following (or equivalent measures): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, and tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

I.4 Additional SWPPP Requirements.

I.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: Reportable Quantity (RQ) releases; locations used for the treatment, storage, or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for “No Discharge” in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the “No Discharge” requirements.

I.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Also document in your SWPPP the following sources and activities that have potential pollutants associated with them: chemical, cement, mud, or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the reportable quantity (RQ) release that triggered the permit application requirements: the nature of the release (e.g., spill of oil from a drum storage area), amount of oil or hazardous substance released, amount of substance recovered, date of the release, cause of the release (e.g., poor handling techniques and lack of containment in the area), areas affected by the release (i.e., land and water), procedure to clean up release, actions or procedures implemented to prevent or improve response to a release, and remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).

I.4.3 *Erosion and Sedimentation Control.* (See also Part III.B.1.b.v) Unless covered by the current Construction General Permit (CGP), the additional documentation requirements for sediment and erosion controls for well drillings and sand/shale mining areas include the following:

I.4.3.1 *Site Description.* Also include a description in your SWPPP of the nature of the exploration activity, estimates of the total area of site and area disturbed due to exploration activity, an estimate of runoff coefficient of the site, a site drainage map, including approximate slopes, and the names of all receiving waters.

I.4.3.2 *Vegetative Controls.* Document vegetative practices used consistent with Part I.3.1 in the SWPPP.

I.5 Additional Inspection Requirements.

All erosion and sedimentation control measures must be inspected every 7 days.

I.6 Sector-Specific Benchmarks.

Table I-1 identifies benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table I-1 - Subsector I1 Benchmarks (Crude Petroleum and Natural Gas; Natural Gas Liquids; Oil and Gas Field Services (SIC 1311, 1321, 1381-1389)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Ammonia	2.14	mg/L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Recoverable Nickel (freshwater)[1]	520	µg /L	1/quarter	Grab
Total Recoverable NIckel (saltwater)[1]	74	µg /L	1/quarter	Grab
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector J – Not currently covered in this permit.

Sector K – Hazardous Waste Treatment, Storage, or Disposal Facilities.

K.1 Covered Stormwater Discharges.

The requirements in Sector K apply to stormwater discharges associated with industrial activity from Hazardous Waste Treatment, Storage, or Disposal facilities (TSDFs) as identified by the Activity Code specified under Sector K in Appendix A of the permit.

K.2 Industrial Activities Covered by Sector K.

This permit authorizes stormwater discharges associated with industrial activity from facilities that treat, store, or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA and disposal facilities that have been properly closed and capped, although considered inactive.

K.3 Limitations on Coverage.

Prohibition of Non-Stormwater Discharges. (See also Part I.C Limitations on Coverage) The following are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory-derived wastewater, and contact washwater from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility. Note: Any leachate for this sector is considered a wastewater and any stormwater discharge combined with this leachate/wastewater is not authorized under this permit.

K.4 Definitions.

K.4.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part K.4.5. Some specific areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

K.4.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

K.4.3 *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, but that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, salt bed formation, underground mine, or cave as these terms are defined in 40 CFR 257.2, 258.2, and 260.10.

K.4.4 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category), all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated stormwater, and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

K.4.5 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part K.4.4. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

K.5 Sector-Specific Benchmarks.

Table K-1 identifies benchmarks that apply to the specific subsectors of Sector K. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table K-1 - Subsector K1 Benchmarks (ALL - Industrial Activity Code "HZ". Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A (see below).)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Ammonia	2.14	mg/L	1/quarter	Grab
Chemical Oxygen Demand (COD)	120.0	mg/L	1/quarter	Grab
Total Recoverable Arsenic (freshwater)	150	µg /L	1/quarter	Grab
Total Recoverable Arsenic (saltwater)	69	µg /L	1/quarter	Grab
Recoverable Cadmium (freshwater)	1.8	µg /L	1/quarter	Grab
Recoverable Cadmium (saltwater)	33	µg /L	1/quarter	Grab
Recoverable Cyanide (freshwater)	22	µg /L	1/quarter	Grab
Recoverable Cyanide (saltwater)	1	µg /L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Recoverable Mercury (freshwater)[1]	1.4	µg /L	1/quarter	Grab
Total Recoverable Mercury (saltwater)	1.8	µg /L	1/quarter	Grab
Total Recoverable Selenium (freshwater)[1]	3.1	µg /L	1/quarter	Grab
Total Recoverable Selenium (saltwater)	290	µg /L	1/quarter	Grab
Total Silver (freshwater)[1]	4.6	µg /L	1/quarter	Grab
Total Silver (saltwater)	1.9	µg /L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

K.6 Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges from hazardous waste landfills that are required to meet specific effluent limits (40 CFR Part 445, Subpart A) are not covered by this permit. As set forth at 40 CFR Part 445 Subpart A, numeric limitations apply to contaminated stormwater discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

You must obtain an individual discharge permit to discharge this type of contaminated stormwater.

Sector L – Landfills and Land Application Sites.

L.1 Covered Stormwater Discharges.

The requirements in Sector L apply to stormwater discharges associated with industrial activity from Landfills and Land Application Sites as identified by the Activity Code specified under Sector L in Appendix A of the permit.

L.2 Industrial Activities Covered by Sector L.

This permit may authorize stormwater discharges for Sector L facilities associated with waste disposal at landfills and land application sites that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA. This permit does not cover discharges from landfills that receive only municipal wastes.

L.3 Limitations on Coverage.

L.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following discharges are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory wastewater, and contact washwater from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

L.4 Definitions.

L.4.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

L.4.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

L.4.3 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate; gas collection condensate; drained free liquids; laboratory-derived wastewater; contaminated stormwater; and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

L.4.4 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

L.5 Additional Technology-Based Effluent Limits.

L.5.1 *Preventive Maintenance Program.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, maintain the following: all elements of leachate collection and treatment systems, to prevent commingling of leachate with stormwater; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary), to minimize the effects of settlement, sinking, and erosion. Note: Any leachate for this sector is considered a wastewater and any stormwater discharge combined with this leachate/wastewater is not authorized under this permit.

L.5.2 *Erosion and Sedimentation Control.* (See also Part III.B.1.b.v) Provide temporary stabilization (e.g., temporary seeding, mulching, and placing geotextiles on the inactive portions of stockpiles) for the following: materials stockpiled for daily, intermediate, and final cover; inactive areas of the landfill; landfills that have gotten final covers but where vegetation has yet to establish itself; and land application sites where waste application has been completed but final vegetation has not yet been established.

L.5.3 *Unauthorized Discharge Test Certification.* (See also Part III.C.3.d: Non-Stormwater Discharges) The discharge test and certification must also be conducted for the presence of leachate and vehicle washwater.

L.5.4 *Use of Chemical Additives.* If you are using chemical additives (defined in Appendix A) for control of sediment (such as polymers or flocculants) at your site, you must comply with the requirements identified in this section. You shall refer to the most current version of Standards for Use of Chemical Additives for Sediment Control document available on the Department's website for specific instructions on information which must be included in your SWPPP, additional requirements, and assistance in applying for additive use.

- The use of chemical additives for sediment control should only be considered in the event that water quality standards cannot be met using conventional best management practices.
- Should the use of chemical additives be necessary, you must utilize conventional best management practices for E&SCs at a location prior to and after the application of chemical additives.
- Additives may only be applied where treated stormwater is directed to a sediment control (e.g., sediment basin, perimeter control) prior to discharge. This permit intends to authorize additives used to create flocculation of suspended materials in stormwater or groundwater. It does not authorize use of additives for bank or soil stabilization.
- Chemical additives must be approved by the Department prior to use. The Department maintains a current list of pre-approved polymers/flocculants including approved application method and maximum allowable dosage concentration or application rate on its website (https://mdewwp.page.link/MDFlocs).
- If you wish to use a chemical additive which is not found on the approved list, you must request approval by following the Department's Procedures for Review of Chemical Additives for Sediment Control. You may not begin use of any chemical additive absent from the pre-approved list until you receive written approval from the Department.
- You are required to identify all additives you will be using in your SWPPP, and any cationic chemical additives in your Notice of Intent (pursuant to Part II.A.1 of this permit). If you wish to change to or add another preapproved chemical, you shall provide notification to the Industrial Stormwater Permits Division of the Department within 30 days of commencing the use of the new pre-approved additive.
- You must minimize exposure of stored chemicals to stormwater. Store all treatment chemicals in leakproof containers that are kept under storm-resistant cover and surrounded by secondary containment structures (e.g., spill berms, decks, spill containment pallets), or provide equivalent measures designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means (e.g., storing chemicals in a covered area, having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill).
- You must comply with relevant local requirements affecting the use of chemical additives. If requested by the E&SC plan approval authority, provide a Safety Data Sheet (SDS) with your E&SC plan.
- You must use chemical additives and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals.
- You must document any departures from good engineering practices or dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals.
- Selection of additives and dosing rates should be determined based on site-specific test results. Documentation of the chemical selection process and dosing rate determination shall be included in your SWPPP. Dosing rates cannot exceed those found on the Department's list of pre-approved additives.
- Ensure that all persons who handle and use chemical additives at the site are provided with appropriate, product-specific training. At a minimum, this training must cover proper dosing requirements and safe handling practices.

- You must notify and receive written approval from the Department's Industrial Stormwater Permits Division of the Department at least 7 days prior to using cationic chemical additives (as defined in Appendix E). Use of anionic chemical additives requires notice once on the NOI to indicate additives are being used, however when changing additives for better results, only SWPPP updates are required. For anionic the notice to the Department must occur no later than a week (7 days) after you begin using a product.
- To receive authorization to use cationic chemical additives under this permit, you must identify in your SWPPP appropriate controls and implementation procedures (including where the chemical is applied, description of active treatment systems required, dosing, filtering, pH monitoring, etc.) designed to ensure that your use of cationic chemical additives will not lead to a violation of water quality standards. See the Standards for Use of Chemical Additives for Sediment Control document for additional instructions for completing your SWPPP and requesting use of cationic chemical additives.
- A copy of the SWPPP section regarding use of cationic chemical additives must be submitted along with the NOI and Request for Use of Cationic Chemical Additives form. You are required to comply with all such requirements if the Department has authorized you to use cationic chemical additives at your site.
- Depending on the additive selected for use, you may be required to sample discharges and test for residuals or other components. Any such monitoring requirement will be laid out in your authorization letter. Results of required monitoring shall be maintained with the SWPPP and made available if requested by Department personnel.
- Authorization is conditioned on your compliance with additional requirements necessary to ensure that the use of such chemicals will not cause an exceedance of water quality standards. If you use polymers and/or other chemical treatments as part of your controls, you must identify the polymers and/or chemicals used and the purpose in your SWPPP.

L.6 Additional SWPPP Requirements.

L.6.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, and leachate collection and handling systems.

L.6.2 *Summary of Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide, and pesticide application; earth and soil moving; waste hauling and loading or unloading; outdoor storage of significant materials, including daily, interim, and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; and failure or leaks from leachate collection and treatment systems.

L.7 Additional Inspection Requirements. (See also Part V.A)

L.7.1 *Inspections of Active Sites.* Except in arid and semi-arid climates, inspect operating landfills and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized; active land application areas, areas used for storage of material and wastes that are exposed to precipitation, stabilization, and structural control measures; leachate collection and treatment systems; and locations where equipment and waste trucks enter and exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is arid or semi-arid, conduct inspections at least once every month.

L.7.2 *Inspections of Inactive Sites.* Inspect inactive landfills and land application sites at least quarterly. Qualified personnel must inspect landfill stabilization and structural erosion control measures, leachate collection and treatment systems, and all closed land application areas.

L.8 Additional Post-Authorization Documentation Requirements.

L.8.1 *Recordkeeping and Internal Reporting.* Keep records with your SWPPP of the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.

L.9 Sector-Specific Benchmarks

Tables L-1 and L-2 identify benchmarks that may apply to your specific subsectors of Sector L. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table L-1 - Subsector L1 Benchmarks - Landfills and Land Application Sites

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Table L-2 - Subsector L2 Benchmarks - Landfills and Land Application Sites, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Iron	3.0	mg/L	1/quarter	Grab

L.10. Effluent Limitations Based on Effluent Limitations Guidelines.

Discharges from non-hazardous waste landfills are required to meet specific effluent limits (40 CFR Part 445, Subpart B) and are therefore not covered by this permit. As set forth at 40 CFR Part 445 Subpart B, numeric limitations apply to contaminated stormwater discharges from MSWLFs that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

You must obtain an individual discharge permit to discharge this type of effluent.

Sector M – Automobile Salvage Yards.

M.1 Covered Stormwater Discharges.

The requirements in Sector M apply to stormwater discharges associated with industrial activity from Automobile Salvage Yards as identified by the SIC Code specified under Sector M in Appendix A of this permit.

M.2 Additional Technology-Based Effluent Limits.

M.2.1 *Spill and Leak Prevention Procedures.* (See also Part III.B.1.b.iv) Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as feasible), or employ some other equivalent means to prevent spills and leaks. You must establish clean-up mechanisms and procedures for all fluids (e.g. anti-freeze, used, oil, used fuel, etc.) for all locations that vehicles will be drained of fluids or any equipment receives fluids, and ensure all batteries from vehicles are protected from exposure to stormwater upon arrival at the site.

M.2.2 *Employee Training.* (See also Part III.B.1.b.ix) If applicable to your facility, address the following areas (at a minimum) in your employee training program: proper handling (collection, storage, clean up, and disposal) of oil, used mineral spirits, anti-freeze, mercury switches, and solvents. Also address leak detection and proper clean up procedures of all fluids.

M.2.3 *Management of Runoff.* (See also Part III.B.1.b.vi) Consider the following management practices: berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks, and above-ground liquid storage; installation of detention ponds; and installation of filtering devices and oil and water separators.

M.3 Additional SWPPP Requirements.

M.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify locations used for dismantling, storage, and maintenance of used motor vehicle parts. Also identify where any of the following may be exposed to precipitation or surface runoff: dismantling areas, parts (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers) storage areas, and liquid storage tanks and drums for fuel and other fluids. Note: To avoid groundwater contamination, draining must occur on impervious areas.

M.3.2 *Potential Pollutant Sources.* (See also Part III.C.3) Assess the potential for the following to contribute pollutants to stormwater discharges: vehicle storage areas, dismantling areas, parts storage areas (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers), and fueling stations. Facilities that crush vehicles produce a residual fluid that contains petroleum, metal and glass fines. These byproducts will need to be identified as potential pollutants and measures shall be identified to ensure they do not commingle with stormwater. Fluids collected must be handled appropriately.

M.4 Additional Inspection Requirements. (See also Part V.A) Immediately (or as soon thereafter as feasible) inspect vehicles arriving at the site for leaks, and address leaks when identified. Inspect quarterly for signs of leakage all equipment containing oily parts, hydraulic fluids, any other types of fluids, or mercury switches. Also, inspect quarterly for signs of leakage all vessels and areas where hazardous materials and general automotive fluids are stored, including, but not limited to, mercury switches, brake fluid, transmission fluid, radiator water, and antifreeze.

M.5 Sector-Specific Benchmarks.

Table M-1 identifies benchmarks that may apply to your specific subsectors of Sector M. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table M-1 - Sector M Benchmarks (Automobile Salvage Yards)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab
Total Iron	3.0	mg/L	1/quarter	Grab
Total Recoverable Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Recoverable Lead (saltwater)	0.21	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector N – Scrap Recycling and Waste Recycling Facilities.

N.1 Covered Stormwater Discharges.

The requirements in Sector N apply to stormwater discharges associated with industrial activity from Scrap Recycling and Waste Recycling facilities as identified by the SIC Code specified under Sector N in Appendix A of the permit.

N.2 Limitation on Coverage.

N.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Non-stormwater discharges from turnings containment areas are not covered by this permit (see also Part N.3.2.3). Discharges from containment areas in the absence of a storm event are prohibited unless covered by a separate NPDES/State discharge permit.

N.3 Additional Technology-Based Effluent Limits.

N.3.1 *Scrap and Waste Recycling Facilities (Non-Source Separated, Nonliquid Recyclable Materials).* Requirements for facilities that receive, process, and do wholesale distribution of nonliquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). These facilities may receive both nonrecyclable and recyclable materials.

N.3.1.1 *Inbound Recyclable and Waste Material Control Program.* Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials. Following are some control measure options: (a) provide information and education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles before delivery to your facility; (b) establish procedures to minimize the potential of any residual fluids from coming into contact with precipitation or runoff; (c) establish procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage, and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in Part N.3.2.6); (d) provide training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials, including: education on draining and proper disposal of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles when not completed by suppliers; and (e) establish procedures to ensure that liquid wastes, including used oil, are stored in materially compatible and non-leaking containers and are disposed of or recycled in accordance with the Resource Conservation and Recovery Act (RCRA).

N.3.1.2 *Scrap and Waste Material Stockpiles and Storage (Outdoor).* Minimize contact of stormwater runoff with stockpiled materials, processed materials, and nonrecyclable wastes. Following are some control measure options: (a) permanent or semi-permanent covers; (b) sediment traps, vegetated swales and strips, catch basin filters, and sand filters to facilitate settling or filtering of pollutants; (c) dikes, berms, containment trenches, culverts, and surface grading to divert runoff from storage areas; (d) silt fencing/bio-logs; and (e) oil and water separators, sumps, and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).

N.3.1.3 *Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage).* Minimize contact of surface runoff with residual cutting fluids by: (a) storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or (b) establishing dedicated containment areas for all turnings that have been exposed to cutting fluids. Any containment areas must be constructed of concrete, asphalt, or other equivalent types of impermeable material and include a barrier (e.g., berms, curbing, elevated pads) to prevent contact with stormwater run-on. Stormwater runoff from these areas can be discharged, provided that any runoff is first collected and treated by an oil and water separator or its equivalent. You

must regularly maintain the oil and water separator (or its equivalent) and properly dispose of or recycle collected residual fluids.

N.3.1.4 *Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage).* Minimize contact of residual liquids and particulate matter from materials stored indoors or under cover with surface runoff. Following are some control measure options: (a) good housekeeping measures, including the use of dry absorbents or wet vacuuming to contain, dispose of, or recycle residual liquids originating from recyclable containers, or mercury spill kits for spills from storage of mercury switches; (b) not allowing washwater from tipping floors or other processing areas to discharge to the storm sewer system; and (c) disconnecting or sealing off all floor drains connected to the storm sewer system.

N.3.1.5 *Scrap and Recyclable Waste Processing Areas.* Minimize surface runoff from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with runoff (i.e., through good housekeeping, preventive maintenance, etc.). Following are some control measure options: (a) regularly inspect equipment for spills or leaks and malfunctioning, worn, or corroded parts or equipment; (b) establish a preventive maintenance program for processing equipment; (c) use dry-absorbents or other cleanup practices to collect and dispose of or recycle spilled or leaking fluids or use mercury spill kits for spills from storage of mercury switches; (d) on unattended hydraulic reservoirs over 150 gallons in capacity, install protection devices such as low-level alarms or equivalent devices, or secondary containment that can hold the entire volume of the reservoir; (e) containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials; (f) oil and water separators or sumps; (g) permanent or semi-permanent covers in processing areas where there are residual fluids and grease; (h) retention or detention ponds or basins; sediment traps, and vegetated swales or strips (for pollutant settling and filtration); (i) catch basin filters or sand filters.

N.3.1.6 *Scrap Lead-Acid Battery Program.* Properly handle, store, and dispose of scrap lead-acid batteries. Following are some control measure options (a) segregate scrap lead-acid batteries from other scrap materials; (b) properly handle, store, and dispose of cracked or broken batteries; (c) collect and dispose of leaking lead-acid battery fluid; (d) minimize or eliminate (if possible) exposure of scrap lead-acid batteries to precipitation or runoff; and (e) provide employee training for the management of scrap batteries.

N.3.1.7 *Spill Prevention and Response Procedures.* (See also Part III.B.1.b.iv)Install alarms and/or pump shutoff systems on outdoor equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used. Use a mercury spill kit for any release of mercury from switches, anti-lock brake systems, and switch storage areas.

N.3.1.8 *Supplier Notification Program.* As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or will be accepted only under certain conditions.

N.3.2 Waste Recycling Facilities (Liquid Recyclable Materials).

N.3.2.1 *Waste Material Storage (Indoor).* Minimize or eliminate contact between residual liquids from waste materials stored indoors and from surface runoff. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and Countermeasure (SPCC) plans required under 40 CFR Part 112. Following are some control measure options (a) procedures for material handling (including labeling and marking); (b) clean up spills and leaks with dry absorbent materials, a wet vacuum system; (c) appropriate maintained containment structures (trenching, curbing, gutters, etc.); and (d) a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas, and properly maintained for continued operation. Drainage should be discharged to an appropriate treatment facility or sanitary sewer system, or otherwise disposed of properly.

These discharges may require coverage under a separate NPDES/ State discharge wastewater permit or industrial user permit under the pretreatment program.

N.3.2.2 *Waste Material Storage (Outdoor).* Minimize contact between stored residual liquids and precipitation or runoff. The plan may refer to applicable portions of other existing plans, such as SPCC plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. Following are some control measure options (a) appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank, with sufficient extra capacity for precipitation; (b) drainage control and other diversionary structures; (c) corrosion protection and/or leak detection systems for storage tanks; and (d) dry-absorbent materials or a wet vacuum system to collect spills.

N.3.2.3 *Trucks and Rail Car Waste Transfer Areas.* Minimize pollutants in discharges from truck and rail car loading and unloading areas. Include measures to clean up minor spills and leaks resulting from the transfer of liquid wastes. Following are two control measure options: (a) containment and diversionary structures to minimize contact with precipitation or runoff, and (b) dry clean-up methods, wet vacuuming, roof coverings, or runoff controls.

N.3.3 *Recycling Facilities (Source-Separated Materials).* The following identifies considerations for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.

N.3.3.1 *Inbound Recyclable Material Control.* Minimize the chance of accepting nonrecyclables (e.g., hazardous materials) that could be a significant source of pollutants by conducting inspections of inbound materials. Following are some control measure options: (a) providing information and education measures to inform suppliers of recyclables about acceptable and non-acceptable materials, (b) training drivers responsible for pickup of recycled material, (c) clearly marking public drop-off containers regarding which materials can be accepted, (d) rejecting nonrecyclable wastes or household hazardous wastes at the source, and (e) establishing procedures for handling and disposal of nonrecyclable material.

N.3.3.2 *Outdoor Storage.* Minimize exposure of recyclables to precipitation and runoff. Use good housekeeping measures to prevent accumulation of particulate matter and fluids, particularly in high traffic areas. Following are some control measure options (a) provide totally enclosed drop-off containers for the public; (b) install a sump and pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; (c) provide dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); (d) divert surface water runoff away from outside material storage areas; (e) provide covers over containment bins, dumpsters, and roll-off boxes; and (f) store the equivalent of one day's volume of recyclable material indoors.

N.3.3.3 *Indoor Storage and Material Processing.* Minimize the release of pollutants from indoor storage and processing areas. Following are some control measure options (a) schedule routine good housekeeping measures for all storage and processing areas, (b) prohibit tipping floor washwater from draining to the storm sewer system, and (c) provide employee training on pollution prevention practices.

N.3.3.4 *Vehicle and Equipment Maintenance.* Following are some control measure options for areas where vehicle and equipment maintenance occur outdoors (a) prohibit vehicle and equipment washwater from discharging to the storm sewer system, (b) minimize or eliminate outdoor maintenance areas whenever possible, (c) establish spill prevention and clean-up procedures in fueling areas, (d) avoid topping off fuel tanks, (e) divert runoff from fueling areas, (f) store lubricants and hydraulic fluids indoors, and (g) provide employee training on proper handling and storage of hydraulic fluids and lubricants.

N.4 Additional SWPPP Requirements.

N.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: scrap and waste material

storage, outdoor scrap and waste processing equipment; and containment areas for turnings exposed to cutting fluids.

N.4.2 *Maintenance Schedules/Procedures for Collection, Handling, and Disposal or Recycling of Residual Fluids at Scrap and Waste Recycling Facilities.* If you are subject to Part N.3.1.3, your SWPPP must identify any applicable maintenance schedule and the procedures to collect, handle, and dispose of or recycle residual fluids.

N.5 Additional Inspection Requirements.

N.5.1 Inspections for Waste Recycling Facilities. The inspections must be performed quarterly, pursuant to Part V.A, and include, at a minimum, all areas where waste is generated, received, stored, treated, or disposed of and that are exposed to either precipitation or stormwater runoff.

N.6 Sector-Specific Benchmarks

Table N-1 identifies benchmarks that may apply to your specific subsectors of Sector N1 for Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table N-1 - Subsector N1 Benchmarks (Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Chemical Oxygen Demand (COD)	120	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab
Total Recoverable Iron	3.0	mg/L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab
Total Recoverable Copper (freshwater)[1]	14	µg /L	1/quarter	Grab
Total Recoverable Copper (saltwater)	4.8	µg /L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector O – Steam Electric Generating Facilities.

O.1 Covered Stormwater Discharges.

The requirements in Sector O apply to stormwater discharges associated with industrial activity from Steam Electric Power Generating Facilities as identified by the Activity Code specified under Sector O in Appendix A.

O.2 Industrial Activities Covered by Sector O.

This permit authorizes stormwater discharges from the following industrial activities at Sector O facilities:

O.2.1 steam electric power generation using coal, natural gas, oil, nuclear energy, etc., to produce a steam source, excluding coal handling areas;

O.2.2 Intentionally Left Blank

O.2.3 dual fuel facilities that could employ a steam boiler.

O.3 Limitations on Coverage.

O.3.1 *Prohibition of Non-Stormwater Discharges.* Non-stormwater discharges subject to effluent limitations guidelines are not covered by this permit.

O.3.2 *Prohibition of Stormwater Discharges.* Stormwater discharges from the following are not covered by this permit:

O.3.2.1 ancillary facilities (e.g., fleet centers and substations) that are not contiguous to a stream electric power generating facility;

O.3.2.2 gas turbine facilities (providing the facility is not a dual-fuel facility that includes a steam boiler), and combined-cycle facilities where no supplemental fuel oil is burned (and the facility is not a dual-fuel facility that includes a steam boiler); and

O.3.2.3 cogeneration (combined heat and power) facilities utilizing a gas turbine; and

O.3.2.4 coal pile runoff, including effluent limitations established by 40 CFR Part 423.

O.4 Additional Technology-Based Effluent Limits. The following good housekeeping measures are required in addition to Part III.B.1.b.ii:

O.4.1 *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.

O.4.2 *Delivery Vehicles.* Minimize contamination of stormwater runoff from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.

O.4.3 *Fuel Oil Unloading Areas.* Minimize contamination of precipitation or surface runoff from fuel oil unloading areas. Consider using containment curbs in unloading areas, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and using spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).

O.4.4 *Chemical Loading and Unloading.* Minimize contamination of precipitation or surface runoff from chemical loading and unloading areas. Consider using containment curbs at chemical loading and unloading areas to contain spills, having personnel familiar with spill prevention and response procedures present during

deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and loading and unloading in covered areas and storing chemicals indoors.

O.4.5 *Miscellaneous Loading and Unloading Areas.* Minimize contamination of precipitation or surface runoff from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.

O.4.6 *Liquid Storage Tanks.* Minimize contamination of surface runoff from above-ground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent measures.

O.4.7 *Large Bulk Fuel Storage Tanks.* Minimize contamination of surface runoff from large bulk fuel storage tanks. Consider containment berms (or their equivalent). You must also comply with applicable State and Federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.

O.4.8 *Spill Reduction Measures.* Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.

O.4.9 *Oil-Bearing Equipment in Switchyards.* Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.

O.4.10 *Residue-Hauling Vehicles.* Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles as soon as identified that are without load covering or adequate gate sealing, or with leaking containers or beds and prior to allowing them to transfer material.

O.4.11 *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before departure of each loaded vehicle.

O.4.12 *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

O.4.13 *Landfills, Scrap yards, Surface Impoundments, General Refuse Sites.* Minimize the potential for contamination of runoff from these areas.

O.5 Additional SWPPP Requirements.

O.5.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).

O.5.2 *Documentation of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures implemented to meet the effluent limits in Part O.4.

O.6 Additional Inspection Requirements.

O.6.1 *Comprehensive Site Compliance Inspection.* (See also Part V.A) As part of your inspection, inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

O.7 Intentionally Left Blank

O.8 Effluent Limitations Based on Effluent Limitations Guidelines.
Discharges from coal storage piles at Steam Electric Generating Facilities are required to meet specific effluent limits (40 CFR Part 423) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector P – Land Transportation and Warehousing.

P.1 Covered Stormwater Discharges.

The requirements in Sector P apply to stormwater discharges associated with industrial activity from Land Transportation and Warehousing facilities as identified by the SIC Codes specified under Sector P in Appendix A of the permit.

P.2 Limitation on Coverage.

P.2.1 *Prohibited Discharges* (See also Part I.C Limitations on Coverage) This permit does not authorize the discharge of vehicle/equipment/surface washwater, including tank cleaning operations. Such discharges must be authorized under a separate NPDES/State discharge permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or recycled on-site.

P.3 Additional Technology-Based Effluent Limits.

P.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii) In addition to the Good Housekeeping requirements in Part III.B.1, you must do the following. Recommended control measures are discussed as indicated:

P.3.1.1 *Vehicle and Equipment Storage Areas.* Minimize the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance. Consider the following (or other equivalent measures): use of drip pans under vehicles/equipment, indoor storage of vehicles and equipment, installation of berms or dikes, use of absorbents, roofing or covering storage areas, and cleaning pavement surfaces to remove oil and grease.

P.3.1.2 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or other equivalent measures): Covering the fueling area; using spill/overflow protection and cleanup equipment; minimizing stormwater run-on/runoff to the fueling area; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

P.3.1.3 *Material Storage Areas.* Maintain all material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., “Used Oil,” “Spent Solvents,” etc.). Consider the following (or other equivalent measures): storing the materials indoors; installing berms/dikes around the areas; minimizing runoff of stormwater to the areas; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

P.3.1.4 *Vehicle and Equipment Cleaning Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment cleaning. Consider the following (or other equivalent measures): performing all cleaning operations indoors; covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the stormwater drainage system); treating and/or recycling collected washwater, or other equivalent measures.

P.3.1.5 *Vehicle and Equipment Maintenance Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment maintenance. Consider the following (or other equivalent measures): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to stormwater drainage systems; using dry cleanup methods; treating and/or recycling collected stormwater runoff, minimizing run on/runoff of stormwater to maintenance areas.

P.3.1.6 *Locomotive Sanding (Loading Sand for Traction) Areas.* Consider the following (or other equivalent measures): covering sanding areas; minimizing stormwater run on/runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by stormwater.

P.3.2 *Employee Training.* (See also Part III.B.1.b.ix) Train personnel at least once a year and address the following activities, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.

P.4 Additional SWPPP Requirements.

P.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: Fueling stations; vehicle/equipment maintenance or cleaning areas; storage areas for vehicle/equipment with actual or potential fluid leaks; loading/unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; and storage areas.

P.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Assess the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: Onsite waste storage or disposal; dirt/gravel parking areas for vehicles awaiting maintenance; illicit plumbing connections between shop floor drains and the stormwater conveyance system(s); and fueling areas. Describe these activities in the SWPPP.

P.4.3 *Description of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures you implement consistent with Part P.3.

P.4.4 *Vehicle and Equipment Washwater Requirements.* (See also Part III.C.3.d: Non-Stormwater Discharges) If applicable, attach to or reference in your SWPPP, a copy of the NPDES/State discharge permit issued for vehicle/equipment washwater or, if an NPDES/ State discharge permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a local pretreatment program, attach a copy to your SWPPP. In any case, implement all non-stormwater discharge permit conditions or pretreatment conditions in your SWPPP. If washwater is handled in another manner (e.g., hauled offsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in the plan.

P.5 Additional Inspection Requirements. (See also Part V.A) Inspect all the following areas/activities: storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas.

Sector Q – Water Transportation.

Q.1 Covered Stormwater Discharges.

The requirements in Sector Q apply to stormwater discharges associated with industrial activity from Water Transportation facilities as identified by the SIC Codes specified under Sector Q in Appendix A of the permit. Note that marinas (SIC 4493) are covered by a separate general permit, Maryland General Permit No. 16-MA or replacement.

Q.2 Limitations on Coverage.

Q.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Not covered by this permit: bilge and ballast water, sanitary wastes, pressure wash water, and cooling water originating from vessels.

Q.3 Additional Technology-Based Effluent Limits.

Q.3.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to the requirements of Part III.B.1.b.ii:

Q.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate NPDES/State discharge permit. Collect or contain the discharges from the pressures washing area so that they are not co-mingled with stormwater discharges authorized by this permit.

Q.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharge into receiving waters or the storm sewer systems. Consider containing all blasting and painting activities or use other measures to minimize the discharge of contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

Q.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. Specify which materials are stored indoors, and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

Q.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

Q.3.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing runoff of stormwater to material handling areas.

Q.3.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, and fuel spills

occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding and making absorbent materials and oil containment booms readily available to clean up or contain any spills.

Q.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

Q.3.3 *Preventive Maintenance.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

Q.4 Additional SWPPP Requirements.

Q.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance and repair; vessel maintenance and repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

Q.4.2 *Summary of Potential Pollutant Sources.* (See also Part III.C.3) Document in the SWPPP the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting.)

Q.5 Additional Inspection Requirements.

(See also Part V.A) Include the following in all quarterly routine facility inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Q.6 Sector-Specific Benchmarks.

Table Q-1 identifies benchmarks that apply to Sector Q. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table Q-1 - Subsector Q1 Benchmarks (Water Transportation Facilities SIC 4412-4499)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must

determine the hardness of the receiving water per Appendix C.

Sector R – Ship and Boat Building and Repair Yards.

R.1 Covered Stormwater Discharges.

The requirements in Sector R apply to stormwater discharges associated with industrial activity from Ship and Boat Building and Repair Yards as identified by the SIC Codes specified under Sector R in Appendix A of the permit.

R.2 Limitations on Coverage.

R.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Discharges containing bilge and ballast water, sanitary wastes, pressure wash water, and cooling water originating from vessels are not covered by this permit.

R.3 Additional Technology-Based Effluent Limits.

R.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

R.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharged water must be permitted as a process wastewater by a separate NPDES/State discharge permit.

R.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharging into the receiving water or the storm sewer systems. Consider containing all blasting and painting activities, or use other measures to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

R.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

R.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

R.3.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater run-on to material handling areas.

R.3.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Clean accessible areas of the drydock prior to flooding and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to clean up and contain any spills.

R.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of

spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

R.3.4 *Preventive Maintenance.* (See also Part III.B.1.b.iii) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

R.4 Additional SWPPP Requirements.

R.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance or repair; vessel maintenance or repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; treatment, storage, and waste disposal areas; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

R.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).

R.4.3 *Documentation of Good Housekeeping Measures.* Document in your SWPPP any good housekeeping measures implemented to meet the effluent limits in Part R.3.

R.4.3.1 *Blasting and Painting Areas.* Document in the SWPPP any standard operating practices relating to blasting and painting (e.g., prohibiting uncontained blasting and painting over open water or prohibiting blasting and painting during windy conditions, which can render containment ineffective).

R.4.3.2 *Storage Areas.* Specify in your SWPPP which materials are stored indoors, and consider containment or enclosure for those stored outdoors.

R.5 Additional Inspection Requirements.

(See also Part V.A) Include the following in all quarterly routine facility inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

R.6 Sector-Specific Benchmarks.

Table R-1 identifies benchmarks that apply to Sector R. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table R-1 - Subsector R1 Benchmarks (Ship and Boat Building or Repairing Yards for SIC 3731, 3732)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Recoverable Aluminum	1.1	mg/L	1/quarter	Grab
Total Lead (freshwater)[1]	0.082	mg/L	1/quarter	Grab
Total Lead (saltwater)	0.21	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab

Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector S – Air Transportation.

S.1 Covered Stormwater Discharges.

The requirements in Sector S apply to stormwater discharges associated with industrial activity from Air Transportation facilities identified by the SIC Codes specified under Sector S in Appendix A of the permit.

S.2 Limitation on Coverage

S.2.1 *Limitations on Coverage.*

S.2.1.1 This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: “deicing” will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and/or deicing activities.

S.2.1.2 Existing and new primary airports with 1,000 or more annual jet departures ("non-propeller aircraft") that generate wastewater associated with airfield pavement deicing using urea-containing deicers must meet a numeric effluent limits for ammonia and are therefore not covered under this general permit.

S.2.2 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage and Part S.3) This permit does not authorize the discharge of aircraft, ground vehicle, runway and equipment washwaters; nor the dry weather discharge of deicing chemicals. Such discharges must be covered by separate NPDES/ State discharge permit(s). Note that a discharge resulting from snowmelt is not a dry weather discharge.

S.3 Additional Technology-Based Effluent Limits.

S.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

S.3.1.1 Aircraft, Ground Vehicle and Equipment Maintenance Areas. Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

S.3.1.2 Aircraft, Ground Vehicle and Equipment Cleaning Areas. (See also Part S.3.6) Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.

S.3.1.3 Aircraft, Ground Vehicle and Equipment Storage Areas. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and minimize the contamination of stormwater runoff from these storage areas. Consider the following control measures, including any BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.

S.3.1.4 Material Storage Areas. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., “used oil,” “Contaminated Jet A,” etc.). Minimize contamination of precipitation/runoff from these areas. Consider the following control measures (or their equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.

S.3.1.5 Airport Fuel System and Fueling Areas. Minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following control measures (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff.

S.3.1.6 Source Reduction. Minimize, and where feasible eliminate, the use of urea and glycol-based deicing chemicals, in order to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

S.3.1.6.1 Runway Deicing Operation: Minimize contamination of stormwater runoff from runways as a result of deicing operations. Evaluate whether over-application of deicing chemicals occurs by analyzing application rates, and adjust as necessary, consistent with considerations of flight safety. Also consider these control measure options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup.

S.3.1.6.2 Aircraft Deicing Operations. Minimize contamination of stormwater runoff from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. This evaluation should be carried out by the personnel most familiar with the particular aircraft and flight operations in question (versus an outside entity such as the airport authority). Consider using alternative deicing/anti-icing agents as well as containment measures for all applied chemicals. Also consider these control measure options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.

S.3.1.7 Management of Runoff. (See also Part III.C.4) Where deicing operations occur, implement a program to control or manage contaminated runoff to minimize the amount of pollutants being discharged from the site. Consider these control measure options (or their equivalents): a dedicated deicing facility with a runoff collection/ recovery system; using vacuum/collection trucks; storing contaminated stormwater/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of stormwater contamination. Used deicing fluid should be recycled whenever possible.

S.3.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December- February, October - March, etc.) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season.

S.4 Additional SWPPP Requirements.

An airport authority and tenants of the airport are encouraged to work in partnership in the development of a SWPPP. If an airport tenant obtains authorization under this permit and develops a SWPPP for discharges from his own areas of the airport, prior to authorization, that SWPPP must be coordinated and integrated with the SWPPP for the entire airport. Tenants of the airport facility include air passenger or cargo companies, fixed

based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity.

S.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

S.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) In your inventory of exposed materials, describe in your SWPPP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If you use deicing chemicals, you must maintain a record of the types (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of your knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion with any comprehensive airport SWPPPs.

S.4.3 *Vehicle and Equipment Washwater Requirements.* Attach to or reference in your SWPPP, a copy of the NPDES/State discharge permit issued for vehicle/equipment washwater or, if an NPDES/State discharge permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a local pretreatment program, include a copy in your SWPPP. In any case, if you are subject to another permit, describe your control measures for implementing all non-stormwater discharge permit conditions or pretreatment requirements in your SWPPP. If washwater is handled in another manner (e.g., hauled offsite, retained onsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in your SWPPP.

S.4.4 *Documentation of Control Measures Used for Management of Runoff:* Document in your SWPPP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

S.5 Additional Inspection Requirements.

S.5.1 *Inspections.* (See also Part V.A) At a minimum conduct routine facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. The Director may specifically require you to increase inspection frequencies.

S.5.2 *Comprehensive Site Inspections.* (See also Part V.A) Using only qualified personnel, conduct your annual site inspection during periods of actual deicing operations, if possible. If not practicable during active deicing because of weather, conduct the inspection during the season when deicing operations occur and the materials and equipment for deicing are in place.

S.6 Sector-Specific Benchmarks.

Table S-1 identifies benchmarks that apply to airports where a single permittee, or a combination of permitted facilities use more than 100,000 gallons of pure glycol in glycol- based deicing fluids and/or 100 tons or more of urea on an average annual basis, monitor the four parameters in ONLY those outfalls that collect runoff from areas where deicing activities occur (SIC 4512-4581).These benchmarks apply to both your primary industrial activity and any co-located industrial activities that are not covered under a separate individual permit for discharge containing these deicing fluids.

Table S-1 - Subsector S1 Benchmarks (Airports using more than 100,000 gallons of deicing glycols based fluids

or 100 tons of urea, on an annual basis for SIC 4512 - 4581)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Biochemical Oxygen Demand (BOD5)[1]	30	mg/L	1/quarter	Grab
Chemical Oxygen Demand (COD) [1]	120	mg/L	1/quarter	Grab
Ammonia[1]	2.14	mg/L	1/quarter	Grab
pH[1]	6.0 – 9.0	s.u.	1/quarter	Grab

[1] These are deicing-related parameters. Collect the four benchmark samples, and any required follow-up benchmark samples, during the timeframe defined in Part V.C.7 when deicing activities are occurring..

S.7 Effluent Limitations Based on Effluent Limitations Guidelines and New Source Performance Standards.

Discharges from runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft are required to meet specific effluent limits (40 CFR Part 423) and are therefore not covered by this permit. You must obtain an individual discharge permit to discharge this type of effluent.

Sector T – Treatment Works.

T.1 Covered Stormwater Discharges.

The requirements in Sector T apply to stormwater discharges associated with industrial activity from Treatment Works as identified by the Activity Code specified under Sector T in Appendix A of the permit.

T.2 Industrial Activities Covered by Sector T.

The requirements listed under this part apply to all existing point source stormwater discharges associated with the following activities:

T.2.1 Treatment works treating domestic sewage, or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge; that are located within the confines of a facility with a design flow of 1.0 million gallons per day (MGD) or more; or are required to have an approved pretreatment program under 40 CFR Part 403.

T.2.2 The following are not required to have permit coverage: farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located within the facility, or areas that are in compliance with Section 405 of the CWA.

T.3 Limitations on Coverage.

T.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) Sanitary and industrial wastewater and equipment and vehicle washwater are not authorized by this permit.

T.4 Additional Technology-Based Effluent Limits.

T.4.1 *Control Measures.* (See also Part III.C.4) In addition to the other control measures, consider the following: routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

T.4.2 *Employee Training.* (See also Part III.B.1.b.ix) At a minimum, training must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

T.5 Additional SWPPP Requirements.

T.5.1 *Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

T.5.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads and rail lines.

T.5.3 *Wastewater and Washwater Requirements.* Keep a copy of all your current NPDES/ State discharge permits issued for wastewater and industrial, vehicle and equipment washwater discharges or, if an NPDES/ State discharge permit has not yet been issued, a copy of the pending application(s) with your SWPPP. If the washwater is handled in another manner, the disposal method must be described and all pertinent documentation must be retained onsite.

T.6 Additional Inspection Requirements.

(See also Part V.A) Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

Sector U – Food and Kindred Products.

U.1 Covered Stormwater Discharges.

The requirements in Sector U apply to stormwater discharges associated with industrial activity from Food and Kindred Products facilities as identified by the SIC Codes specified in Appendix A of the permit.

U.2 Limitations on Coverage.

U.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following discharges are not authorized by this permit: discharges containing boiler blowdown, cooling tower overflow and blowdown, ammonia refrigeration purging, and vehicle washing and clean-out operations.

U.3 Additional Technology-Based Limitations.

U.3.1 *Employee Training.* (See also Part III.B.1.b.ix) Address pest control in your employee training program.

U.4 Additional SWPPP Requirements.

U.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP the locations of the following activities if they are exposed to precipitation or runoff: vents and stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

U.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides) used on plant grounds.

U.5 Additional Inspection Requirements.

(See also Part V.A) Inspect on a quarterly basis, at a minimum, the following areas where the potential for exposure to stormwater exists: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

U.6 Sector-Specific Benchmarks

These tables are for two subsectors of Food and Kindred Products. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table U-1 - Subsector U1. Grain Mill Products (SIC 2041-2048)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Table U-2 - Subsector U2. Fats and Oils Products (SIC 2074-2079)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Biochemical Oxygen Demand (BOD5)	30	mg/L	1/quarter	Grab
Chemical Oxygen Demand (COD)	120	mg/L	1/quarter	Grab
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Suspended Solids (TSS)	100	mg/L	1/quarter	Grab

Sector V – Textile Mills, Apparel, and Other Fabric Products.

V.1 Covered Stormwater Discharges.

The requirements in Sector V apply to stormwater discharges associated with industrial activity from Textile Mills, Apparel, and Other Fabric Product manufacturing as identified by the SIC Codes specified under Sector V in Appendix A of the permit.

V.2 Limitations on Coverage.

V.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not authorized by this permit: discharges of wastewater (e.g., wastewater resulting from wet processing or from any processes relating to the production process), reused or recycled water, and waters used in cooling towers. If you have these types of discharges from your facility, you must cover them under a separate NPDES/State discharge permit.

V.2.2 *Prohibition of Certain Stormwater Discharges.* (See also Part I.C Limitations on Coverage) The following are not authorized by this permit from owner or operator who uses benzidine-based dyes in the dyeing textiles: All discharges of wastes containing benzidine from the manufacturing areas, loading and unloading areas, storage areas, and other areas subject to direct contamination by benzidine or benzidine-containing product as a result of the manufacturing process, including but not limited to:: stormwater and other runoff; and water used for routine cleanup or cleanup of spills. These limitations do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of benzidine; or to stormwater runoff that exceeds that from the ten-year 24-hour rainfall event. If you have these types of discharges from your facility, you must cover them under a separate NPDES/State discharge permit.

V.3 Additional Technology-Based Limitations.

V.3.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

V.3.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, and dyes) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums or containers, ensure that the drums and containers are clean (consider triple-rinsing) and that there is no contact of residuals with precipitation or runoff. Collect and dispose of washwater from these cleanings properly.

V.3.1.2 *Material Handling Areas.* Minimize contamination of stormwater runoff from material handling operations and areas. Consider the following (or their equivalents): use of spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of material may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals, dyes, or wastewater.

V.3.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing run-on of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

V.3.1.4 *Above-Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; including measures for tanks, piping and valves explicitly in your SPCC program; minimizing runoff of stormwater from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

V.3.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): use of reused and recycled waters, solvents management, proper disposal of dyes, proper disposal of petroleum products and spent lubricants, spill prevention and control, fueling procedures, and general good housekeeping practices.

V.4 Additional SWPPP Requirements.

V.4.1 *Potential Pollutant Sources. (See also Part III.C.3) Document in your SWPPP the following additional sources* and activities that have potential pollutants associated with them: industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).

V.4.2 *Description of Good Housekeeping Measures for Material Storage Areas.* Document in the SWPPP your containment area or enclosure for materials stored outdoors in connection with Part V.3.1.1 above.

V.5 Additional Inspection Requirements.

(See also Part V.A) Inspect, at least monthly, the following activities and areas (at a minimum): transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, and all structural and nonstructural management practices.

Sector W – Furniture and Fixtures.

W.1 Covered Stormwater Discharges.

The requirements in Sector W apply to stormwater discharges associated with industrial activity from Furniture and Fixtures facilities as identified by the SIC Codes specified under Sector W in Appendix A of the permit.

W.2 Additional SWPPP Requirements.

W.2.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed of; access roads; and rail spurs.

Sector X – Printing and Publishing.

X.1 Covered Stormwater Discharges.

The requirements in Sector X apply to stormwater discharges associated with industrial activity from Printing and Publishing facilities as identified by the SIC Codes specified under Sector X in Appendix A of the permit.

X.2 Additional Technology-Based Effluent Limits.

X.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

X.2.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, hazardous waste, empty drums, portable and mobile containers of plant debris, wood crates, steel racks, and fuel oil) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.

X.2.1.2 *Material Handling Area.* Minimize contamination of stormwater runoff from material handling operations and areas (e.g., blanket wash, mixing solvents, loading and unloading materials). Consider the following (or their equivalents): using spill and overflow protection, covering fueling areas, and covering or enclosing areas where the transfer of materials may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals or wastewater.

X.2.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

X.2.1.4 *Above Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regularly cleaning these areas, explicitly addressing tanks, piping and valves in the SPCC program, minimizing stormwater runoff from adjacent areas, restricting access to the area, inserting filters in adjacent catch basins, providing absorbent booms in unbermed fueling areas, using dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

X.2.2 *Employee Training.* (See also Part III.B.1.b.ix) As part of your employee training program, address, at a minimum, the following activities (as applicable): spent solvent management, spill prevention and control, used oil management, fueling procedures, and general good housekeeping practices.

X.3 Additional SWPPP Requirements.

X.3.1 *Description of Good Housekeeping Measures for Material Storage Areas.* In connection with Part X.2.1.1, describe in the SWPPP the containment area or enclosure for materials stored outdoors.

Sector Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries.

Y.1 Covered Stormwater Discharges.

The requirements in Sector Y apply to stormwater discharges associated with industrial activity from Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries facilities as identified by the SIC Codes specified under Sector Y in Appendix A of the permit.

Y.2 Additional Technology-Based Effluent Limits.

Y.2.1 *Controls for Rubber Manufacturers.* (See also Part III.C.4) Minimize the discharge of zinc in your stormwater discharges. Parts Y.2.1.1 to Y.2.1.5 give possible sources of zinc to be reviewed and list some specific control measures to be considered for implementation (or their equivalents). Following are some general control measure options to consider: using chemicals purchased in pre-weighed, sealed polyethylene bags; storing in-use materials in sealable containers, ensuring an airspace between the container and the cover to minimize “puffing” losses when the container is opened, and using automatic dispensing and weighing equipment.

Y.2.1.1 *Zinc Bags.* Ensure proper handling and storage of zinc bags at your facility. Following are some control measure options: employee training on the handling and storage of zinc bags, indoor storage of zinc bags, cleanup of zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

Y.2.1.2 *Dumpsters.* Minimize discharges of zinc from dumpsters. Following are some control measure options: covering the dumpster, moving the dumpster indoors, or providing a lining for the dumpster.

Y.2.1.3 *Dust Collectors and Baghouses.* Minimize contributions of zinc to stormwater from dust collectors and baghouses. Replace or repair, as appropriate, improperly operating dust collectors and baghouses.

Y.2.1.4 *Grinding Operations.* Minimize contamination of stormwater as a result of dust generation from rubber grinding operations. One control measure option is to install a dust collection system.

Y.2.1.5 *Zinc Stearate Coating Operations.* Minimize the potential for stormwater contamination from drips and spills of zinc stearate slurry that may be released to the storm drain. One control measure option is to use alternative compounds to zinc stearate.

Y.2.2 *Controls for Plastic Products Manufacturers.* Minimize the discharge of plastic resin pellets in your stormwater discharges. Control measures to be considered for implementation (or their equivalents) include minimizing spills, cleaning up of spills promptly and thoroughly, sweeping thoroughly, pellet capturing, employee education, and disposal precautions.

Y.3 Additional SWPPP Requirements.

Y.3.1 *Potential Pollutant Sources for Rubber Manufacturers.* (See also Part III.C.3) Document in your SWPPP the use of zinc at your facility and the possible pathways through which zinc may be discharged in stormwater runoff.

Y.4 Sector-Specific Benchmarks

Table Y-1 identifies benchmarks that apply to Sector Y. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table Y-1 - Subsector Y1 Benchmarks (Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting, Fabricated Rubber Products, Not Elsewhere

Classified for SIC 3011, 3021, 3052, 3053, 3061, 3069)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector Z – Leather Tanning and Finishing.

Z.1 Covered Stormwater Discharges.

The requirements in Sector Z apply to stormwater discharges associated with industrial activity from Leather Tanning and Finishing facilities as identified by the SIC Code specified under Sector Z in Appendix A of the permit.

Z.2 Limitations on Coverage.

Prohibition of Certain Stormwater Discharges. (See also Part I.C Limitations on Coverage) The following are not authorized by this permit from owner or operator who uses benzidine-based dyes in the dyeing leather: All discharges of wastes containing benzidine from the manufacturing areas, loading and unloading areas, storage areas, and other areas subject to direct contamination by benzidine or benzidine-containing product as a result of the manufacturing process, including but not limited to:: stormwater and other runoff; and water used for routine cleanup or cleanup of spills. These limitations do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of benzidine; or to stormwater runoff that exceeds that from the ten-year 24-hour rainfall event. If you have these types of discharges from your facility, you must cover them under a separate NPDES/State discharge permit.

Z.3 Additional Technology-Based Effluent Limits.

Z.3.3 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

Z.3.3.1 *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products.* Minimize contamination of stormwater runoff from pallets and bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings). Consider indoor storage or protection with polyethylene wrapping, tarpaulins, roofed storage, etc. Consider placing materials on an impermeable surface and enclosing or putting berms (or equivalent measures) around the area to prevent stormwater run-on and runoff.

Z.3.3.2 *Material Storage Areas.* Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials) minimize contact of such materials with stormwater.

Z.3.3.3 *Buffing and Shaving Areas.* Minimize contamination of stormwater runoff with leather dust from buffing and shaving areas. Consider dust collection enclosures, preventive inspection and maintenance programs, or other appropriate preventive measures.

Z.3.3.4 *Receiving, Unloading, and Storage Areas.* Minimize contamination of stormwater runoff from receiving, unloading, and storage areas. If these areas are exposed, consider the following (or their equivalents): covering all hides and chemical supplies, diverting drainage to the process sewer, or grade berming or curbing the area to prevent stormwater runoff.

Z.3.3.5 *Outdoor Storage of Contaminated Equipment.* Minimize contact of stormwater with contaminated equipment. Consider the following (or their equivalents): covering equipment, diverting drainage to the process sewer, and cleaning thoroughly prior to storage.

Z.3.3.6 *Waste Management.* Minimize contamination of stormwater runoff from waste storage areas. Consider the following (or their equivalents): covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulins or polyethylene, and minimizing stormwater runoff by enclosing the area or building berms around the area.

Z.4 Additional SWPPP Requirements.

Z.4.1 *Drainage Area Site Map.* (See also Part III.C.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations.

Z.4.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine-cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings, and shavings.

Sector AA – Fabricated Metal Products.

AA.1 Covered Stormwater Discharges.

The requirements in Sector AA apply to stormwater discharges associated with industrial activity from Fabricated Metal Products facilities as identified by the SIC Codes specified under Sector AA in Appendix A of the permit.

AA.2 Additional Technology-Based Effluent Limits.

AA.2.1 *Good Housekeeping Measures.* (See also Part III.B.1.b.ii)

AA.2.1.1 *Raw Steel Handling Storage.* Minimize the generation of and/or recover and properly manage scrap metals, fines, and iron dust. Include measures for containing materials within storage handling areas.

AA.2.1.2 *Paints and Painting Equipment.* Minimize exposure of paint and painting equipment to stormwater.

- Conduct outdoor painting over a suitable groundcover (i.e., tarp) to capture any residuals.
- Paint mixing, solvent transfer, and equipment cleanup operations must be contained, and shall not enter floor or storm drains or the environment.

AA.2.2 *Spill Prevention and Response Procedures.* (See also Part III.B.1.b.iv) Ensure that the necessary equipment to implement a cleanup is available to personnel, so that immediate clean-up is possible. The following areas should be addressed

AA.2.2.1 *Metal Fabricating Areas.* Maintain clean, dry, orderly conditions in these areas. Consider using dry clean-up techniques.

AA.2.2.2 *Storage Areas for Raw Metal.* Keep these areas free of conditions that could cause, or impede appropriate and timely response to, spills or leakage of materials. Consider the following (or their equivalents): maintaining storage areas so that there is easy access in the event of a spill, and labeling stored materials to aid in identifying spill contents.

AA.2.2.3 *Metal Working Fluid Storage Areas.* Minimize the potential for stormwater contamination from storage areas for metal working fluids.

AA.2.2.4 *Cleaners and Rinse Water.* Control and clean up spills of solvents and other liquid cleaners, control sand buildup and disbursement from sand-blasting operations, and prevent exposure of recyclable wastes. Substitute environmentally benign cleaners when possible.

AA.2.2.5 *Lubricating Oil and Hydraulic Fluid Operations.* Minimize the potential for stormwater contamination from lubricating oil and hydraulic fluid operations. Consider using monitoring equipment or other devices to detect and control leaks and overflows. Consider installing perimeter controls such as dikes, curbs, grass filter strips, or equivalent measures.

AA.2.2.6 *Chemical Storage Areas.* Minimize stormwater contamination and accidental spillage in chemical storage areas. Include a program to inspect containers and identify proper disposal methods.

AA.2.2.7 *Blasting Operations.* Capture airborne particles by performing operations inside permanent structures or temporary protective measures such as drop cloths and shrouding secured around the activity. A suitable ground cover (i.e., tarp, rubber mat) should be placed under activity area in order to collect any debris, followed by proper disposal, to minimize potential to minimize stormwater contamination.

AA.2.3 *Spills and Leaks.* (See also Part III.C.3.c) In your spill prevention and response procedures, required by Part III.B.1.b.iv, pay attention to the following materials (at a minimum): chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals, and hazardous chemicals and wastes.

AA.3 Additional SWPPP Requirements.

AA.3.1 *Drainage Area Site Map.* (See also Part III.C.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary and permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps and barriers; processing areas, including outside painting areas; wood preparation; recycling; and raw material storage.

AA.3.2 *Potential Pollutant Sources.* (See also Part III.C.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals, and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cobs, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, and brazing; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingot pieces, and refuse and waste piles.

AA.4 Additional Inspection Requirements

AA.4.1 *Inspections.* (See also Part V.A) At a minimum, include the following areas in all inspections: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, and vehicle fueling and maintenance areas.

AA.4.2 *Comprehensive Site Inspections.* (See also Part V.A) As part of your inspection, also inspect areas associated with the storage of raw metals, spent solvents and chemicals storage areas, outdoor paint areas, and drainage from roof. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and related materials.

AA.5 Sector-Specific Benchmarks.

Table AA-1 identifies benchmarks that apply to Sector AA. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table AA-1 - Sector AA Benchmarks (Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services, Jewelry, Silverware, and Plated Ware)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Total Zinc (freshwater)[1]	0.12	mg/L	1/quarter	Grab
Total Zinc (saltwater)	0.09	mg/L	1/quarter	Grab

[1] The benchmark values of some metals are dependent on water hardness. For these parameters, you must determine the hardness of the receiving water per Appendix C.

Sector AB – Transportation Equipment, Industrial or Commercial Machinery Facilities.

AB.1 Covered Stormwater Discharges.

The requirements in Sector AB apply to stormwater discharges associated with industrial activity from Transportation Equipment, Industrial or Commercial Machinery facilities as identified by the SIC Codes specified under Sector AB in Appendix A of the permit.

AB.2 Additional SWPPP Requirements.

Drainage Area Site Map. (See also Part III.C.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: vents and stacks from metal processing and similar operations.

Sector AC –Electronic and Electrical Equipment and Components, Photographic and Optical Goods.

AC.1 Covered Stormwater Discharges.

The requirements in Sector AC apply to stormwater discharges associated with industrial activity from facilities that manufacture Electronic and Electrical Equipment and Components, Photographic and Optical goods as identified by the SIC Codes specified in Appendix A of the permit.

AC.2 Limitations on Coverage.

Prohibition of Certain Stormwater Discharges. (See also Part I.C Limitations on Coverage) The following are not authorized by this permit from manufacturers of either electrical capacitors or electrical transformers, who produce the product in which Polychlorinated Biphenyls (PCB) or Polychlorinated Biphenyls (PCB)-containing compounds are part of the dielectric: All discharges from the manufacturing or incineration areas, loading and unloading areas, storage areas and other areas which are subject to direct contamination by PCBs as a result of the manufacturing process, including but not limited to: stormwater and other runoff; and water used for routine cleanup or cleanup of spills. These limitations do not apply to stormwater runoff or other discharges from areas subject to contamination solely by fallout from air emissions of PCBs; or to stormwater runoff that exceeds that from the ten-year 24-hour rainfall event.

Sector AD.a – Department of Public Works and Highway Maintenance Facilities.

AD.a.1 Covered Stormwater Discharges.

The requirements are for the fleet and equipment maintenance at Public Works and Highway Maintenance Operations in Sector AD.a apply to stormwater discharges associated with industrial activity from Department of Public Works and Highway Maintenance facilities as identified by the SIC Codes specified under Sector AD.a in Appendix A of the permit.

AD.a.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements listed for Sector P - Land Transportation and Warehousing. Any dewatering of either street sweeping or storm drain inlet cleaning debris must drain either to sanitary sewer or be collected and hauled to a treatment facility. Any storage of material must be protected from stormwater by either roof or temporary measures such as tarps.

AD. a.3 Sector-Specific Benchmarks.

Table AD.a.-1 identifies benchmarks that apply to Sector AD.a, whose operations include storage of street sweeping or storm drain inlet cleaning debris left uncovered. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 1 - Subsector AD.a1 Benchmarks required for stormwater that has come into contact with street sweeping or storm drain inlet cleaning debris

PARAMETER	Benchmark	Units	Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	0.68	mg/L	1/quarter	Grab
Phosphorus	2	mg/L	1/quarter	Grab
TSS	100	mg/L	1/quarter	Grab

Sector AD.b – School Bus Maintenance Facilities.

AD.b.1 Covered Stormwater Discharges.

The requirements in Sector AD.b apply to stormwater discharges associated with industrial activity from School Bus Maintenance facilities as identified by the SIC Codes specified under Sector AD.b in Appendix A of the permit.

AD.b.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements listed for Sector P - Land Transportation and Warehousing.

Sector AD.d – Salt Terminals.

AD.d.1 Covered Stormwater Discharges.

The requirements in Sector AD.d apply to stormwater discharges associated with industrial activity from Salt Terminal as identified by the SIC Codes specified under Sector AD.d in Appendix A of the permit.

AD.d.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements as they apply to your operation listed for Sector P - Land Transportation and Warehousing or for Sector Q: Water Transportation.

AD.d.3 Additional Technology-Based Effluent Limits.

Salt Storage Piles or Piles Containing Salt.(See also Part III.B.1.b.vii) Enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. This requirement is inclusive of all staged piles containing salt, where "staged" indicates that there is no planned salt movement (either being added to, or shipped off) within the next 2 months. Implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile.

AD. d.4 Sector-Specific Reporting.

Table AD.d.-1 identifies monitoring and reporting requirements that apply to Sector AD.d, when piles are not covered between April and September, and therefore exposed to stormwater. In these cases monitoring and reporting are required, using the benchmark techniques as described in Part V of the permit, including "substantially identical outfall". The monitoring must include the parameters in the following table. However, unlike the benchmarks, this monitoring condition continues for the duration of the permit. This monitoring is in addition to the required visual monitoring of the permit. These reporting requirements apply to all outfalls associated with this activity. Since terminal outfalls are often below the surface of the water, or contain commingled stormwater flows, the samples for drainage from salt piles will be taken at the stormdrain inlet(s).

Table AD.d-1 - Sector AD.d Reporting (Salt Terminals)

PARAMETER	Benchmark	Units	Frequency	Sample Type
Flow	Report	GPD	2/year[1]	Estimate[2]
Chloride	Report	mg/L	2/year[1]	Grab
Free Amenable Cyanide	Report	mg/L	2/year[1]	Grab
Iron	Report	mg/L	2/year[1]	Grab

[1] When piles are not covered between April and September, and therefore exposed to stormwater, quarterly monitoring and reporting is required.

[2] An estimated flow in (gallons per day) will be reported based on the volume (gallons) of runoff from the first hour of rain must also be calculated and reported, based on the rain quantity x area of storage of uncovered pile(s). The volume may be estimated based on a local rain gauge on site, or a relatively local weather station. This flow may be used by the Department calculate potential loading of salt into the receiving waters.

Sector AD.e – Inactive Landfills.

AD.e.1 Covered Stormwater Discharges.

The requirements in Sector AD.b apply to stormwater discharges associated with industrial activity from inactive landfills as identified by the Activity Code specified under Sector AD.e in Appendix A of the permit.

AD.e.2 Additional SWPPP Requirements.

In addition to the requirements of Part III, the SWPPP shall include, at a minimum, the requirements listed for Sector L - Landfills and Land Application Sites.

Sector AD – Stormwater Discharges Designated by the Department as Requiring Permits.

AD.1 Covered Stormwater Discharges.

Sector AD is used to provide permit coverage for facilities designated by the Department as needing a stormwater permit, and any discharges of stormwater associated with industrial activity that do not meet the description of an industrial activity covered by Sectors A-AC.

AD.1 *Eligibility for Permit Coverage.* Because this sector is primarily intended for use by discharges designated by the Department as needing a stormwater permit (which is an atypical circumstance), and your facility may or may not normally be discharging stormwater associated with industrial activity, you must obtain the Department's written permission to use this permit prior to submitting an NOI. If you are authorized to use this permit, you will still be required to ensure that your discharges meet the basic eligibility provisions in Part I of this permit.

AD.2 Sector-Specific Benchmarks and Effluent Limits. (See also Part V of the permit.)

The Department will establish any additional monitoring and reporting requirements for your facility prior to authorizing you to be covered by this permit. Additional monitoring requirements would be based on the nature of activities at your facility and your stormwater discharges.

Appendix E: Definitions & Acronyms

The Definitions provided in this Appendix E are for reference. Where State or Federal law provides more stringent applicable definitions, the more stringent requirements prevail.

a. Definitions

Accounting Guidance – The Department's 'Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated' dated June 2011, or its replacement, excluding section 9, entitled "Alternative BMPs for Consideration". Available at https://mdewwp.page.link/ChesBayGuidance.

Action Area – all areas to be affected directly or indirectly by the stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities, and not merely the immediate area involved in these discharges and activities.

Appropriate Demonstration – for purposes of this permit, this means the submission of information sufficient to demonstrate a clear and immovable impediment to completing a required action.

Base Flood Elevation (BFE) - the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year, also known as the "100-year flood plain", as determined by U.S. Federal Emergency Management Administration mapping tool available at https://msc.fema.gov/portal/search.

Best Management Practices (BMPs) –activities, practices, prohibited practices, structures, vegetation, maintenance procedures, and other management practices that prevent or reduce the Discharge of Pollutants to Waters of the State. BMPs include treatment requirements, operating procedures, and other practices that control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Cationic Chemical Additive – Chemical Additives that contain an overall positive charge. Among other things, they are used to reduce turbidity in stormwater discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Common examples of cationic treatment chemicals are chitosan and cationic PAM.

Chemical Additive - waste water treatment chemicals or products added to water prior to discharge, such as polymers or flocculants. Additives are added to the water so that the discharge water is in compliance with the permit limits.

Co-located Industrial Activities – Any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations or identified by the SIC code list in Appendix A.

Control Measure – refers to any BMP or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to Waters of the State.

Department - the Maryland Department of the Environment.

Design Manual - the "Maryland Stormwater Design Manual, Volumes I & II (Design Manual)", available at https://mdewwp.page.link/MDSWDesign or its replacement. The Design Manual contains information regarding Stormwater Management principles, methods, and practices for new development, redevelopment, retrofits and restoration including ESD.

Discharge - the (a) addition, introduction, leaking, spilling, or emitting of a Pollutant into the Waters of the State; or (b) placing of a Pollutant in a location where the Pollutant is likely to pollute.

Discharge of a Pollutant – any addition of any "pollutant" or combination of pollutants to "Waters of the State" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being

used as a means of transportation. This includes additions of pollutants into waters of this State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

Discharge-Related Activities – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

Discharge Monitoring Report - the form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by Permittees.

Effluent Limitation - for the purposes of this permit, any of the Part III.A and Part III.B requirements.

Effluent Limitations Guideline (ELG) – defined in 40 CFR § 122.2 as a regulation published by the EPA Administrator under section 304(b) of CWA to adopt or revise effluent limitations.

EJScore – for purposes of this permit, the environmental justice score is obtained by using the mapping tool developed by the University of Maryland (Dr. Sacoby Wilson and Jan-Michael Archer) as an EJ screening tool (https://p1.cgis.umd.edu/ejscreen/). This permit memorializes the results of the tool from October 2021 with exported shapefiles of census tracts with an EJScore of >=0.76. Those census tracts are the communities with a 0.76 or above EJScore and represent the communities that are confronted with environmental justice concerns that are more significant than 76 percent of other census tracts in Maryland.

EPA Approved or Established Total Maximum Daily Loads (TMDLs) – "EPA Approved TMDLs" are those that are developed by a State and approved by EPA. "EPA Established TMDLs" are those that are developed by EPA.

Existing Discharger – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

Feasible – for the purposes of this permit, feasible means technologically possible and economically practicable and achievable in light of best industry practices.

Facility or Activity – any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

General permit - a State discharge permit issued for a class of dischargers.

Grab sample - an individual sample collected in less than 15 minutes.

Groundwater - underground water in a zone of saturation.

Hardness Dependent - refers to benchmark values for some metals that are determined as a function of hardness (in units of mg/L) in water. For these parameters, permittees whose discharges exceed the lowest benchmark level of the metal must determine the hardness of the receiving water (see Appendix C), to identify the benchmark value applicable to their facility.

Hazardous Waste – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

Hazardous Substance – any substance, liquid, solid, or contained gas that

a. is defined as a hazardous substance under § 101(14) of CERCLA,
b. is identified as a controlled hazardous substance by the Department in COMAR, or
c. has properties that are dangerous or potentially harmful to human health or the environment.

Impaired Water (or "**Water Quality Impaired Water**") – a body of water identified by the Department or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 CFR 30.2(j)). Impaired waters include both

waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established. Impaired waters compilations are included in Maryland's most current List of Impaired Surface Waters as Category 4a, 4b, 4c or 5 waterbodies.

Impervious Surface - any surface that does not allow stormwater to infiltrate into the ground, including any area that is paved or used for vehicular storage or traffic, building rooftops, sidewalks, driveways, etc. The surfaces considered impervious for nutrient reduction requirements are further specified in Part III.A of the permit.

Industrial Activity – the 10 categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity" as defined below and in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Stormwater – stormwater runoff from industrial activity.

Infeasible – there is a site-specific constraint making it not technologically possible, or not economically practicable and achievable in light of best industry practices, to achieve the required control measures on-site. The burden is on the permittee to demonstrate to the permitting authority that the requirement is infeasible.

Leachate – liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

Measured flow - any method of liquid volume measurement; the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Minimize – to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

Municipal Separate Storm Sewer System (MS4) – in Maryland we have several MS4 NPDES Permits. The following are a summary of how they are broken down by size. For a full listing and explanation, visit the Department website for "Maryland's NPDES Municipal Separate Storm Sewer System (MS4) Permits" or at this link https://mdewwp.page.link/MDMS4s.

- Phase I MS4s are for large jurisdictions, which are municipalities with populations of greater than 250,000, and medium jurisdictions, which are municipalities with populations between 100,000 and 250,000. The large Phase I MS4 jurisdictions are Anne Arundel County, Baltimore County, Baltimore City, Montgomery County, and Prince George's County. The medium Phase I MS4 jurisdictions are Carroll County, Charles County, Frederick County, Harford County, and Howard County. One statewide MS4 under this category has been issued to the State Highway Administration.
- Phase II MS4s include smaller jurisdictions or approximately 60 cities and towns in Maryland with populations greater than 1,000 located in Census defined urbanized areas. They also include State and Federal facilities.

NetDMR – a national tool for regulated Clean Water Act permittees to submit discharge monitoring reports (DMRs) electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR 122.41 and 403.12.

New Discharger – a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New Source – any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

• after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or

• after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

New Source Performance Standards (NSPS) – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No Exposure – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

Non-Stormwater Discharges – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, noncontact cooling water, pavement wash water, external building washdown, irrigation water, or uncontaminated ground water or spring water.

Notice of Intent (NOI) – the form (electronic or paper) required for authorization of coverage under the 20-SW General Permit.

Notice of Termination (NOT) – the form (electronic or paper) required for terminating coverage under the 20-SW General Permit.

National Pollutant Discharge Elimination System (NPDES) - the EPA permit program that addresses water Pollution by regulating Point Sources that Discharge Pollutants to Waters of the United States.

NPDES Permit - means a discharge permit that authorizes a facility to Discharge a specified amount of a Pollutant into a receiving water.

Oil - oil of any kind and in any liquid form including: petroleum; petroleum by-products; fuel oil; sludge containing oil or oil residue; oil refuse; oil mixed with or added to or otherwise contaminating soil, waste, or any other liquid or solid media; crude oils; aviation fuel; gasoline; kerosene; light and heavy fuel oils; diesel motor fuel, including biodiesel fuel, regardless of whether the fuel is petroleum based; asphalt; ethanol; and regardless of specific gravity, every other nonedible, nonsubstituted liquid petroleum fraction unless that fraction is specifically identified as a Hazardous Substance.

Operator – any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:

1. The entity has operational control over industrial activities, including the ability to make modifications to those activities; or
2. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

Outfall – locations where collected and concentrated stormwater flows are discharged from the facility, including pipes, ditches, swales, and other structures that transport stormwater.

Owner - a person who has a legal interest in the facility or in the property on which the facility is located, or the owner's agent.

Permittee - the person holding a permit issued by the Department, or authorized for coverage under a general permit by the Department.

Person – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

Point source – any discernible, confined and discrete conveyance, including any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, large animal feeding operation, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged. See 40 CFR Part 122.2.

Pollutant – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into Waters of the State.

Pollutant of concern – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

Pollution – means any contamination or other alteration of the physical, chemical, or biological properties of any waters of this State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of this State that will render the waters harmful, or detrimental, to:

(a) Public health, safety, or welfare;

(b) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;

(c) Livestock, wild animals, birds; or

(d) Fish or other aquatic life.

Primary industrial activity – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

Proprietary Practices – Stormwater controls approved through the Department's Review Process for New Technologies as described in the Department's 2005 Proprietary Stormwater Practice Guidance titled "Facts about ….Maryland's Stormwater Program & Proprietary Practices" found on the Departments website or at this link https://mdewwp.page.link/InnovativeSWTech.

Qualified Personnel – Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures.

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

Restoration of Impervious Surfaces – Treatment of untreated impervious surfaces with structural or non-structural stormwater management practices based upon designs that treat the volume from one inch of rainfall. Approved practices for industrial sites are identified in Part III.A of the permit.

Runoff - that portion of stormwater that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, and the retentive capacity of surface features, which flows or will flow off the land by surface runoff to Waters of the State.

Runoff coefficient – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

Run-on - water from outside the industrial stormwater area that flows into the area. Run-on includes

stormwater from rainfall or the melting of snow or ice that falls directly on the unit, as well as the water that drains from adjoining areas.

Section 313 water priority chemical - a chemical or chemical categories that: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986; 2) are present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the Clean Water Act at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Significant materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA, commonly known as Superfund; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges. See 40 CFR 122.26(b)(12).

Significant spills - includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (40 CFR 110.10 and 40 CFR 117.21) or Section 102 of CERCLA (40 CFR 302.4).

State discharge permit - the discharge permit issued under the Environment Article, Title 9, Subtitle 3, Annotated Code of Maryland.

Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR 122.26(b)(13).

Stormwater Discharges Associated with Construction Activity – a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating) occur, or construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial stormwater directly related to the construction process are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

Stormwater Discharges Associated with Industrial Activity – the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in 40 CFR 122.26, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14). The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v). See 40 CFR 122.26(b)(14).

Stormwater Management – is, as described in the Design Manual, any

1. quantitative control, a system of vegetative and structural measures that control the increased volume and rate of surface runoff caused by man-made changes to the land; and
2. qualitative control, a system of vegetative, structural, and other measures that reduce or eliminate pollutants that might otherwise be carried by runoff.

Stormwater Team – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Stormwater Team" must be identified in the SWPPP.

Storm Event – a precipitation event that results in a measurable amount of precipitation.

Surface waters - all Waters of this State which are not groundwaters.

Tier 2 Waters – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), Tier 2 waters are characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

Total Maximum Daily Loads (TMDLs) – A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Treatment of Impervious Surfaces - Implementing the requirements for stormwater management as prescribed in the Department's "2000 Maryland Stormwater Design Manual, Volumes I & II" or the Design Manual for impervious area. The manual spells out both design and implementation requirements using appropriately sized Best Management Practices or Environmental Site Design, based upon designs that manage on-site the water quality volume (WQv) resulting from the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation.

Wastewater - any:

1. liquid waste substance derived from industrial, commercial, municipal, residential, agricultural, recreational, or other operations or establishments; and
2. other liquid waste substance containing liquid, gaseous or solid matter and having characteristics that will pollute any waters of the State.

Water Quality Impaired – See 'Impaired Water'.

Water Quality Standards – The water quality goals promulgated by the Department at COMAR 26.08.02 **Error! Hyperlink reference not valid.**for a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses.

Waters of the State – includes:

1. both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, tidal and nontidal wetlands, public ditches, tax ditches, and public drainage systems within this State, other than those designed and used to collect, convey, or dispose of sanitary sewage; and
2. the flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.

"You" and "Your" – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's facility or responsibilities. The use of "you" and "your" refers to a particular facility and not to all facilities operated by a particular entity. For example, "you must submit" means the permittee must submit something for that particular facility. Likewise, "all your discharges" would refer only to discharges at that one facility.

b. Acronyms

BAT – Best Available Technology Economically Achievable
BFE – Base Flood Elevation
BOD5 – Biochemical Oxygen Demand (5-day test)
BPJ – Best Professional Judgment
BPT – Best Practicable Control Technology Currently Available
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
COD – Chemical Oxygen Demand
COMAR - Code of Maryland Regulations
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DMR – Discharge Monitoring Report
EPA – U. S. Environmental Protection Agency
ESD – Environmental Site Design
MGD – Million Gallons per Day
MSDS – Material Safety Data Sheet
MSGP – EPA's Multi-Sector General Permit
NPDES – National Pollutant Discharge Elimination System
NRC – National Response Center
NSPS – New Source Performance Standard
NTU – Nephelometric Turbidity Unit
POTW – Publicly Owned Treatment Works
RCRA – Resource Conservation and Recovery Act
RQ – Reportable Quantity
SARA – Superfund Amendments and Reauthorization Act
SIC – Standard Industrial Classification
SPCC – Spill Prevention, Control, and Countermeasures
SWPPP – Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Loads
TSDF – Treatment, Storage, or Disposal Facility
TSS – Total Suspended Solids
USGS – United States Geological Survey
WLA – Waste Load Allocation

Nutrient Reduction Progress Report (Permit Condition Part III.A.3.b)

SECTION I: Facility Information	
(A) Facility Name and Address:	***(B) Registration Number:*** ***20-SR-***
☐ ***Total facility size (acres)***	

(C) Baseline information about facility (as of <u>January 1, 2006</u> or later)

	Total impervious surface area (square feet)
	Untreated impervious surface area (square feet)
	Impervious surface area subject to 20% restoration requirement (acres)

(D) Control Measures Selected	**Planned completion date**
	Restored Impervious Surfaces (acres)
	Accounting Guidance Practices (acres)
	Sediment and Erosion Control (TN lbs/year)
	Reduced fertilizer (TN lbs/year)
	Reduced nitrogen to achieve benchmarks (TN lbs/year)
	Reallocated TN load (TN lbs/year)
	Were any of these control measures planned or completed off-site? (Yes or No)
	Latest Comprehensive Site Compliance Evaluation (date)

Brief Description of Restoration or other equivalent measures:

SECTION II: Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature	***Date***
Signatory Name/Title: Typed or Printed	***Email Address or Phone Number***

SECTION I: Owner/Operator Information

(A) Provide the name, address and size (in acres) of the facility covered under the registration. This should match the information submitted in the NOI or reflect any changes in property size.

(B) Provide the registration number provided by the Department for your coverage under this permit. This number will start with 20SR, and end with 4 numbers (i.e. 20SR1234).

(C) This part provides the baseline data for requirements related to impervious surfaces.

Total impervious surface area in square feet is determined in Part III.A.2.a of the permit.

Untreated impervious surface area in square feet is determined in Part III.A.2.d of the permit.

Impervious surface area subject to 20% restoration requirement in acres is determined in Part III.A.2.e of the permit.

(D) This part provides the update on your restoration activities consistent with Part III.A.1.c or Part III.A.1.d.

- The planned completion date is based on your current best estimate of the restoration requirements of this permit. If all the work is complete, simply use the date of completion.
- The practices listed are the options provided in the permit. Simply indicate here the amount of work under each control measure you have planned or implemented.

  Restored Impervious Surfaces are control measures in either the Design Manual or Proprietary Practices (Part III.A.1.c.i) you have selected to meet the 20% restoration requirement. This is reported in acres of impervious surface treated.

  Accounting Guidance Practices are control measures in the Accounting Guidance (Part III.A.1.c.ii) you have selected to meet the 20% restoration requirement. This is reported in acres of impervious surface treated.

  Sediment and Erosion Control is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reduced fertilizer is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reduced nitrogen to achieve benchmarks is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Reallocated TN load is one of the new equivalent control measures (Part III.A.1.c.iii) you have implemented to meet the requirements of this permit, with the calculated reduction in Total Nitrogen (TN) in lbs/year.

  Off-site work should be acknowledged by indicating Yes if any work was performed off-site to mee the permit requirements, or indicate No if it was all performed at your site. (Part III.A.1.d)

  Provide the date of the **Latest Comprehensive Site Compliance Evaluation** (Part V.A.2)

- Brief description section should be a high level description of tasks related to the remaining surfaces yet to be restored. Include a summary of each area on-site being treated, including the treatment strategy you will employ. Include types of BMPs implemented, and describe any equivalent measures you employed. Confirm if all work was performed at your facility or off-site.

- Indicate the last report date Comprehensive Site Compliance Evaluation Report, under Part V.A.2, which includes an evaluation of your restoration BMPs and verifies your maintenance activities.

SECTION II: Certification

To be completed by as detailed in Part II.C of the permit. An original signature and date is required. Your contact information is essential so that if the Department has questions they can contact you.

HOW TO SUBMIT:

You must ensure that the form is completely filled out. Completed reports should be sent to**:** **Maryland Department of the Environment, Industrial Stormwater Permits Division, 1800 Washington Blvd, Ste 455, Baltimore, MD 21230.**

Appendix G: Reporting and Verification Requirements for Trading

Trading Must Abide by the Requirements of COMAR 26.08.11

The following requirements support the reporting and verification portions of the regulation (COMAR 26.08.11) and must be followed for those either generating a marketable credit, or those who are trading/acquiring credits to meet the restoration requirements of this permit.

Additional Requirements for Facilities Generating a Marketable Credit:

1) Calculation of Credits. You must use assessment tools consistent with the Chesapeake Bay Program modeling tools and accepted by the Department to calculate credits. Any assumptions or backup data used in the calculation of credits must be maintained on-site.
2) Procedure for Certification. Your generated credits are not valid or tradable until placed on the Registry. The registration of the credits requires completion of a Certification and Registration Form as provided by the Department, which includes documentation that the generator either owns the property or has the permission of the landowner to install, access and maintain the BMP. Credits are only available for a trade when the Certification and Registration Form is completed and the credits are placed on the Registry. As a condition for the certification, you (and the landowner if different from the permittee) must agree in writing to provide the Department, the verifier, and their agent's access to the BMP during the lifespan of the credit. You are required to provide additional notification if the BMP changes or the ownership of the property changes.
3) Verification and Reporting Requirements. You shall ensure that all generated credits are verified in accordance with COMAR 26.08.11, which shall be no less than every 3 years. Verification of credits generated must be performed by a State or county inspector, a professional engineer registered in Maryland, or a Department approved verifier. Each report prepared by an inspector or verifier in accordance with B(2) of the regulation (COMAR 26.08.11) shall include documentation that the BMP implemented continues to meet baseline compliance and that the credit generating BMP continues to be operated and maintained in accordance with the trading contract. If deficiencies exist and resulting corrective measures are needed, you must immediately implement them or jeopardize your trade. You may be required to perform additional inspections to ensure the BMP continues to perform as required. The specific details associated with implementing the verification requirement shall be incorporated into your SWPPP monitoring plans.
4) The above calculations, permittee copies of all completed forms, and any correspondence with the Department must be kept onsite at all times and be made available to an inspector upon request.
5) While generating credits, the permittee is required to email a scanned copy of the Comprehensive Site Compliance Evaluation report (Part V.A.2.b) to the Department at swppp.permit@maryland.gov, by December 1 of every year that the BMP generates credit.

Additional Requirements for Facilities Satisfying their Restoration Requirements via a Trade:

1) In the event of a default in a trade contract, expiration of a credit, or suspension or revocation of a credit, the buyer using the credit remains responsible for complying with the terms and conditions of the permit. In any of these events, the permittee must update the SWPPP and inform the Department of how they intend to regain compliance with the restoration requirement of the permit.
2) Registration of Trades. The permittee must notify the Department about each trade they are involved in by filing a form provided by the Department within 15 days after the trade, after which time the Department will update the Registry to include the registration number. The permittee must update the SWPPP to include this registration number and explain in the SWPPP how this trade is being used to satisfy the restoration requirement in the permit.
3) Verification and Reporting Requirements. The permittee must include the status of any trades they have initiated to meet the permit restoration requirement in their Comprehensive Site Compliance Evaluation report (Part V.A.2.b). The permittee must email a scanned copy of the Comprehensive Site Compliance Evaluation report to the Department at swppp.permit@maryland.gov, by December 1 of every year that they used credits to satisfy the restoration requirement.
4) Copies of the contract, the annual Department notification and any other correspondence with the Department regarding the trade must be kept onsite at all times and be made available to an inspector upon request.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.7

OIL OPERATIONS PERMIT

PERMIT NO. 2020-OPT-3522

October 25, 2021

Mr. Jason Baer
University of Maryland
7901 Regents Drive, Suite 2101
College Park, Maryland 20742

Dear Mr. Baer:

Enclosed is the validated Oil Operations Permit No. 2020-OPT-3522 for your facility. Please review the conditions of this permit and become thoroughly familiar with its requirements. The Special Conditions in this permit list requirements to be completed within specific time limits and require the permittee to notify the Oil Control Program in writing when these conditions are completed. This permit is considered to be an enforceable document on its effective date.

If you have any questions, please contact Mr. Martins Osakue of the Permits Section at 410-537-3645 or by email at *martins.osakue1@maryland.gov*.

Sincerely,

Christopher Ralston, Program Manager
Oil Control Program

Enclosure

OIL OPERATIONS PERMIT

Oil Operations Permit Number	**2020-OPT-3522**

Effective Date	September 19, 2019

Expiration Date	September 19, 2024

Pursuant to the provisions of Title 4 of the Environment Article, Annotated Code of Maryland and regulations promulgated thereunder, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes:

University of Maryland
7901 Regents Drive, Suite 2101
College Park, Maryland 20742

to operate an oil facility:

Located at:
University of Maryland, College Park
7901 Regents Drive
College Park, Prince George's County 20742

in accordance with the special and general conditions imposed by this permit.

This Oil Operations Permit is issued in addition to, and not in substitution of, the requirements of other permits or authorizations granted for this facility.

REPORT ANY OIL SPILL OR DISCHARGE OF OIL IMMEDIATELY TO THE DEPARTMENT OF THE ENVIRONMENT

1-866-633-4686
(24 Hours)

AND THE APPROPRIATE FEDERAL AUTHORITY

This permit authorizes the storage of oil in the following aboveground storage systems:

See attached "UMD College Park AST Inventory"

I. SPECIAL CONDITIONS

A. The permittee shall implement the following:

1. Measure and record in writing the liquid levels of oil storage systems at this facility prior to filling as required by Code of Maryland Regulations 26.10.01.12B (9).

2. Manage the drainage of the emergency containment areas in accordance with the following:

   a. Oil or oil sheen shall be removed from the collected water prior to discharge through the use of sorbent materials or approved oil/water separation systems.

   b. Maintain the drain valve in a closed and locked condition when not engaged in a draining activity.

   c. Each drawdown shall be supervised, attended and documented by a designated employee.

   d. A log shall be kept and maintained with entries as follows: the date of each drainage, a description of the quantity and quality of the discharge, and the name of the employee supervising the drawdown. This logbook shall be kept at the site and be available for inspection at all times.

3. Provide to the Department an updated listing of aboveground oil storage tanks on an annual basis, to include identification number, tank size in gallons and product stored.

4. Perform an annual precision tightness test on the underground piping associated with the two 250,000-gallon #2 heating oil (2A, 2B) aboveground storage systems that detects a 0.10 gallon per hour release of oil at 1.5 times the operating pressure and is performed for at least 1 hour. Submit a copy of the testing results within 7 business days of the completion of the test.

5. Perform per schedule the American Petroleum Institute (API) 653 out-of-service internal inspection for the two 250,000-gallon #2 heating oil (2A, 2B) aboveground storage systems. A minimum of 75% of the tank bottom plates shall be evaluated by a wide scanning device and 100% of the floor plate welds and shell-to-floor welds shall be evaluated by an inspection technique other than visual inspection. The complete inspection reports shall be submitted to the Department within 30 business days upon completion of the test, including citation of required repairs, and the next API inspection schedule dates for the aboveground storage systems.

6. Perform per schedule the American Petroleum Institute (API) 653 in-service external inspection for the 250,000-gallon #2 heating oil (2A, 2B) aboveground storage systems. The complete inspection reports shall be submitted to the Department within 30 business days upon completion of the test, including citation of required repairs, and the next API inspection schedule dates for the aboveground storage systems.

7. Label the aboveground storage tanks to display the tank identification number, size in gallons, and product stored.

8. Provide the following aboveground storage systems:

One	660-gallon diesel fuel (82)
One	275-gallon diesel fuel (37)
One	150-gallon diesel fuel (16)
One	100-gallon diesel fuel (72)
One	60-gallon diesel fuel (25)

with emergency venting in accordance with NFPA 30 “Flammable and Combustible Liquids Code”, and Underwriters Laboratories Inc. UL 142 Standard, "Steel Aboveground Tanks for Flammable and Combustible Liquids."

9. Provide the 660-gallon diesel fuel (82) aboveground storage system with normal venting in accordance with NFPA 30.

B. Schedule of Compliance

1. Schedule

The permittee shall achieve compliance with the alterations, modifications, or improvements specified by the Department in accordance with the following schedule:

a. Special Conditions A.1 through A.6 shall be placed in effect upon receipt of this permit.

b. Special Conditions A.7 through A.9 shall be completed before December 31, 2021.

2. Notification

No later than 14 calendar days following the date identified in the above Schedule of Compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the case of noncompliance the notice shall include:

a. a description of the noncompliance;

b. a description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirement;

c. a description of any factors which tend to explain or mitigate the noncompliance; and

d. the date that compliance with the elapsed schedule requirement will be achieved.

II. GENERAL CONDITIONS

A. Compliance with Regulations

The permittee's operations shall comply with all of the applicable requirements in COMAR 26.10.01.01-.12, 26.10.01.16 -.21, and 26.10.15 for the handling and cleanup of oil. The permittee is not authorized by this permit to discharge oil or cause oil to be discharged into waters of the State.

B. Plan for Notification, Containment and Clean-Up of Oil Spills

A Maryland Department of the Environment "Plan for Notification, Containment and Clean-Up of Oil Spills", herein referred to as the "Plan", shall be completed by the permittee. The permittee shall comply with its "Plan", incorporated herein as a reference. The "Plan" shall be reviewed annually and updated by the permittee, as necessary. The Department shall be notified in writing by the permittee of any change in the "Plan".

C. Immediate Telephone Report Required of Oil Discharge or Spill

The permittee shall notify the Department immediately, but not later than two hours after detecting a spill and also notify the appropriate Federal authority of any such discharge or spill of oil or other petroleum products. The Department shall be notified for any oil spill, regardless of the size, source, or the cause of the discharge or spill, including spills or discharges in secondary containment areas.

Such report shall be made by telephone to the telephone number listed on Page One of this permit, and shall include as a minimum the following information:

1. time of discharge;
2. location of discharge;
3. type and quantity of oil;
4. assistance required;
5. name, address, and telephone number of person making the report; and,
6. all other pertinent and necessary information requested by the Department.

D. Responsibility for Cleanup

The permittee has the primary responsibility for the immediate commencement of the control, containment, and removal of any oil discharged or spilled, and the restoration of the natural resources of the State. Failure to act promptly and responsibly may result in the control, containment, and removal of the oil and restoration by the Department or its agent with the costs assessed to the permittee.

E. Written Report Required on Removal and Cleanup of Spilled Oil

In the event a discharge or spill of oil has occurred, the permittee shall immediately commence control, containment, removal, and restoration operations. The permittee shall submit to the Department a written report within 10 days after completion of the control, containment, removal, and restoration operations. The written report shall include the following:

1. date, time, and place of spill;
2. amount and type of oil spilled;
3. complete description of circumstances contributing to the spill;
4. complete description of containment, removal, clean-up, and restoration operations including disposal sites and costs of operations;
5. procedures, methods, and precautions instituted to prevent a recurrence of an oil spill from the facility involved; and,
6. other information considered necessary or required by the Department for a complete description of the spill incident,
7. a certification that the information provided is true and correct to the knowledge of the person signing the report.

F. Facility Operation and Maintenance

1. Maintenance

All treatment, control, and monitoring facilities or systems installed or used by the permittee shall at all times be maintained in good working order and operated efficiently.

2. Change in Operation

The operation of this oil operations facility shall be consistent with the terms and conditions of this permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased oil operations shall be reported by the permittee by submission of a new application or by notice to the Department. Following such notice, the permit may be modified by the Department by the addition or revision of permit conditions.

G. Removed Oil, Used Oils, Waste Oils, or Oily Substances

Oils, used oil, waste oil, oily solids or sludges, or other oil contaminated substances generated by, or removed from the operations of this permitted facility shall be disposed of in a manner to prevent any such removed substances or runoff from such substances from entering or from being placed in a location where they are likely to pollute waters of the State.

H. Monitoring by Permittee Required

The permittee shall supervise and check, on a regular schedule, all aspects of the oil operations involved, and shall identify and correct any deficiency in operational procedure and any actual or potential defect or weakness in the operating system so as to prevent occurrences of oil spills.

I. Records Retention Required

All records and information resulting from the monitoring activities required by this permit shall be retained for a minimum of three (3) years. This retention time may be extended during the course of litigation or when so requested by the Department.

J. Right of Entry

The permittee shall permit authorized representatives of the Department, upon presentation of appropriate credentials, entry into the permittee's facilities to conduct inspections necessary to monitor compliance with the terms and conditions of this permit. The permittee shall provide such assistance as may be necessary to effectively and safely conduct such inspections.

K. Permit Modification, Suspension, or Revocation

1. Request by Permittee

a. Any substantial change either in the size or scope of the operation or in the information and data previously supplied to the Department in the "Oil Operations Permit Application" shall require a permit modification.

b. A permit may be modified by the Department upon written request of the permittee.

2. Action by the Department

a. This permit may be suspended or revoked upon a final, unreviewable determination that the permittee lacks, or is in violation of, any federal, state or local approval necessary to conduct the activity authorized by this permit.

b. A permit may be modified, suspended, or revoked by the Department in the event of a violation of the terms or conditions of the permit, State Laws, or Regulation.

c. In issuing this permit, the Department has relied upon certain information or data provided by the permittee in the permit application. If such information should be false or inaccurate, this permit may be modified, suspended, or revoked.

d. Failure to report substantial changes as described in K.1.a. above may constitute a basis for suspension or revocation of the permit.

L. Transfer of Ownership or Control of Facilities

In the event of any change in control or ownership of the facilities for which this permit has been issued:

1. The permittee shall notify, in writing, the succeeding owner or his assigned representative of the existence of this permit and of any outstanding violations of the permit. A copy of this notification shall be forwarded to the Department at least 30 days prior to said change in control or ownership.

2. The succeeding owner or his assigned representative shall notify the Department in writing, that the succeeding owner accepts the terms and conditions of the permit. Notification shall be made to the Department within 30 days after said change in ownership occurs.

M. Civil and Criminal Liability

Nothing in this permit shall be construed to preclude initiation of any legal action by the Department nor relieve the permittee from civil or criminal penalties for noncompliance with Title 4 of the Environment Article, Annotated Code of Maryland, or any local, federal, or other State laws or regulations.

N. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of State or local laws or regulations.

O. Miscellaneous Provisions

1. All permits and files of the Department relating to such permits shall be available for public inspection.

2. The State of Maryland is not precluded by the issuance of this permit from imposing other changes relating to the operations of the facility.

P. Severability

If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provisions shall be considered severed and deleted from this permit.

Q. Permit Expiration

This permit shall expire at midnight on the expiration date of the permit. In order to receive authorization to continue operation of these oil operations facilities beyond the above date of expiration, the permittee shall submit such information, and/or forms as are required by the Department no later than 60 days prior to the above date of expiration.

Christopher Ralston, Program Manager
Oil Control Program

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX M-1.8

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

PREPARED PURSUANT TO

40 CFR PART 112

AND

COMAR 26.10

Spill Prevention Control and Countermeasures (SPCC) Plan

For:

University of Maryland
1101 Main Administration Building
7901 Regents Drive
College Park, MD 20742
(301) 405-1000

SPCC Plan Contact:

University of Maryland,
Department of Environmental Safety, Sustainability & Risk
Jason Baer, Assistant Director Office of Environmental Affairs
Seneca Building
4716 Pontiac Street
College Park, MD 20742
(301) 405-3163
jbaer123@umd.edu

SPCC Plan Preparation Date:

June 2023

Table of Contents

Tables

Cross Reference with SPCC Rule Provisions

Citation	Description	Plan Section
§112.3(d)(1)	Professional Engineer Certification	Section 5.0
§112.4(a) and (d)	Reporting to Regional Administrator	Section 2.1
§112.5(a) – (c)	Amendment of Plan and Management of Five-Year Review	Section 2.4, Table 1
§112.7	General requirements for SPCC Plans for all facilities and all oil types: discussion of facility's conformance with rule requirements; deviations from Plan requirements; facility characteristics that must be described in the Plan; spill reporting information in the Plan; emergency procedures; management approval; and regulatory cross-reference.	Throughout plan
§112.7	Management Approval	Section 6.0
§112.7(a)(1)	Discussion of facility's conformance	Section 3.1
§112.7(a)(2)	Deviations from rule	Section 3.1
§112.7(a)(3)	Facility description and diagram	Section 3.1, Figures 1-2
§112.7(a)(3)(i)	List type of oil and capacity	Section 3.3, Table 2, Appendices C-F
§112.7(a)(3)(ii)	Discharge prevention measures	Section 3.4, Appendix I
§112.7(a)(3)(iii)	Drainage controls	Sections 3.7, 4.1, and 4.3
§112.7(a)(3)(iv)	Countermeasures	Section 3.5, Tables 3-5, Figure 3
§112.7(a)(3)(v)	Methods of disposal	Section 3.5
§112.7(a)(3)(vi)	Contact list	Sections 2.1 and 3.5, Tables 4-5
§112.7(a)(4)	Notification procedures	Sections 2.1 and 3.5, Tables 4-5
§112.7(a)(5)	Response plan	Section 3.5
§112.7(b)	Fault analysis	Section 3.6, Appendices C-F
§112.7(c)	Secondary containment	Section 3.7, Appendices C-F

Citation	Description	Plan Section
§112.7(d)	Contingency planning	Section 3.8
§112.7(e)	Inspections, tests, and records	Sections 3.9 and 3.15
§112.7(f)(1)	Employee training and discharge prevention procedures	Sections 3.10 and 3.15
§112.7(f)(2)	Designated person	Section 3.2
§112.7(f)(3)	Annual briefings	Sections 3.10 and 3.15
§112.7(g)	Security (excluding oil production facilities) – Fencing, flow and valve security, starter control access, loading/unloading connection security	Section 3.11
§112.7(h)(1)	Loading/unloading (excluding offshore facilities) - secondary containment	N/A, Section 3.12
§112.7(h)(2)	Preventing vehicles from departing before disconnection	N/A, Section 3.12
§112.7(h)(3)	Inspection of bottom connections	N/A, Section 3.12
§112.7(i)	Brittle fracture evaluation requirements	Section 3.13
§112.7(j)	Conformance with state requirements	Section 3.16, Throughout plan
§112.7(k)	Qualified oil-filled operational equipment	Sections 3.14 and 3.15
§112.7(k)(2)(ii)(A)	Oil Spill Contingency Plan	Section 3.14
§112.8(a)	General and specific requirements	Throughout plan
§112.8(b)(1)	Facility drainage - drainage from diked areas	Section 4.1
§112.8(b)(2)	Manual valves	Section 4.1
§112.8(b)(3)	Facility drainage system design	N/A, Section 4.1
§112.8(b)(4)	Diversion system	N/A, Section 4.1
§112.8(b)(5)	Treatment of drainage water	N/A, Section 4.1
§112.8(c)(1)	Bulk storage containers - compatible with stored contents	Section 4.2
§112.8(c)(2)	Secondary containment	Section 4.3, Appendix C
§112.8(c)(3)	Drainage of dike water	Sections 4.1 and 4.3, Appendix M
§112.8(c)(4)	Buried tanks	N/A, Section 4.4
§112.8(c)(5)	Partially buried or bunkered tanks	N/A, Section 4.4
§112.8(c)(6)	Aboveground tank integrity testing	Section 4.5
§112.8(c)(7)	Control discharges from heating coils	N/A, Section 4.5
§112.8(c)(8)	Overfill protection	Section 4.6

Citation	Description	Plan Section
§112.8(c)(8)(v)	Level gauge inspection	Section 4.6
§112.8(c)(9)	Effluent treatment facilities	N/A, Section 4.7
§112.8(c)(10)	Visible discharges from tanks	Section 4.7
§112.8(c)(11)	Mobile or portable tanks	Section 4.8
§112.8(d)(1)	Facility transfer operations, pumping, and facility process - cathodic protection and buried pipe inspection	Section 4.9
§112.8(d)(2)	Terminal connections	Section 4.9
§112.8(d)(3)	Piping supports	Section 4.10
§112.8(d)(4)	Aboveground piping inspection and leak testing of buried piping	Section 4.11
§112.8(d)(5)	Vehicle warnings	Section 4.11
§112.20(e)	Certification of Substantial Harm Determination	Section 2.3

University of Maryland SPCC

Figures and Appendices

Figures

Appendices

1.0 INTRODUCTION

A Spill Prevention, Control, and Countermeasure (SPCC) Plan is required to be prepared and implemented to comply with U.S. Environmental Protection Agency (EPA) regulations of Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) as well as Title 26 of the Code of Maryland Regulations Subtitle 10 (COMAR 26.10).

Facilities are subject to SPCC regulations if: the total aboveground storage tank (AST) capacity exceeds 1,320 gallons or the underground storage tank (UST) capacity exceeds 42,000 gallons, AND the facility can be reasonably expected to discharge oil into or upon the navigable waters of the United States. *[40 CFR 112.1]* The University of Maryland (UMD) meets the applicability criteria and has prepared a SPCC Plan accordingly.

The SPCC Plan is not required to be filed with EPA, but a copy must be available for onsite review by the Regional Administrator.

In addition, UMD maintains an Emergency Response and Contingency Plan and a Health and Safety Plan, which are stored onsite for review.

2.0 REQUIREMENTS OF THE SPCC PLAN

[40 CFR 112.1 (e)] In order to comply with the federal regulations governing the implementation of this SPCC Plan, UMD is required to:

- Review the SPCC Plan and update as necessary;
- Respond to a spill in accordance with the site-specific procedures as documented in this SPCC Plan;
- Notify the appropriate state and federal agencies in the event of a reportable spill;
- Perform regular inspections;
- Follow all procedures in place by the University for material handling and transfers;
- Train employees on aspects of this SPCC Plan; and
- Keep records of the previously described tasks.

The details of these requirements are discussed in this SPCC Plan.

2.1 REPORTING

All oil spills are to be immediately reported to the Maryland Department of the Environment (MDE), but no later than two (2) hours after becoming aware of the spill *[COMAR 26.10.01.04]*. Spill reporting procedures and the MDE Spill Report Form are included in Appendix A. The additional reporting requirements for EPA and the State of Maryland are covered in 40 CFR Part 110 – Discharge of Oil, 40 CFR Part 112 - Oil Pollution Prevention regulations (the SPCC requirements), and COMAR 26.10.01.04. The specific requirements for each of these are discussed in the following paragraphs.

[40 CFR 110.6, 40 CFR 112.7 (a) (4)] Regulation requires that any discharge to navigable waters that causes a film, sheen, or discoloration of the water surface or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the water

surface or upon adjoining shorelines be reported immediately to the National Response Center (NRC) at (800-424-8802). The NRC will then notify the EPA as necessary. The NRC will ask the following information regarding the discharge:

- Facility name, address, and phone number
- Date and time of discharge
- Location of incident
- Source and cause of discharge
- Types of material(s) discharged and estimated volume
- Damage, danger or threat posed by the discharge
- Description of all affected media
- Number and types of injuries (if any)
- Possibility of an evacuation
- Weather conditions at the incident location
- Actions being used to stop and/or mitigate the discharge
- Other parties contacted regarding the discharge
- Other information to help emergency personnel respond to the incident

[40 CFR 112.4 (a)] The discharge is also to be reported to the EPA Region III Regional Administrator within sixty (60) days only when either of the following occurs:

- UMD discharges a harmful quantity of more than 1,000 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single event; or
- UMD discharges a harmful quantity of more than 42 gallons of oil in each of two spill events within an any 12-month period into or upon the

navigable waters of the United States or adjoining shorelines.

[40 CFR 110.3 (a)-(b)] A harmful quantity is defined by as a quantity that:

1. Exceeds applicable water quality standards, or
2. Causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The report sent to EPA should contain, at a minimum, the following information:

- Name of facility
- Name(s) of facility owner or operator
- Location of facility
- Maximum storage or handling capacity of the facility and normal daily throughput
- Description of facility, including maps, flow diagrams, and topographical map
- The cause(s) of the spill(s), including a failure analysis of system or subsystem in which failure occurred
- Corrective actions and/or countermeasures taken
- Description of equipment repairs and replacements made
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence
- Any other pertinent information as requested by EPA

[COMAR 26.10.01.05A] **A verbal report to the MDE Emergency Response Division (1-866-633-4686) must be submitted if an oil spill, release, or discharge of <u>ANY</u> quantity of oil occurs.** Within **two (2) hours** after the detection of the spill,

a verbal report that includes the following information must be made:

- Time, date, location, and cause of discharge
- Type of facility involved
- Type and quantity of oil spilled
- Assistance required
- Name, address, and telephone number of persons making report
- Any other pertinent information as requested by MDE

[COMAR 26.10.01.05E] Additionally, if the spill, release, or discharge was greater than or equal to 5 gallons OR the discharge reaches the water of the state, a written report of the discharge must be submitted to MDE within ten (10) working days after completion of spill cleanup. The MDE Spill Form is included in Appendix A and can also be found online at: https://mde.maryland.gov/programs/Crossmedia/EmergencyResponse/Documents/mdespillreport.pdf.

The form must include the following information:

- Date, time, and place of oil spill
- Amount and type of oil spilled
- A complete description of circumstances contributing to the spill
- A complete description of containment, removal, and clean-up operations, including disposal sites and costs of operations
- Procedures, methods, and precautions implemented to prevent recurrence
- Certification that the information provided is true and correct to the knowledge of the person signing the report

- Any other information considered necessary or required by MDE for a complete description of the spill incident

2.2 SPILL HISTORY

Available spill history information is described and documented on the Spill History Reports in Appendix B. There have been no known harmful quantities of oil being discharged to navigable waterways since the original SPCC Plan in 1999.

If a spill has affected nearby waterways in the last three years, detailed information regarding the spill can be found on a copy of that report. Information that should be provided on the Spill History Report includes:

- Date, time, and location of spill
- Type and quantity of material spilled
- Cause of the spill
- Cleanup personnel involved
- Indication if spill reached nearby waters

Spill history documentation is maintained at UMD within the Department of Environmental Safety, Sustainability, & Risk (ESSR). Blank Spill Reporting Forms are included in this SPCC Plan in Appendix A.

2.3 CERTIFICATION OF SUBSTANTIAL HARM DETERMINATION

Facility:	University of Maryland, College Park
Total Number of Oil Storage Tanks:	86
Total Oil Storage Capacity:	696,917 Gallons
Largest AST Oil Storage Capacity:	252,762 Gallons
Facility Distance to Navigable Waters:	Varies; Approximately 34’ (Minimum Distance)

2.3.1 Applicability of Substantial Harm Criteria

Does the University transfer oil over water to or from vessels and does the University have a total storage capacity greater than or equal to 42,000 gallons and conduct operations that include over-water related transfers to and from vessels? **NO**

Does the University have a total storage capacity greater than or equal to 1 million gallons and does the University lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area? **NO**

Does the University have a total oil storage capacity greater than or equal to 1 million gallons and is the University located at a distance such that a discharge from the University could cause injury to fish and wildlife and sensitive environments? **NO**

Does the University have a total oil storage capacity greater than or equal to 1 million gallons and is the University located at a distance such that a discharge would shut down a public drinking water intake? **NO**

Does the University have a total oil storage capacity greater than or equal to 1 million gallons and has the University experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons in the last five (5) years? **NO**

2.3.2 Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: Jason Baer **Date**: 7/5/2023

Name: Jason Baer, REM

Title: Assistant Director, Office of Environmental Affairs

2.4 REVIEW OF THE SPCC

[40 CFR 112.4 (d)] The SPCC Plan will be amended, if after review by the EPA Region III Regional Administrator, it is judged that the information contained herein does not meet the requirements of 40 CFR 112 or an amendment is necessary to prevent and contain discharges from UMD.

[40 CFR 112.5 (a)] The SPCC Plan shall be amended within six (6) months whenever there is a change in campus design, construction, operation, or maintenance that materially affects the campus's spill potential, and implemented as soon as possible, but not later than six (6) months following preparation of the amendment.

[40 CFR 112.5 (b)] The SPCC Plan must be reviewed at least once every five (5) years and amended to include more effective prevention and control technology, if such technology will significantly reduce the likelihood of a spill event, has been proven in the field, and is available. UMD will implement the amendment as soon as possible, but not later than six (6) months following preparation of the amendment.

In some cases, a registered Professional Engineer (PE) must certify technical changes. If upon review it is determined that the SPCC Plan continues to reflect the conditions of the University at that time or only non-technical changes are required, the Plan does not need to be sealed by a PE. Any time the SPCC Plan is reviewed; the person(s) performing the review must sign and date the SPCC. No amendment to the SPCC Plan that affects the engineering or operational practices of UMD shall satisfy the requirements of 40 CFR 112.5 unless it has been certified by a PE in accordance with 40 CFR 112.3(d).

ESSR staff will complete a review and evaluation of the SPCC Plan at least once every five (5) years. In signing page 9 of this SPCC Plan, the signer/signee attests they have completed review and evaluation of the SPCC Plan for UMD on the signed date and will or will not amend the Plan as a result per 40 CFR 112.5(b). The reviews will be documented on the next page.

Table 1. SPCC Log of Review and Technical Changes

Review/ Revision Date	Details / Comments	Amended Plan (Y/N)	Signature
Dec. 1999	Original SPCC Plan	N/A	Signed and Stamped 1999
Feb. 2003	5-Year Review & Update	Yes	Signed and Stamped 2003
June 2008	5-Year Review & Update	Yes	Signed and Stamped 2008
Feb. 2014	5-Year Review & Update	Yes	Signed and Stamped 2014
June 2016	Administrative changes	No	Not signed 2016
October 2019	5-Year Review & Update	Yes	Signed and Stamped Oct. 2019
November 2019	Updated Sections 3.13 and 4.5 to reflect API standards	Yes	Signed and Stamped Nov. 2019
March 5, 2021	Update Tank Lists	No	Not signed 2021
May 2, 2022	Updated UMD contact list; Replace of Phillip Riggs with Mark Alexander	Yes	Not signed 2022
June 6, 2022	Updated Tank Lists and Summary of All Fuel & Oil Storage	Yes	Not signed 2022
June 23, 2023	5-Year Review, updates to comply with COMAR regulation changes, and updates container list and maps	Yes	Signed and Stamped June 23, 2023

3.0 GENERAL SPCC PLAN REQUIREMENTS

3.1 LOCATION AND CAMPUS DESCRIPTION

[40 CFR 112.7 (a) (1)] UMD's SPCC Plan developed herein conforms to the requirements of the regulation. Full approval of management is included within this SPCC Plan.

[40 CFR 112.7 (a) (2)] This SPCC Plan does not deviate from any requirement of 40 CFR 112 as allowed by 40 CFR 112.7(a)(2) (environmental equivalence) and 40 CFR 112.7(d) (impracticability of secondary containment).

[40 CFR 112.7 (a) (3)] UMD is located in College Park, Maryland 20742 within Prince George's County. UMD is approximately 4 miles from the northeast border of Washington, D.C. The campus core is generally bounded by University Boulevard to the north and west, Baltimore Avenue (Route 1) to the east, and Knox Road to the south. Baltimore Avenue bisects the southeastern portion of the campus. The campus consists of over 350 buildings on 1,335 acres of land. The campus consists of paved, unpaved, and construction areas. Accordingly, a significant portion of the campus is considered impervious. The campus is located in a suburban area surrounded by light commercial and residential areas.

The UMD campus maintains a Phase II Municipal Separate Storm Sewer System (MS4) that operates under General Discharge Permit No. 13-SF-5501. The University is permitted by State Discharge Permit No. 08-DP-2618 (NPDES permit MD0063801) to discharge contact and non-contact cooling water, boiler blowdown, condensate, and stormwater runoff from twelve (12) outfalls. These outfalls discharge to Campus Creek, Guilford Run and the Paint Branch. Water from these discharge points ultimately flows to the Anacostia River and to the Chesapeake Bay. The UMD main campus operates under Oil Operations Permit (OOP) No. 2014-OPT-3522 and the Severn Building (#810), located 1.3 miles northwest of the main campus, operates under OOP No. 2018-OPT-6551.

Due to the fact the Severn Building (#810) contains an aboveground storage capacity over the 10,000-gallon limit which would require a PE signature, UMD included the off-campus facility in the coverage of this SPCC Plan. Additional offsite, non-contiguous properties, owned and operated by UMD, around the UMD campus are not included in this SPCC Plan due to the total volume of

their aggregate aboveground storage capacity being less than 1,320 gallons. A site vicinity map is attached as Figure 1.

3.2 FACILITY INFORMATION

Facility Information

Name of Facility: University of Maryland, College Park

Street: 1101 Main Administration Building, 7901 Regents Dr.

City: College Park State: MD ZIP Code: 20742

County: Prince George's County

Facility Owner and Operator:

Name: University of Maryland, College Park

Address: 1101 Main Administration Building, 7901 Regents Drive

City, State, Zip Code: College Park, MD 20742

SPCC Plan Contacts:

Primary:

Name: Jason Baer, Assistant Director, Office of Environmental Affairs

Telephone Number: 301-405-3163

Email address: jbaer123@umd.edu

Secondary:

Name: Kaitlyn Peterson, Environmental Specialist, Office of Environmental Affairs

Telephone Number: 301-405-8604

Email address: Kpeter13@umd.edu

The following sections summarize the oil product storage capacities and their potential failures (e.g., tank overflow, rupture or leakage), containment capacities, flow directions, and flow rates.

3.3 CONTAINER CAPACITIES AND DESCRIPTION

[40 CFR 112.7 (a) (3) (i)] The following sections describe each of the various oil storage container types identified that are operated at the UMD. A summary of the various container types and volumes is listed in Table 2. A detailed list is contained in Appendices C through F.

Table 2: Summary of All Fuel & Oil Storage at University of Maryland

Type/Category	Type of Fuel/Oil	Total Number of Containers	Total Capacity (gallons)[1]
ASTs	Gasoline; Fuel Oil; Diesel; Used Oil; Hydraulic Oil; Motor Oil; Food Grease	81	623,183
Portable ASTs	Diesel (Portable)	4	858
Portable Small (≥55-gallons)Quantity Oil Containers*	Hydraulic Oil; Food Grease; Waste Oil (Portable)	60	3,300
Lube Oil Reservior	Lube Oil	1	95
Hydraulic Elevators**	Hydraulic	110	13,750
Transformers**	Mineral Oil	158	55,731
	Total:	**414**	**696,917**

**Estimated maximum number of drums*
***These volumes are appoximated*

3.3.1 Aboveground Storage Tanks (ASTs)

The University currently has a total of eighty-one (81) permanently installed ASTs and four (4) portable ASTs. Due to the nature of operations and construction projects at UMD, the addition and removal of ASTs occurs often. An updated table of ASTs is located in Appendix C and will be continuously updated as ASTs are added or removed from UMD.

3.3.2 Underground Storage Tanks (USTs)

There are no underground oil/fuel storage tanks at UMD.

3.3.3 Portable Storage Tanks

There are four (4) portable storage tanks at UMD. One (1) 110-gallon diesel fuel tank is mounted on a truck and used for mobile refueling of diesel fired emergency generators, one (1) 200-gallon diesel fuel portable generator, one (1) 80-gallon diesel fuel portable generator, and one (1) 468-gallon portable generator. When not in use, the portable ASTs are stored beneath a covered concrete pad adjacent to the X1 parking lot at the Severn Building (#210). A spill sock is placed

at the low point of the concrete pad where it drains to the parking lot to prevent oil from reaching the stormwater system.

3.3.4 Small Quantity Oil Containers (Drums)

The number and location of 55-gallon drums varies day-to-day. It is estimated that there are currently a maximum of fifty (50) 55-gallon drums containing petroleum products and ten (10) 55-gallon drums of used food grease stored at various locations within UMD. These locations include, but are not limited to, the following:

- Energy Plant (#001) containing a maximum of six (6) 55-gallons drums of petroleum products;
- Manufacturing Building (#148) containing a maximum of one (1) 55-gallons drum of petroleum products;
- Ellicott Area Dining Hall (#257) containing a maximum of four (4) 55-gallons drums of food oil products;
- Golf Course Indoor Practice Facility (#309) containing a maximum of four (4) 55-gallons drums of food oil products;
- Xfinity Center (#360) containing a maximum of two (2) 55-gallons drums of food oil products;
- Shuttle Bus Facility (#424) containing a maximum of thirty (30) 55-gallons drums of petroleum products; and
- Severn Building & Motor Pool (#812) containing a maximum of thirteen (13) 55-gallons drums of petroleum products.

3.3.5 Oil-Filled Operating Equipment

There are one hundred and ten (110) oil-filled operating equipment (hydraulic elevators) at UMD, which are described in Appendix D. Regular maintenance and inspections of the oil-filled operating equipment are performed by the UMD Elevator Shop within Facilities Management. An audit of their maintenance and inspection records is performed quarterly.

There are one hundred fifty-eight (158) oil-filled electrical components (transformers) at UMD, which are described in Appendix E. Regular maintenance and inspections of the oil-filled electrical

components are performed by College Park Energy. An audit of their maintenance and inspection records is performed annually.

3.3.6 Oil Water Separators/Food Grease Interceptors

UMD has twelve (12) oil/water separators (OWSs). Eleven (11) of the twelve (12) OWSs are used for wastewater treatment which are not subject to SPCC requirements according to 40 CFR 112.1(d)(6):

- One (1) 1,000-gallon OWS located in the southeast corner of the Steam Plant (#001);
- Two (2) 1,600-gallon OWSs located at the Shuttle Bus Facility (#424). One is located adjacent to the fueling area of the 20,000-gallon diesel tank, the other is located outside of the Shuttle Bus Facility maintenance shop;
- One (1) 1,600-gallon OWS on the outside of the Motor Pool (Severn Bldg. #810);
- One (1) 1,600-gallon OWS located in the northeast corner of the fueling island of the Severn Building (#810);
- One (1) 1,600-gallon OWS located in the southwestern corner of Building #426 ;
- One (1) 1,600-gallon OWS located on the ground level in the Mowatt Lane Parking Garage (#404);
- One (1) unknown size* OWS located outside of the southwest side of the ground level of Terrapin Trail Parking Garage (#403);
- One (1) unknown size* OWS located within the Stadium Drive Parking Garage (#218);
- One (1) unknown size* OWS located outside of the Regents Drive Parking Garage (#202); and
- One (1) unknown size* OWS located outside of the Union Lane Parking Garage (#179)

*UMD is currently working to determine the size of the OWSs associated with the parking garages. The SPCC will be updated to reflect this information when resolved.

The one (1) at UMD subject to the provisions of 40 CFR 112.7 is the following:

- A 600-gallon OWS located within the dike at the Plant Operations and Maintenance (#006) fueling area is used in conjunction with the secondary containment dike.

In addition to the OWSs, UMD has nineteen (19) food grease interceptors (FGI). FGIs are classified as wastewater pre-treatment equipment, which is not regulated according to 40 CFR 112.1(d)(6). Each FGI is located at a food service dining facility listed below:

- One (1) 7,500-gallon FGI tank is located in the loading dock of the South Campus Dining Hall (#026 SDH);
- One (1) 4,000-gallon FGI tank is located in the loading dock of the Stamp Student Union (#163 SSU);
- One (1) 1,800-gallon FGI tank is located in the upper parking lot island Denton Area Dining hall (#251);
- One (1) 1,800-gallon FGI tank is located in the parking lot of the Ellicott Area Dining Hall (#257);
- One (1) 4,000-gallon FGI tank is located in the interior loading dock of the Xfinity Center (#360);
- One (1) 1,500-gallon FGI tank is located in the rear patio of the Gossett Football Team House (#379);
- One (1) 1,800-gallon FGI tank is located at the rear of Capital One Maryland Stadium Tyser Tower (#361);
- One (1) 500-gallon FGI tank is located in the front stand #S023 of the Capital One Maryland Stadium Stand Concessions (#363);
- One (1) 1,800-gallon FGI tank is located in the exterior loading dock of the Golf Course Club House (#166);
- One (1) 275-gallon FGI tank is located in the interior mechanical room of the Clarice Smith Performing Arts Center (#386);
- One (1) 500-gallon FGI tank is located in the exterior loading dock of the Van Munching Hall (#039);
- One (1) 1,200-gallon FGI tank is located at the rear exterior of the University House Event Center (#164); and
- Seven (7) 1,000-gallon FGI tanks are located in the Sorority Greek Houses parking lot:
    - Greek House 170 Alpha Delta Pi (#170)
    - Greek House 171 Phi Sigma Sigma (#171)

- Greek House 172 Alpha Chi Omega (#172)
- Greek House 173 Delta Phi Epsilon (#173)
- Greek House 174 Sigma Delta Tau (#174)
- Greek House 175 Delta Gamma (#175)
- Greek House 176 Alpha Phi (#176)

The OWSs are inspected on a monthly basis in accordance with the UMD procedures. Monthly inspections are completed using the Monthly Checklist in Appendix G. Solids, oils, and other sediments are removed from the OWSs, as needed, and appropriately disposed offsite. The engineering drawings for the OWS and associated piping are located in Appendix H.

The FGIs and food grease oil containers and drums are regularly maintained by UMD Dining Services. The FGIs are maintained monthly by a third-party contractor, Valley Proteins, Inc., except for the seven (7) located at the Sorority Greek Houses. Those are maintained annually by Atlantic Wastewater Solutions, LLC. The food grease oil containers and drums are recycled on an as-need basis by Valley Proteins, Inc.

3.4 DISCHARGE PREVENTION MEASURES

[40 CFR 112.7 (a) (3) (ii)] Measures taken to prevent discharge to navigable water include, but are not limited to:

- Design and maintenance of the secondary containment for oil storage containers described in this SPCC Plan.
- Inspections conducted in accordance with inspection schedules outlined in Section 3.9 and Appendices J and K.
- Proper loading and unloading procedures outlined in Section 3.12 and Appendix I.
- Design and maintenance of bulk storage containers in accordance with 40 CFR 112 and COMAR 26.10.17/.18, as applicable.
- Design and maintenance of oil transfer systems and oil-filled operating equipment in accordance with 40 CFR 112.
- Annual training for all UMD personnel who handle oil products outlined in Section 3.10.

[40 CFR 112.7 (a) (3) (iii)] Secondary containment in compliance with 40 CFR 112.7 (c) is presented in Sections 3.7 and 4.3 of this SPCC Plan. In addition, UMD drainage is managed in compliance with 40 CFR 112.8 (b) as discussed in Section 4.1 of this SPCC Plan.

3.5 SPILL EVENTS

In the event of a non-hazardous or non-toxic spill, the operator shall utilize the following procedures:

1. Close any open valves and/or turn off all pumps.
2. Contain or prevent the migration of the spill without endangering yourself or other personnel. NOTE: DO NOT PUT YOURSELF OR EMPLOYEES IN LIFE THREATENING SITUATIONS.
3. The personnel on call shall classify the spill and check the Safety Data Sheets (SDS) for the hazard level. Refer to Section 2.1 regarding reporting requirements.
4. Clean up the spill.
    a. Oil: Place absorbent material on the spilled oil. After the oil has been absorbed, immediately remove the oil/absorbent mixture and dispose of properly.
    b. Fuel: Follow the SDS cleanup procedures. Spilled petroleum that contaminates soils will require excavation and proper remediation and restoration of the site.

[40 CFR 112.7 (a) (3) (iv) - (vi)]; [40 CFR 112.7 (a) (4)]; [40 CFR 112.7 (a) (5)] Figure 3 illustrates the process for discovery, notification, and response to an oil release. Discharges are classified as either "minor" or "major," depending on the volume and characteristics of the material released. Table 3 can be used to determine whether a discharge is to be classified as "minor" or "major." Contact lists and phone numbers are presented in Tables 4 and 5.

Table 3: Classification of Discharges

Minor Discharge *Discharge that poses no significant harm or threat to human health and safety or to the environment.*	• Quantity of discharge is small (typically involves less than 10 gallons of oil) • Discharged material is easily stopped and controlled at time of discharge • Discharge is localized near the source • Discharged material is not likely to reach water • Discharge poses little risk to human health or safety • There is little risk of fire or explosion
Major Discharge *Discharge that cannot be safely controlled or cleaned up by UMD personnel.*	• Quantity of discharge is large enough to spread beyond immediate discharge area • Discharged material enters water • Discharge requires special equipment or training to clean up • Discharge poses a hazard to human health or safety • There is risk of fire or explosion

Figure 3: Response Action Flowchart

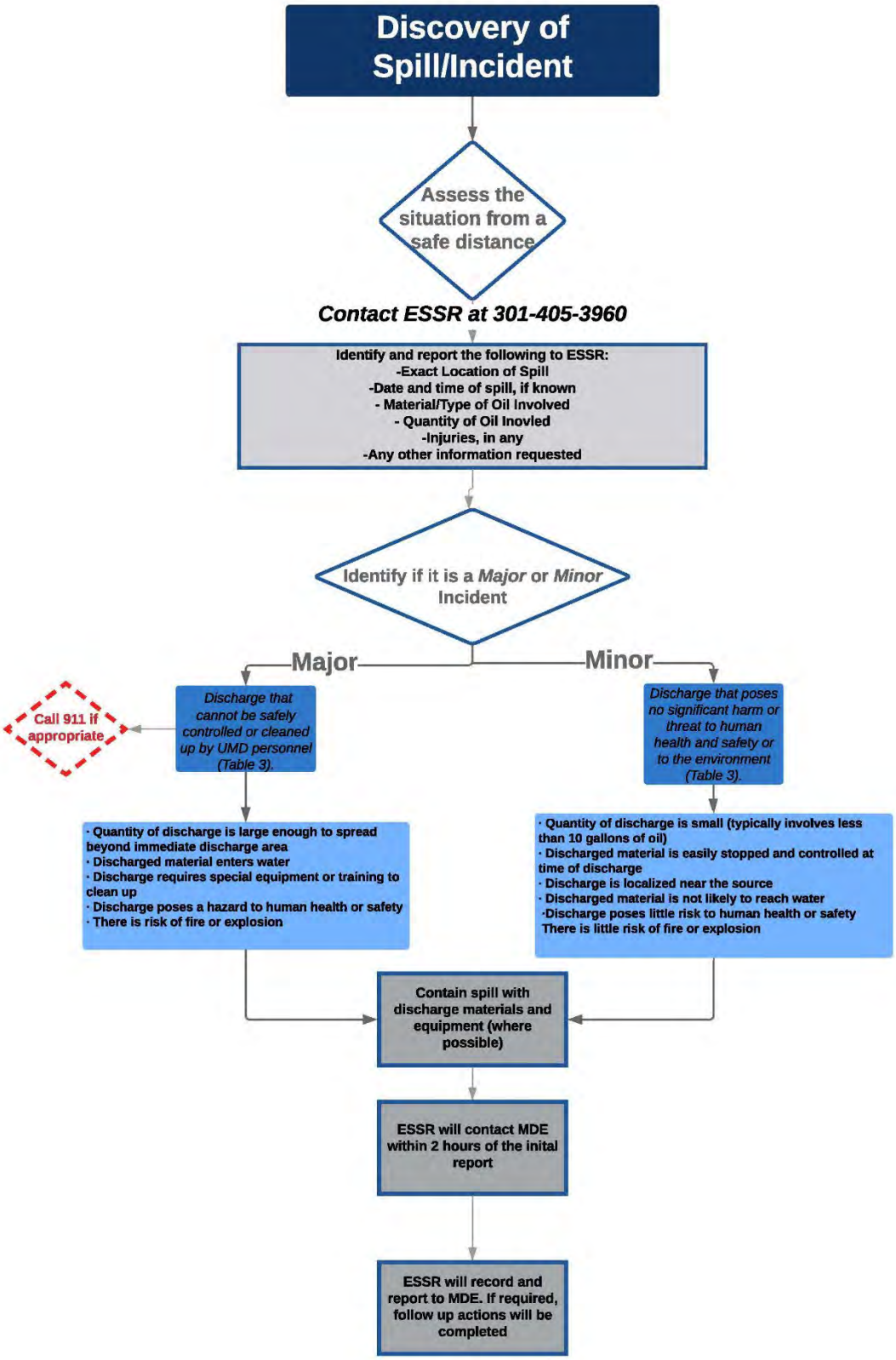


Table 4: University of Maryland Contacts List

Staff Names	Individual Responsibilities	Contact Info
Jason Baer, Assistant Director, Office of Environmental Affairs, UMD	Primary Contact; Maintain and Implement SPCC	(o) 301-405-3163 (c) 202-441-6391; jbaer123@umd.edu
Kaitlyn Peterson, Environmental Regulatory Compliance Manager, Office of Environmental Affairs, UMD	Primary Contact; Maintain and Implement SPCC; Conduct annual trainings	(o) 301-405-8604 (c) 202-308-8273; Kpeter13@umd.edu
Kristofer Bird, Environmental Specialist, Office of Environmental Affairs, UMD	Primary Contact; Maintain and Implement SPCC; Perform Inspections; Conduct annual trainings.	(o) 301-405-3960 (c) 202-308-9466 Kbird@umd.edu
Mark Schultz, Coordinator for VPAF-FM-O&M-Electric, UMD	Secondary Contact; Implement proper filling procedures and spill response for generators.	(o) 301-405-2222 (c) 443-301-3837; mschult4@umd.edu
Mark Alexander, Operations Manager for College Park Energy, LLC	Secondary Contact; Implement proper filling procedures and spill response for transformers.	(o) 301-405-0426 (c) 240-241-3486, mark.alexander@engie.com
Gregory Thompson, Assistant Director, Dining Services	Secondary Contact; Implement proper filling procedures and spill response for dining services and FGIs.	(c) 240-417-5035 gkt@umd.edu
Martin Culp, Supervisor Construction, VPAF-FM-O&M-Electric, UMD	Secondary Contact; Implement proper filling procedures and spill response for elevators.	(o) 301-405-7074, mculp@umd.edu
Scott Lupin, Associate Director of Environmental Affairs, UMD	Tertiary Contact	(o) 301-405-3698; slupin@umd.edu
Maureen Kotlas, Executive Director, Department of Environmental Safety, Sustainability & Risk, UMD	Tertiary Contact	(o) 301-405-3960; mkotlas@umd.edu

Table 5: Off-Site Notification List

Agency	Phone Number
Local Police Department -College Park PD -UMD PD	 (301) 405-3333 (301) 405-3555 or 911
Emergency Response Services -Triumvirate Environmental -Ace Environmental	 (800) 966-9282 (410) 354-8030
National Response Center (NRC)	(800) 424-8802
MDE Emergency Spill Response	(866) 633-4686

3.6 POTENTIAL SPILL PREDICTIONS, VOLUMES, RATES, AND CONTROLS

[40 CFR 112.7 (b)] An overflow from ASTs could potentially occur during loading/unloading operations. To prevent overflows, the ASTs are to be continually attended during loading/unloading. Leaks could potentially occur from worn or corroded seals, valves, fittings, or walls.

All the tanks and containers at UMD could potentially rupture through acts of vandalism, extreme weather conditions, or an accidental strike by an object hard enough to penetrate the tank wall. Various measures discussed in this SPCC Plan are designed to prevent such releases and, should they occur, contain the released oil.

The rate of flow from any release is dependent on the type of spill, quantity of liquid that is discharged, and the slope of the land.

The majority of ASTs at UMD are located in areas that are flat with minimal relief. Any spill will be contained, cleaned up, and properly disposed of. All ASTs at UMD have secondary containment, fuel level indicators, and/or protection from vehicles. Associated piping and pipe supports are believed to be designed and installed by reputable companies. It is believed that the design and installation were in a manner that will minimize abrasion and corrosion and allow for expansion and contraction. In the event of associated piping leaking or suffering a catastrophic event, the spill would be minimal and contained within the immediate area and subject to immediate clean up.

Appendices C-F contain the maximum amount of potential discharges (capacities), direction and location that a potential spill/discharge would travel, and the distance of each equipment from entering navigable waters. There are seven (7) fuel transfer areas around the UMD campus:

- Loading and Unloading area at the Plant Operations and Maintenance (#006) parking lot K2;
- Refueling area at the Severn (#810) fueling island;
- Refueling area at the Shuttle Bus Facility (#424) fueling station;
- Refueling area at the Grounds Operations & Maintenance Building (#328) fueling station;
- Refueling area at the University of Maryland's Golf Course Maintenance (#314) fueling station;
- Refueling area at the SECU Stadium Maintenance Building (#369) fueling station;
- 100-gallon UMD Mobile Refueler with a pump rate of 20 GPM.
    - all other areas are located near the generator tanks for fuel unloading.

The Severn and the Shuttle Bus Facility loading/unloading areas are equipped with zipper drains leading to an OWS in the event of a spill. A 600-gallon OWS located within the dike at the Plant Operations and Maintenance (#006) fueling area is used conjunction with the secondary containment dike; a 1,600-gallon wastewater OWS is located in the northeast corner of the fueling island of the Severn Building (#810), and a 1,600-gallon wastewater OWS is located adjacent to the fueling area of the Shuttle Bus Facility (#424). The OWSs located at the Shuttle Bus Facility (#424) and the Severn Building (#810) are exempt as discussed in Section 3.3.6. The Grounds Operations & Maintenance Building, University of Maryland's golf Course Maintenance (#314) and SECU Stadium Maintenance Building loading/unloading areas are equipped with spill kits and pig mats to be deployed over stormwater inlets in the event of a spill. A 3rd party contractor delivers fuel to the loading/unloading and refueling areas and is responsible for the transfer operations. In the event of a major equipment failure, spill kits are available within the vicinity. Active measures are used to meet SPCC requirements at the unloading areas as described in Section 3.7.

The mobile refueler is located in the bed of a truck and is used to refuel most of the generator ASTs around the UMD campus. The mobile refueler parks near the equipment to unload fuel accordingly and those areas are marked on the map accordingly as unloading areas. The truck is equipped with a spill kit to contain and clean and spills. The mobile refueler is parked beneath a covered concrete pad in the Severn Building (#810) X1 parking lot.

There are three (3) portable diesel generators varying in capacity from 80 to 468-gallons. These generators are used to provide buildings and facilities around the University of Maryland campus with emergency power when needed. When not in use, the portable oil storage tanks are parked beneath a covered concrete pad adjacent to the X1 parking lot at the Severn Building (#810).

A table of the transfer area fault analysis is located in Appendix F. This table has been prepared by considering the average time required to respond to a spill in highly populated and manned areas, which may involve actions such as shutting off a pump or closing a valve. Further details on tank loading and unloading are discussed in Section 3.12.

3.7 CONTAINMENT AND DIVERSIONARY STRUCTURES

[COMAR 26.10.17.07, COMAR 26.10.18.06, 40 CFR 112.7 (c)] The stationary ASTs at UMD have appropriate containment by use of secondary containment, dikes, or through the use of double-wall tank construction. The secondary containment for these bulk storage tanks is in accordance with 40 CFR 112.8 (c) (2). Fulfilling this requirement also meets the general containment requirement of 40 CFR 112.7 (c) for these tanks.

UMD has taken measures to be prepared for potential spills by providing emergency spill response kits. These kits are located at each fuel tank location and consist of essential items such as personal protective equipment, oil absorbent booms and mats, and approved containers for storing and removing used spill response materials and equipment. They also include emergency response directions and contact lists. If a spill occurs, the designated spill response kit in the immediate area is used initially to mitigate and control the spill. Trained personnel from UMD are then dispatched to the scene with additional supplies, such as spill pads, absorbent, shovels, and other necessary equipment, to effectively clean up the spill and remediate any environmental impacts. This comprehensive approach ensures that UMD is well-equipped to handle spills and protect the environment and public health in case of any emergencies. Additional details on the secondary containment systems are provided in Section 4.3.

The hydraulic elevators are each contained within a sealed room which is not equipped with floor drains. Secondary containment is determined to be impractical for the pad-mounted transformers as they are factory sealed electrical components that contain mineral oil for cooling purposes. EPA rules do not require the specific secondary containment requirements under 40 CFR 112.8(c) for oil-filled electrical equipment, such as a transformer, because they do not meet the definition of a bulk storage container in 40 CFR 112.2. However, they must meet the general secondary containment requirements under 40 CFR 112.7(c) or the alternative requirements for OFOE per 40 CFR 112.7(k). UMD will meet the alternative requirements under 40 CFR 112.7(k), which is discussed in Section 3.14.

Construction contractors on UMD property are expected, as a part of their contract, to have ample secondary containment for all of their heavy equipment and any additional ASTs with a storage capacity 55-gallons and above. UMD staff will routinely conduct a visual check to ensure the contractors are adhering with 40 CFR 112.8 (c) (2).

Secondary containment for mobile/portable tanks is addressed in Section 4.8.

Secondary containment for loading/unloading of fuels, lube oil reservoirs, and piping are met through active control measures and/or containment.

3.8 PRACTICABILITY OF CONTAINMENT

[40 CFR 112.7 (d)] UMD has determined that use of containment and diversionary structures or readily available equipment to prevent discharged oil from reaching navigable waters is practical and effective at UMD. Additionally, UMD is implementing the alternative requirements for oil-filled operating equipment as allowed per 40 CFR 112.7(k), which is discussed in Section 3.14.

3.9 INSPECTIONS

[40 CFR 112.7 (e)] Monthly, quarterly, and annual inspections of ASTs in addition to the quarterly inspections of the 55-gallon drums are scheduled and completed by ESSR trained personnel and are performed using the inspection forms included in Appendices J and K.

[COMAR 20.10.01.02B] In June 2022, MDE adopted new regulations under the Oil Pollution Control chapter of COMAR. Within these regulations includes the definition of an AST, oil-filled operational equipment, size provisions, and applicable oil types. ASTs are defined as a storage tank has previously stored oil, except for a storage tank placed out-of-service to store a non-oil

product in accordance with COMAR 26.10.17 or 26.10.18 with a storage capacity of greater than 250 gallons. The definition does not include a storage tank on a farm or private residence with a capacity to store 1,100 gallons or less of motor fuel or heating oil for noncommercial or personal use or oil-filled operational equipment. MDE furthermore defines oil-filled operation equipment as "equipment that includes an oil storage container or multiple containers in which the oil is present solely to support the function of the apparatus or the device, including:

- Hydraulic systems;
- Lubricating systems for pumps, compressors, and other rotating equipment;
- Gear boxes;
- Machining coolant systems;
- Heat transfer systems;
- Transformers;
- Circuit breakers;
- Electrical switches; and
- Other systems containing oil solely to enable the operation of the device.

With the majority of UMD's ASTs associated with emergency generators fitting the criteria of oil-filled operational equipment, those tanks will be formally inspected on an alternative quarterly schedule basis due to their high visibility and constant use, while the tanks that do not meet any of the AST exclusions will be inspected monthly. As the single lube oil reservoir falls under oil operational equipment, it will be inspected on a quarterly basis at the facility. A list of the ASTs and their inspection schedule is located in Appendix C. If any concerns arise during quarterly inspections of an AST, the inspection frequency for that particular AST would be adjusted to monthly until the concerns have been addressed and resolved to ensure the safety and compliance of the storage tank

Additionally, the 55-gallon drums will be formally inspected on an alternative quarterly basis due to the high visibility and constant use of the 55-gallon drums. The ESSR personnel conducting the AST inspections will visually check the condition of the 55-gallon drums monthly and perform a formal inspection quarterly. The drums containing food-oil grease are emptied and visually inspected monthly by a 3rd party contractor who recycles the food-oil grease.

Additionally, if at any time problems are discovered during routine operations, the problem and corrective measures will be addressed by trained staff. Inspections are signed by the inspector and maintained electronically on the UMD computer network as well as hardcopies within the Environmental Service Facility (344). Hardcopies will be stored for three (3) years as required.

Oil-filled electrical (Transformers) and operational equipment (Hydraulic Elevators) are inspected once a year by their designated section. Transformers are inspected by College Park Energy and records of those inspections are maintained within their office in the Central Heating Plant (Bldg. #001). Hydraulic elevators are inspected once a year by Elevator Shop staff of Facilities Management, and records of those inspections are maintained within the Elevator Shop office in South Campus Dining (Bldg. #026).

[COMAR 26.10.17.10 and COMAR 26.10.18.09] To comply with these regulations, both shop-fabricated and field-erected AST systems must be designed, constructed, installed, and maintained in a manner that prevents leaks and spills. Additionally, the regulations require that all ASTs, regardless of type, be periodically inspected for corrosion, leaks, and other forms of damage.

Shop-fabricated ASTs are situated on supports elevated above the ground to prevent corrosion. Field-erected ASTs greater than 10,000 gallons are situated on supports elevated above the ground to meet the regulation's requirements with the exception of two (2) 252,762-gallon tanks. In accordance with the regulatory guidelines specified in *COMAR 26.10.18.09*, it is crucial to highlight that the two (2) tanks being reviewed are adequately situated on a concrete pad. Notably, these tanks have received MDE approval to employ ultrasonic thickness (UT) testing results, while strictly adhering to the inspection schedule outlined in API 651 standards.

[COMAR 26.10.17.12 (A)(2) and (3), and COMAR 26.10.18.11(B)(2) and (3)] To comply with regulations, visual inspections of both shop-fabricated and field-erected AST systems are required to be conducted monthly. As per the definition of an AST system outlined in *COMAR 20.10.01.02B*, an AST system includes an AST, as well as connected aboveground and underground piping, ancillary equipment, appurtenances, dispensers, loading racks, and secondary containment.

These inspections will be carried out by ESSR personnel as part of their regular work activities or while responding to preventative maintenance work orders. The inspection findings will be documented using the Inspection Forms included in Appendices J and K.

ASTs that do not meet the definition of an AST system under *COMAR 26.10.01.02B* will be visually inspected on a quarterly basis as an alternative.

[COMAR 26.10.17.12(C)(1), COMAR 26.10.18.11(D)(1), and 40 CFR 112.7(e)] In addition to the periodic inspections, annual inspections will be conducted encompassing the aforementioned items and the following:

- Primary/emergency vents;
- Testing of level gauges;
- Electrical wiring and boxes;
- O-rings, and gaskets;
- Tank supports; and
- Tank foundation.

These inspections will be performed by ESSR staff as part of their regular work activities or while responding to preventative maintenance work orders and will be recorded on the Inspection Form included in Appendix J. All completed inspections will also be stored in an additional inspection binder on site. Formal inspections for shop-fabricated and field-erected ASTs are described further in Section 4.5.

3.10 TRAINING

[40 CFR 112.7 (f) (1)] ESSR will maintain, implement, and train all personnel who handle oil products annually. In addition, ESSR regularly trains its alternative personnel on spill prevention measures, cleanup procedures, reporting requirements and other important information from this SPCC Plan. Training materials and documentation are included in Appendix L. The training materials are also available online for on-demand access for UMD personnel who manage oil with a volume of 55-gallons or more. Records of the in-person training are stored electronically on the UMD computer network and the online training records are stored within either the BioRAFT or Workday database records.

[40 CFR 112.7 (f) (3)] Employees are to receive annual refresher training either online or at the regularly scheduled safety meetings. The following, at a minimum, are emphasized at these meetings:

- Familiarity with the SPCC Plan
- Changes in the SPCC Plan
- Spill prevention and response procedures
- Materials handling and storage
- Inspection and recordkeeping activities
- Any reported spills
- New management practices

3.11 SITE SECURITY

[40 CFR 112.7 (g)] The UMD oil storage is located within several facilities around the campus. Each facility handling, processing, or storing oil is locked and/or secured when the facility is unattended. The two (2) 252,762-gallon and one (1) 8,000-gallon tanks are located within a concrete diked area with limited access. Access to the associated fuel pumps access is limited to Facilities Management personnel. The University of Maryland University Police perform regular patrols on campus. UMD Public Safety also maintains an extensive camera monitoring system across campus.

All existing drain valves are locked in the closed position to prevent any discharge during non-operation or non-standby status.

All existing tanks and drums at UMD that have oil dispensers are kept in the locked/off position when the pump is in a non-operating or standby status.

The loading/unloading connections on pipelines are capped when not in service or when in standby service for an extended time.

Adequate lighting is provided. There is lighting around the buildings, storage facilities, and loading/unloading areas.

3.12 TANK LOADING/UNLOADING

The UMD off-loading areas are located in Parking Lot # K2, adjacent to the Central Heating Plant (CHP) fuel tanks, in Parking Lot #X1 adjacent to the refueling area at Severn Building (#810) fueling island, the refueling area at the Shuttle Bus Facility (#424), the refueling area at the Grounds Operations & Maintenance Building (#328), the refueling area at the University of Maryland's Golf Course Maintenance (#314), the refueling area at the SECU Stadium Maintenance Building (#369), and the mobile refueler owned and operated by UMD personnel. Generators serviced by the mobile refueler loading and unloading areas are adjacent to the generator itself. When refueling is needed, the mobile fueler parks next to the fuel port and proceeds to refuel the generator.

Independent vendors operate the tank trucks; thus, the vendors are responsible for ensuring their operations are performed in accordance with applicable local, state, and federal regulations. The vendors are required to verify all truck drivers have proper training and must be US Department of Transportation (USDOT) licensed. All suppliers must comply with USDOT regulations in 49 CFR 177 and UMD standard operating procedures. Oil vendors must ensure that the driver understands the site layout, knows the protocol for entering the facility and unloading product, and has the necessary equipment to respond to a discharge from the vehicle or fuel delivery hose. Similar precautions are undertaken during the removal of used oil from the facility. Oil vendors are responsible for cleaning up any spills caused by their delivery operations. Prior to filling, the liquid levels of the AST must be measured, recorded using the checklist in Appendix I, and kept on record for at least 3 years.

The mobile refueler is used to refuel the diesel tanks associated with generators located throughout the UMD campus. The mobile refueler is equipped with a single-walled 110-gallon AST fixed within the bed of a truck. The truck has a spray-on liner in the bed along will spill response materials stored within the storage compartments. Liquid levels are checked prior to filling to minimize spills.

UMD is committed to ensuring the safe transfer of material to and from all oil storage tanks. Oil transfer on campus is either from a tanker truck to a bulk storage tank, the mobile refueler to a storage tank, removal of food oil grease, or the unloading of drums of oil. Regardless, the potential for discharges during transfer operations is of concern at this facility and as such transfers are

monitored to minimize spills and containers are visually inspected for capacity when possible prior to the transfer of material.

[40 CFR 112.7 (h)] This section requires certain measures for tank car and tank truck loading/unloading racks. Although UMD does perform some loading/unloading activities, it does not operate a loading/unloading rack as defined in SPCC regulations. As a result, the requirements of this section do not apply.

3.13 BRITTLE FRACTURE ANALYSIS

[40 CFR 112.7 (i)] There are two (2) field-constructed oil ASTs located at the CHP. The two (2) 252,762-gallon #2 fuel oil bulk storage tanks were constructed in 1973 and 2001 respectively. Both tanks were originally built to API Standard 650. An API Standard 653 external In-Service inspection was conducted by a certified inspector every five (5) years until 2015. In 2015, an API Standard 653 internal inspection was performed by a certified inspector on tank 2A. In 2009, an API Standard 653 internal inspection was performed by a certified inspector on tank 2B. Currently, both tanks are in service and an API Standard 653 external In-Service inspection will continue to be completed every five (5) years and an API Standard 653 internal inspection will be completed every twenty (20) years.

If the two (2) 252,762-gallon #2 fuel oil bulk storage tanks undergo a repair, alteration, or reconstruction, they will be evaluated and inspected by a certified API inspector. In the event the tanks fail their inspection, appropriate actions will be taken to rectify the deficiencies.

3.14 ALTERNATIVE REQUIREMENTS FOR OIL-FILLED OPERATIONAL EQUIPMENT

[40 CFR 112.7 (k) (1-2)] UMD meets the qualification requirements listed in 40 CFR 112.7(k) (1) and therefore will use alternative requirements to secondary containment to prevent an oil discharge from the oil-filled operating equipment. The alternative requirements consist of:

- Establish and document the procedures for inspections and/or a monitoring program for detecting equipment failure and/or a discharge.
    - Transformers are visually inspected annually by College Park Energy. Inspections are maintained within the Central Heating Plant (Bldg. #001) facility.

- Hydraulic Elevators are visually inspected annually by qualified elevator technicians from the Elevator Shop in UMD Facility Maintenance. Regular maintenance is conducted on an as-needed basis. Records are maintained within the Elevator Shop office in South Campus Dining (Bldg. #026).

- A written commitment of manpower, equipment, and materials needed to expeditiously control and cleanup any quantity of oil discharged that is harmful.

[40 CFR 112.7 (k) (2) (ii) (A)] This SPCC Plan will serve as an oil spill contingency plan following the provisions of 40 CFR 109.

3.15 RECORDKEEPING

All documentation regarding inspections, training, spill reports, and any other requirements stated in this plan will be stored onsite for a period of at least three (3) years.

3.16 STATE REQUIREMENTS

[40 CFR 112.7 (j)] The University of Maryland meets the state-level requirements set forth by MDE by implementing the provisions and regulations set forth in this SPCC Plan.

- Spill reporting procedures are detailed in Sections 2 and 3.5;
- Inspection frequencies and implementation are detailed in Section 3.9;
- Performance standards, piping, and corrosion protection are detailed in Section 3.9;
- Transfer activities in loading/unloading areas are detailed in Section 3.12;
- Formal testing and inspections for AST systems are detailed in Section 4.5; and
- Buried, out-of-service, and aboveground piping is detailed in Sections 4.9-11.

[COMAR 26.10.01.09-11] UMD has two (2) Individual OOPs; one for the main campus and one for the Severn Building (#810) due to having an aggregate storage capacity of 10,000 gallons or greater. UMD registers and maintains registration of each AST system located at the facility as a part of the application process for a renewal in accordance with *COMAR 26.10.01.11*. The inventory at UMD is kept up to date by ESSR personnel and is submitted to MDE during the OOP renewal process.

4.0 SPCC REQUIREMENTS FOR ON-SHORE FACILITIES

Since UMD is classified as a non-production facility, it is subject to the SPCC requirements listed in 40 CFR 112.8 and as addressed in the following sections.

4.1 CAMPUS DRAINAGE

[40 CFR 112.8 (b) (1 & 2)] There are three (3) stationary, diked oil/fuel storage areas at UMD. All drain valves are maintained in the normal closed position and all retained rainwater will be inspected/tested prior to discharge by/under the supervision of a responsible person. Records of the discharge event are maintained in accordance with this SPCC Plan. The dike drainage form is located within Appendix M.

[40 CFR 112.8 (b) (3-5)] The regulations specify performance requirements for systems used to drain undiked areas with the potential for a discharge. These provisions apply only when the facility owner/operator chooses to use a facility drainage system to meet general secondary containment requirements under 40 CFR 112.7(c) or a more specific containment requirement under 40 CFR 112.7(h)(1), 112.8(c)(2) or 112.12(c)(2). UMD does not use a facility drainage system to meet general secondary containment requirements and therefore, these regulations do not apply.

4.2 MATERIALS AND CONSTRUCTION

[40 CFR 112.8 (c) (1)] All of the stationary ASTs are constructed of metal. 55-gallon drums are constructed of either metal or high-density polyethylene (HDPE) plastic. All ASTs and drums are compatible with the liquids that they contain. The ASTs are also suitable for the pressure and temperature conditions that they encounter.

4.3 SECONDARY CONTAINMENT

[COMAR 26.10.17.07, COMAR 26.10.18.06, 40 CFR 112.8 (c) (2)] All of the ASTs at UMD have proper containment through double-walled construction or specific secondary containment measures. Refer to Appendix C with the details of each tank and its secondary containment.

[40 CFR 112.8 (c) (3)] There are three (3) stationary, diked oil/fuel storage areas at UMD. The diked areas are discussed in Section 4.1.

4.4 CORROSION PROTECTION

[40 CFR 112.8 (c) (4)]; [40 CFR 112.8 (c) (5)] UMD has no USTs and no partially buried tanks.

4.5 TANK TESTING AND INSPECTIONS

[COMAR 26.10.17.12(D), COMAR 26.10.18.11(E)-(H), 40 CFR 112.8 (c) (6)] Each AST will be visually inspected and subjected to integrity testing such as hydrostatic, radiographic, ultrasonic, acoustic emissions, or other non-destructive shell testing if required. The frequency of inspections and integrity testing is based on the tank manufacturer's recommendations in addition to the Steel Tank Institute (STI) SP001 standard and the American Petroleum Institute (API) 653 standard, except as noted above. Visual inspections will be done at least once a month/quarter depending on the tank by ESSR staff using the inspection forms in Appendix J in addition to the annual inspections that are done using the inspection forms provided in Appendix K. Inspection frequencies are detailed in Section 3.9.

All tanks with double-walled containment should have the interstitial space monitored frequently (monthly/quarterly) to ensure that the inner tank has not failed and remove condensation that could cause corrosion. Integrity testing of all tanks is also needed whenever material repairs are made.

Figure 4 below is the STI SP001 6th Edition schedule of formal inspections required.

Figure 4: Table of Inspection Schedules from SP001

AST Type and Capacity in U.S. gallons (liters)		Category 1	Category 2	Category 3
Shop-Fabricated ASTs	0 – 1100 (0-4164 liters)	P	P	P, E&L(10)
	1101 - 5,000 (4168-18,927 liters)	P	P, E&L(10)	[P, E&L(5), I(10)] or [P, L(2), E(5)]
	5,001 - 30,000 (18,931-113,562 liters)	P, E(20)	[P, E(10), I(20)] or [P, E(5), L(10)]	[P, E&L(5), I(10)] or [P, L(1), E(5)]
	30,001 - 75,000 (113,566-283,906 liters)	P, E(20)	P, E&L(5), I(15)	P, E&L(5), I(10)
Portable Containers		P	P	P**

** Owner shall either discontinue use of portable container for storage or have the portable container DOT (Department of Transportation) tested and recertified per the following schedule (refer to Section 9.0):
Plastic portable container - every 7 years
Steel portable container - every 12 years
Stainless Steel portable container - every 17 years

*Note the following:

Continuous Release Detection Method (CRDM)

P – Periodic AST inspection (PI)

E – Formal External Inspection by certified inspector (FEI)

I – Formal Internal Inspection by certified inspector (FII)

L – Leak test by owner or owner's designee (LT)

( ) indicates maximum inspection interval in years. For example, E (5) indicates formal external inspection every five years.

Based on these requirements, seven (7) of the ASTs at UMD require additional integrity inspections in accordance with STI SP001.

- One (1) 6,000-gallon double-walled diesel fuel tank at Lab for the Physical Sciences (#796) is required to have a formal external inspection once every twenty (20) years.
- One (1) 8,000-gallon diked double-walled diesel fuel tank at the Plant Operations and Maintenance (#006) is required to have a formal external inspection once every twenty (20) years.
- Two (2) 10,000-gallon double-walled gasoline fuel tanks at the Severn Building (#810) are required to have a formal external inspection once every twenty (20) years.
- One (1) 10,000-gallon double-walled E-85 fuel tank at the Severn Building (#810) is required to have a formal external inspection once every twenty (20) years.
- One (1) 12,000-gallon double-walled #2 fuel oil tank at the Severn Building (#810) is required to have a formal external inspection once every twenty (20) years.
- One (1) 20,000-gallon double-walled diesel fuel tank at the Shuttle Bus Facility (#424) is required to have a formal external inspection once every twenty (20) years.

[COMAR 26.10.18.11] The two (2) 252,762-gallon #2 fuel oil bulk storage tanks at the Plant Operations and Maintenance (#006) were constructed in 1973 and 2001 respectively. Both tanks were originally built to API 650 standard. These two ASTs will be inspected in accordance with the API 653 standard. These tanks are required to have monthly routine in-service inspections, a formal external inspection once every five (5) years and an internal inspection once every twenty (20) years (or sooner based on the inspection results).

API 653 standard dictates the internal inspections shall not exceed 10 years unless the tank has one of more leak prevention, detection, corrosion mitigation or containment safeguards.

The two 252,762-gallon #2 fuel oil bulk storage tanks at the Plant Operations and Maintenance (#006) are currently on a twenty (20) year internal inspection schedule with the next internal inspection scheduled for 2029.

Mobile/portable containers, such as 55-gallon drums, are visually inspected quarterly.

Records of inspections and testing are kept on site and are stored electronically on the UMD computer network.

[40 CFR 112.8 (c) (7)] This section is not applicable because there are no internal heating coils used on the ASTs at UMD.

4.6 TANK INSTALLATION FAIL-SAFE ENGINEERED

[COMAR 26.10.17.08, COMAR 26.10.18.07, 40 CFR 112.8 (c) (8)] The ASTs at UMD have visual level gauges and all tanks are constantly attended while being filled. Mobile/portable containers are visually checked prior and after being filled.

[COMAR 26.10.17.08, COMAR 26.10.18.07, 40 CFR 112.8 (c) (8) (v)] Level gauges are visually inspected monthly for AST systems and quarterly for ASTs excluded from the definition in *COMAR 26.10.01 (02) (B)* to ensure proper operation and tested annually for accuracy for all ASTs.

4.7 EFFLUENT MONITORING AND VISIBLE OIL LEAKS

[40 CFR 112.8 (c) (9)] This section is not applicable to UMD because there are no treatment facilities at this location.

[40 CFR 112.8 (c) (10)] All oil leaks from piping, tanks, process equipment (including, but not limited to, seams, gaskets, piping, pumps, valves, rivets and bolts), are immediately reported to the ESSR office and properly reported in accordance with UMD oil response procedures. Immediate attention will be given to stopping and repairing the leaking equipment. The area where the release occurs shall be cleaned up and the site restored.

4.8 MOBILE OR PORTABLE OIL STORAGE TANKS

[40 CFR 112.8 (c) (11)] There are four (4) portable storage tanks at UMD. One (1) 110-gallon diesel fuel tank is mounted in the bed of a truck. The truck bed is equipped with a spray on liner and contains a spill kit in the event of a spill. The portable fuel tank is used to transport fuel to refuel the generator tanks around the campus. There are three (3) portable double-walled diesel generators varying in capacity from 80 to 468-gallons. These generators are used to provide buildings and facilities around the University of Maryland campus with emergency power when

needed. When not in use, the portable oil storage tanks are parked beneath a covered concrete pad adjacent to the X1 parking lot at the Severn Building (#810). A spill sock is placed at the low point of the concrete pad where it drains to the parking lot to prevent oil from reaching the stormwater system.

UMD has multiple 55-gallon drums around the campus. The exact number varies day to day. Section 3.3.4 lists the various locations where the 55-gallon drums are stored. Where the 55-gallon drums are located outdoors, they are contained either within a storage shed on top of a spill pallet, a 2 drums low-profile workstation, or a single 95-gallon salvage drum. Based on the number of 55-gallon drums stored indoors, appropriately sized spill pallets are being utilized.

4.9 BURIED AND OUT OF SERVICE PIPE

[40 CFR 112.1 (d) (6)] The buried piping for the OWS tanks to treat wastewater are exempt from protective wrapping, coating, and cathodic protection.

[COMAR 26.10.17.06, COMAR 26.10.18.05, and 40 CFR 112.8 (d) (1)] UMD does not have any USTs nor out of service piping. UMD does have underground double-walled piping located at the Severn Building (Bldg. #810). The alarm system for the interspatial monitoring system is inspected monthly in compliance with the Oil Operations Permit (Permit # 2018-OPT-6551). The underground double-walled piping was installed prior to 2002 and therefore, is exempt from *40 CFR 112.8 (d) (1).*

Additionally, UMD has underground supply and return lines for the 252,762-gallon #2 Fuel Oil tank 2A, which penetrates the secondary containment dike. The supply and return lines had precision tightness testing completed in November of 2022 and is conducted annually, as stated in the University of Maryland ‘s OOP. The test detects a 0.10 gallon per hour release of oil at 1.5 times the operating pressure and performed for a minimum of 1 hour.

The supply and return line piping were installed prior to 2002 and therefore, is exempt from protective wrapping, coating, and cathodic protection requirements.

UMD has a 600-gallon OWS located within the dike at the CHP fueling area. The OWS is inspected monthly by CHP personnel in compliance with the 40 CFR 112.8(c)(6). The buried piping for the OWS at the CHP was installed prior to 2002 and therefore, is exempt from this regulation.

Oil associated piping engineering drawings are located in Appendix H.

[40 CFR 112.8 (d) (2)] If a section of pipe is taken out of service for an extended period of time, it shall be blind-flanged or capped.

4.10 PIPE SUPPORTS DESIGN

[40 CFR 112.8 (d) (3)] All above ground pipe supports at UMD have been properly designed to minimize abrasion and corrosion and to allow for expansion and contraction of the pipes. Available engineering drawings are located in Appendix H. All other oil associated piping is depicted on the SPCC facility map (Figure 2).

4.11 ABOVEGROUND PIPING

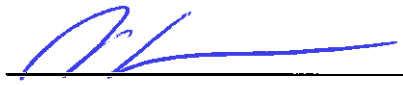
[COMAR 26.10.17.06 and 40 CFR 112.8 (d) (4)] The aboveground piping, valves, pipe fittings, drip pans, pipe supports, and other associated appurtenances serving the ASTs will be visually inspected as specified in Section 3.9 with more detailed inspections done annually using the checklists in Appendices J and K. There are twenty-six (26) ASTs that have aboveground piping. These ASTs and piping are identified on the SPCC facility map (Figure 2) and in Appendix H. Aboveground piping systems connected to shop-fabricated ASTs are constructed of carbon steel, alloy steel, or stainless-steel piping, and are designed and constructed in accordance with recognized industry standards. The piping system is also liquid-tight, properly supported, and protected against physical damage. Furthermore, the University ensures that any piping system installed above ground or inside of a building is not constructed with low melting point materials, materials that soften on fire exposure, or non-ductile materials.

[40 CFR 112.8 (d) (5)] Employees and contractors are aware of the hazards near the truck unloading areas. If an area onsite is observed to be in danger of being damaged by vehicular traffic, guard posts, or other precautionary measures will be employed.

5.0 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN CERTIFICATION

[40 CFR 112.3 (d) (1)] I hereby certify that I or an employee of Trinity Consultants have visited and examined University of Maryland (UMD) at College Park, and being familiar with the provisions of this Spill Prevention, Control, and Countermeasures (SPCC) regulations codified at 40 Code of Federal Regulations (CFR) Part 112 et seq. (40 CFR 112) and this SPCC plan, attest that this carefully thought-out SPCC plan was prepared in accordance with good engineering practices, including consideration of applicable industry standards and with the requirements of 40 CFR 112. Procedures for required inspections and testing have been established and this plan is adequate for this facility. Amendments subsequent to the date of this certification must be documented and certified, separately, by a Registered Professional Engineer as described in Section 2.0 of this plan.

Certifying Engineer: Divya Harrison, P.E.

Signature: 

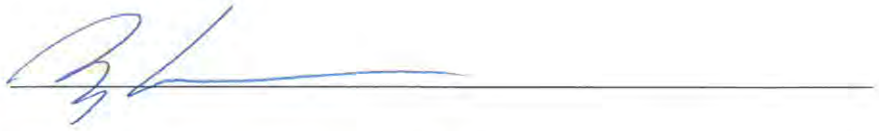
Certification Date: June 23, 2023

Engineering Seal:

5.0 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN CERTIFICATION

[40 CFR 112.3 (d) (1)] I hereby certify that I or an employee of Trinity Consultants have visited and examined University of Maryland (UMD) at College Park, and being familiar with the provisions of this Spill Prevention, Control, and Countermeasures (SPCC) regulations codified at 40 Code of Federal Regulations (CFR) Part 112 et seq. (40 CFR 112) and this SPCC plan, attest that this carefully thought-out SPCC plan was prepared in accordance with good engineering practices, including consideration of applicable industry standards and with the requirements of 40 CFR 112. Procedures for required inspections and testing have been established and this plan is adequate for this facility. Amendments subsequent to the date of this certification must be documented and certified, separately, by a Registered Professional Engineer as described in Section 2.0 of this plan.

Certifying Engineer: Divya Harrison, P.E.

Signature: 

Certification Date: November 11, 2019

Engineering Seal:

5.0 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN CERTIFICATION

[40 CFR 112.3 (d) (1)] I hereby certify that I or an employee of Trinity Consultants have visited and examined University of Maryland (UMD) at College Park, and being familiar with the provisions of this Spill Prevention, Control, and Countermeasures (SPCC) regulations codified at 40 Code of Federal Regulations (CFR) Part 112 et seq. (40 CFR 112) and this SPCC plan, attest that this carefully thought-out SPCC plan was prepared in accordance with good engineering practices, including consideration of applicable industry standards and with the requirements of 40 CFR 112. Procedures for required inspections and testing have been established and this plan is adequate for this facility. Amendments subsequent to the date of this certification must be documented and certified, separately, by a Registered Professional Engineer as described in Section 2.0 of this plan.

Certifying Engineer: Divya Harrison, P.E.

Signature: 

Certification Date: October 8, 2019

Engineering Seal:

6.0 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN MANAGEMENT APPROVAL

[40 CFR 112.7] We hereby certify that the management of UMD at College Park extends its full approval of this SPCC plan and will commit the necessary resources to fully implement it as described herein. We understand that although this plan has been certified by a Registered Professional Engineer; I, Carlo Colella, as Vice President & Chief Administrative Officer, maintain financial responsibility for the implementation of this SPCC Plan; and I, Maureen Kotlas, the Executive Director of Environmental Safety, Sustainability & Risk, maintain the authority to implement and enforce the preparation of this SPCC plan, ensure proper implementation of the provisions contained within, and compliance with the SPCC regulations. We certify that this SPCC plan will be reviewed and evaluated at least once every five years, as described, and documented in Section 2.0 of this plan.

Carlo Colella _____ Jul 14, 2023 _____

Carlo Colella **Date**

Vice President & Chief Administrative Officer

Maureen M. Kotlas _____ ____7/7/2023_____

Maureen Kotlas **Date**

Executive Director, Department of Environmental Safety, Sustainability & Risk

Figure 1
Site Location Map

Figure 1

Site Location: University of Maryland

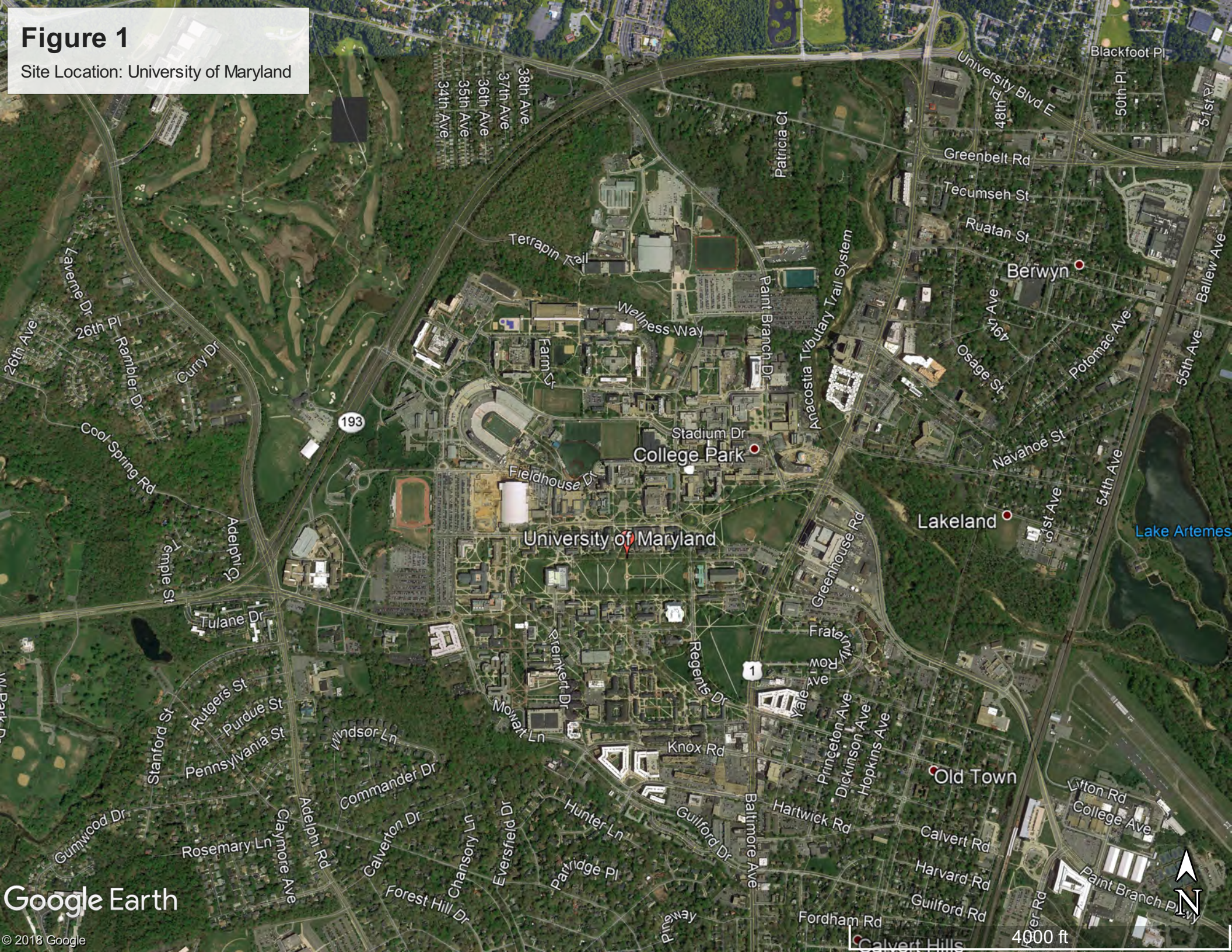
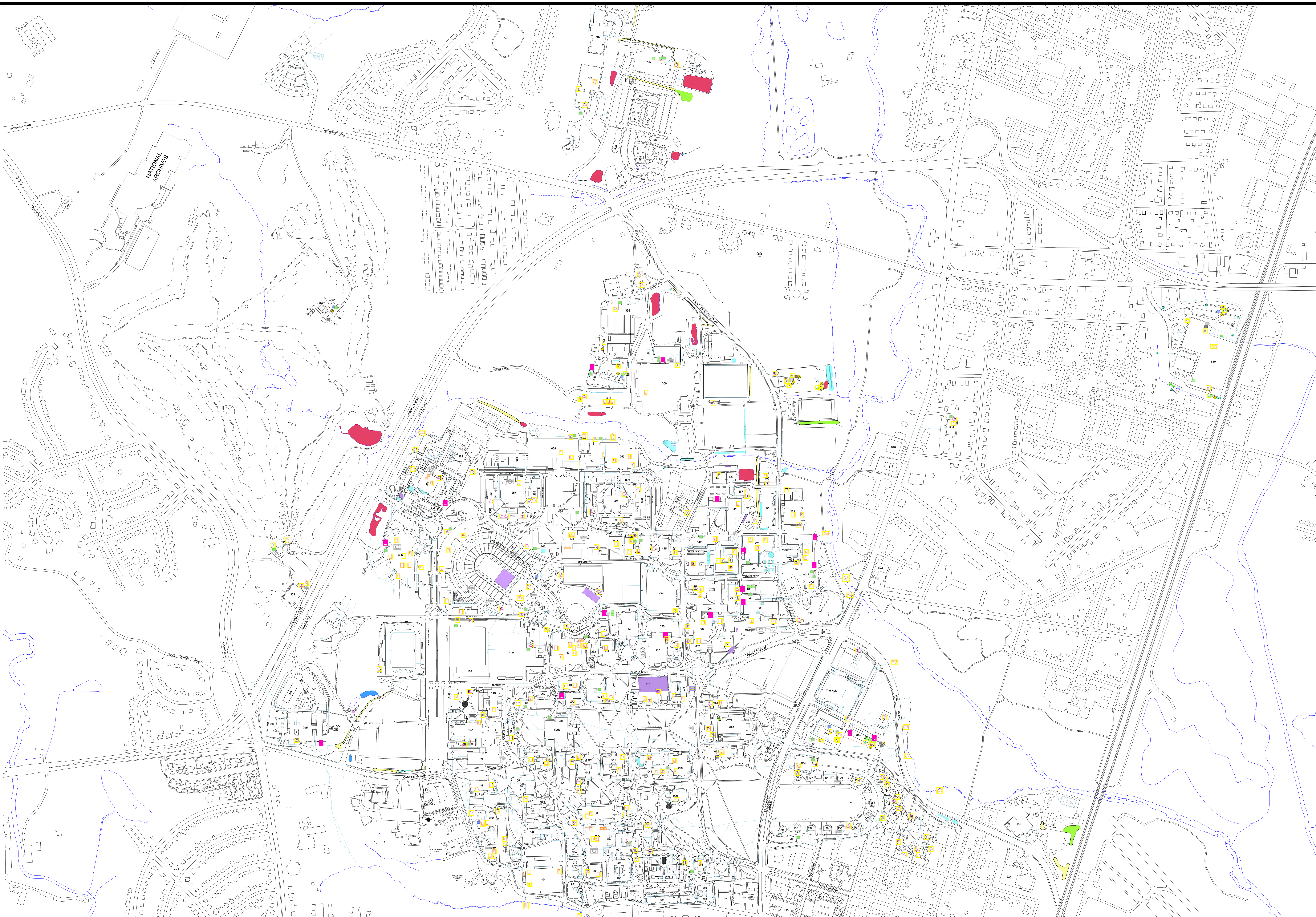


Figure 2
University of Maryland University Site Map



DESIGNED	KAP		
DETAILED	KAP		
CHECKED	KP		
APPROVED	KP		
DATE	6/26/23		

SCALE 1"=450 ft

SEAL

Maryland ENVIRONMENTAL SERVICE

MARYLAND ENVIRONMENTAL SERVICE
ENVIRONMENTAL OPERATIONS GROUP

DR. CHARLES GLASS
DIRECTOR

TIM FORD
MANAGING DIRECTOR

CHARLES INGRAM
CHIEF OF ENGINEERING

NO.	DATE	DESCRIPTION	BY	CK

University of Maryland College Park

SPCC Map

June 2023

PROJECT NO.

SCALE: 1"=20'

SHEET 0 OF 0

DRAWING NO.

J:\university of MARYLAND\UMD SPCC

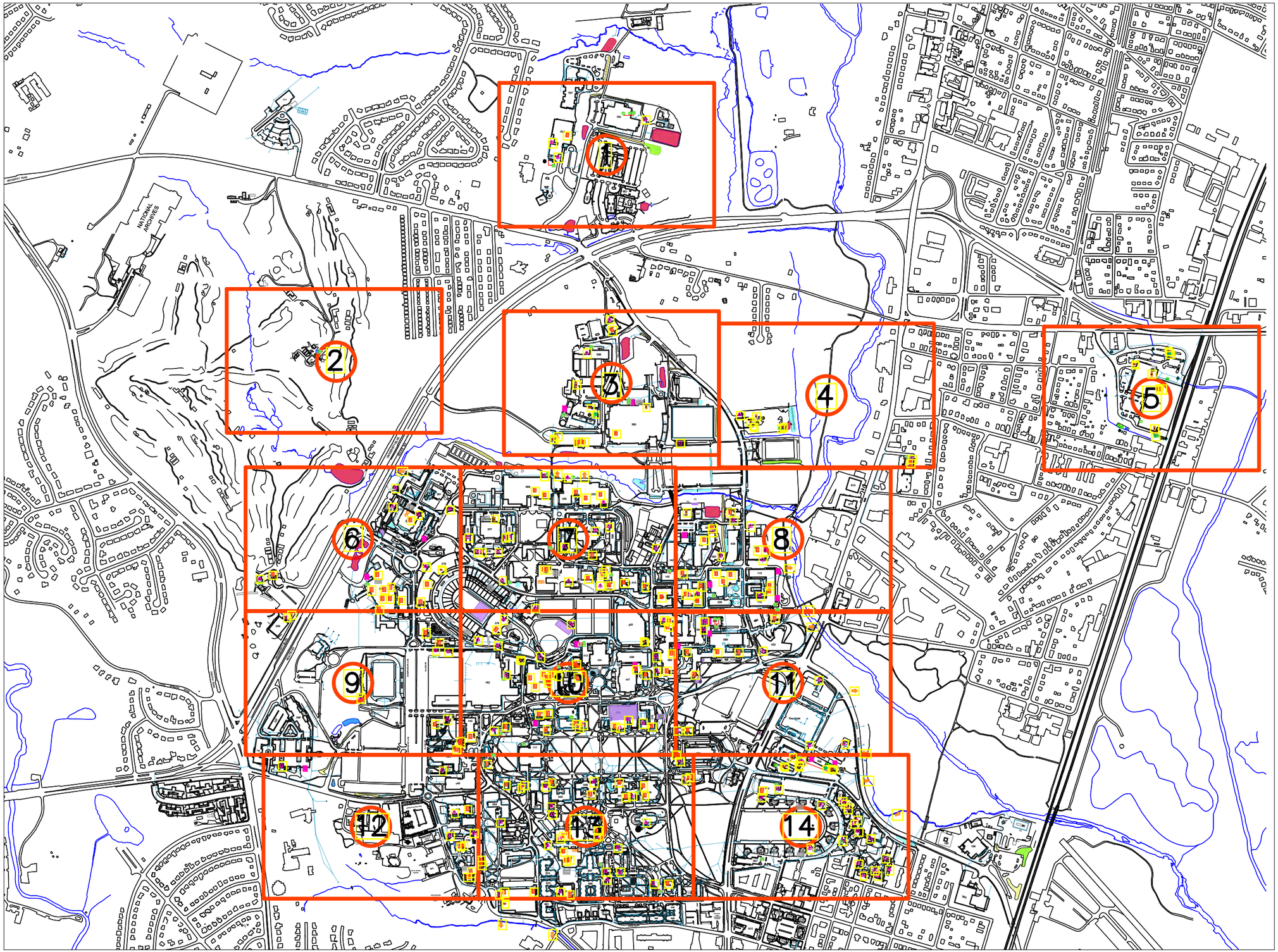
UNIVERSITY OF MARYLAND 18 56

LEGEND — SPCC

ABOVEGROUND PIPING	
ABOVE GROUND TANK	GASOLINE, DIESEL, PRIVATELY OWNED, HYDRAULIC OIL, FOOD OIL, WASTE OIL, MOTOR OIL
FUEL UNLOADING AREA	
DRUM STORAGE	D
LUBE OIL RESERVOIR	L
ELEVATOR	E
FUEL DELIVERY AREA	F
MOBILE TANK	
GENERATOR(PORTABLE)	
GREASE CONTAINER	
NPDES OUTFALLS	XXX
OIL/WATER SEPARATOR	O/W
SPILL KIT	
STORMCEPTOR	
TRANSFORMER	T
TRANSFORMER PAD (MULTIPLE TRANSFORMERS)	
TURBINE & COMPRESSOR	T/C
UNDERGROUND PIPING	

LEGEND — STORM FEATURE PRIMARY TYPE

BIORETETION
DRY WELL
ENHANCED FILTER
INFILTRATION PRACTICE
LANDSCAPE INFILTRATION
NON-STRUCTURAL BMP
OTHER
PERMEABLE PAVEMENT
POND
RAIN GARDEN
RAINWATER HARVESTING
REINFORCED TURF
SAND FILTER
SWALE
UNDERGROUND STRUCTURAL TREATMENT
WETLAND
AREA UNDER CONSTRUCTION



Scale: 1" = 1000'

N

UNIVERSITY OF MARYLAND

SPCC Map Grid Layout

June 2023

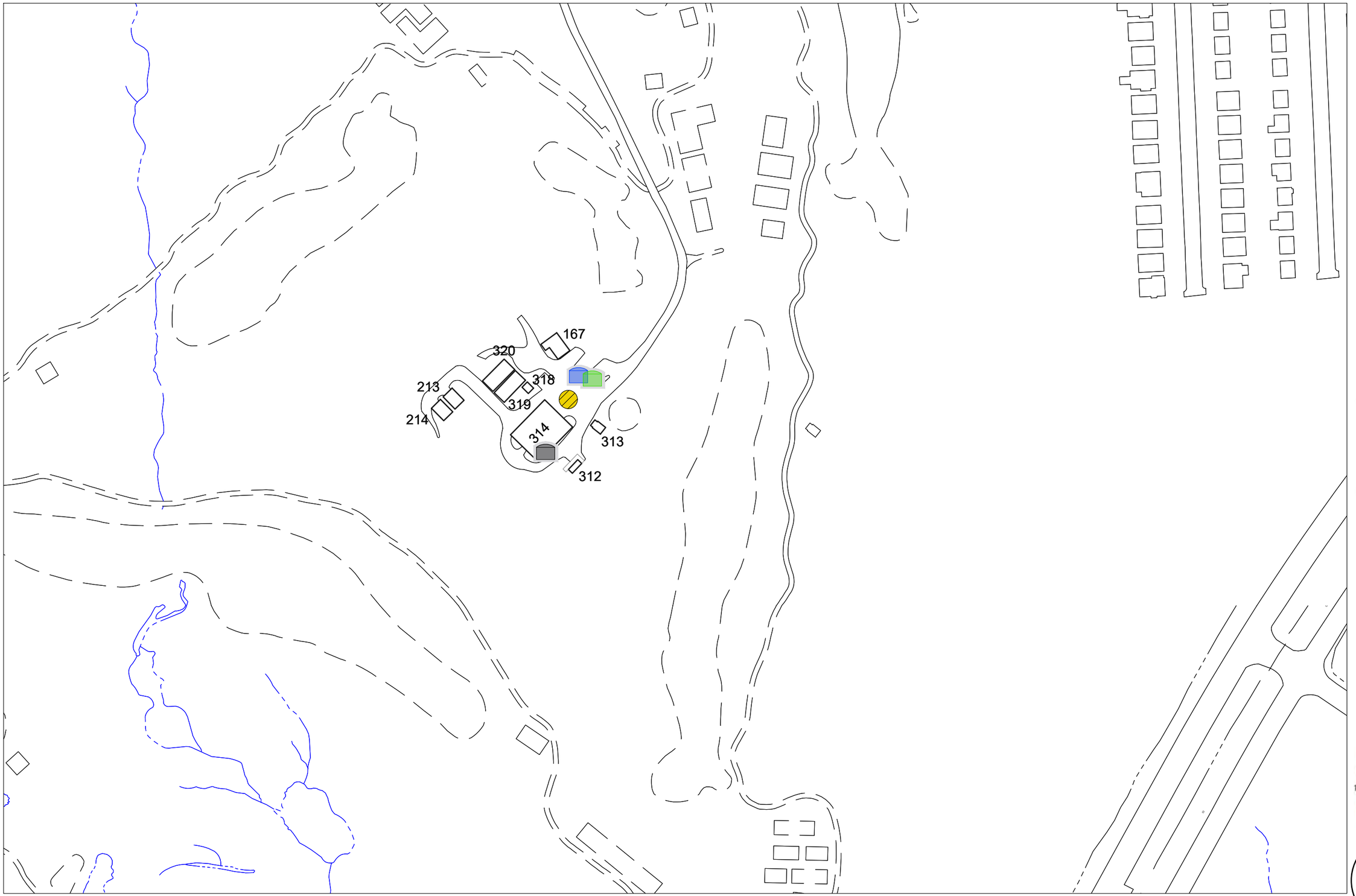
Scale: 1” = 150’

0 150 300 450 600

SHEET 4

SPCC

1

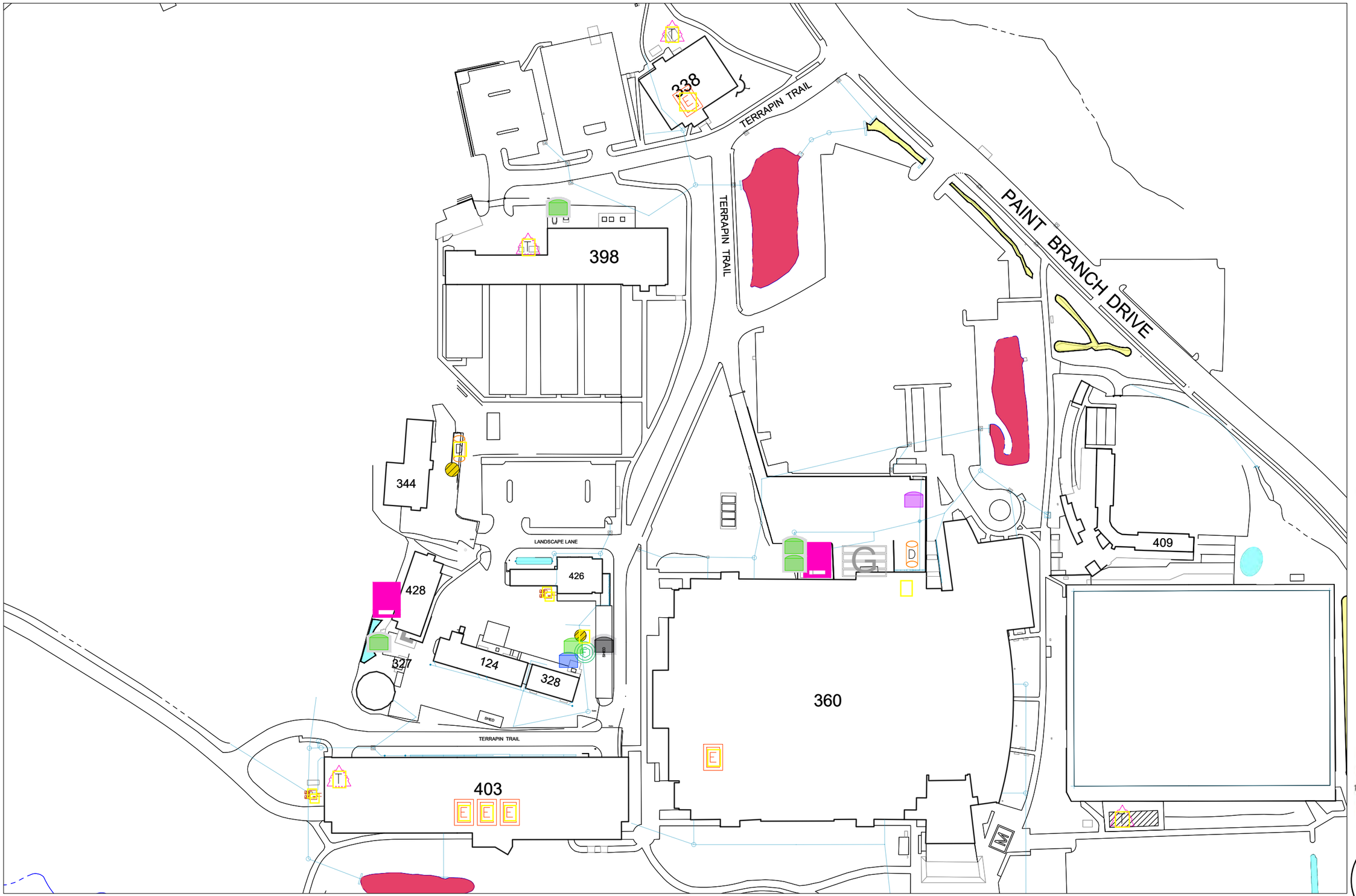

167
320
318
213
319
214
314
313
312
N
SHEET 3
Scale: 1" = 150'
0
150
300
450
600
SHEET 6
SPCC
2

SHEET 1

SHEET 2

SHEET 4

N



Scale: 1" = 150'

0 150 300 450 600

SHEET 7

SPCC

UNIVERSITY OF MARYLAND 18 56

3

SHEET 3

SHEET 5

N

424

414

414

812

Scale: 1" = 150'

0 150 300 450 600

SHEET 8

SPCC

4

SHEET 4

N

810

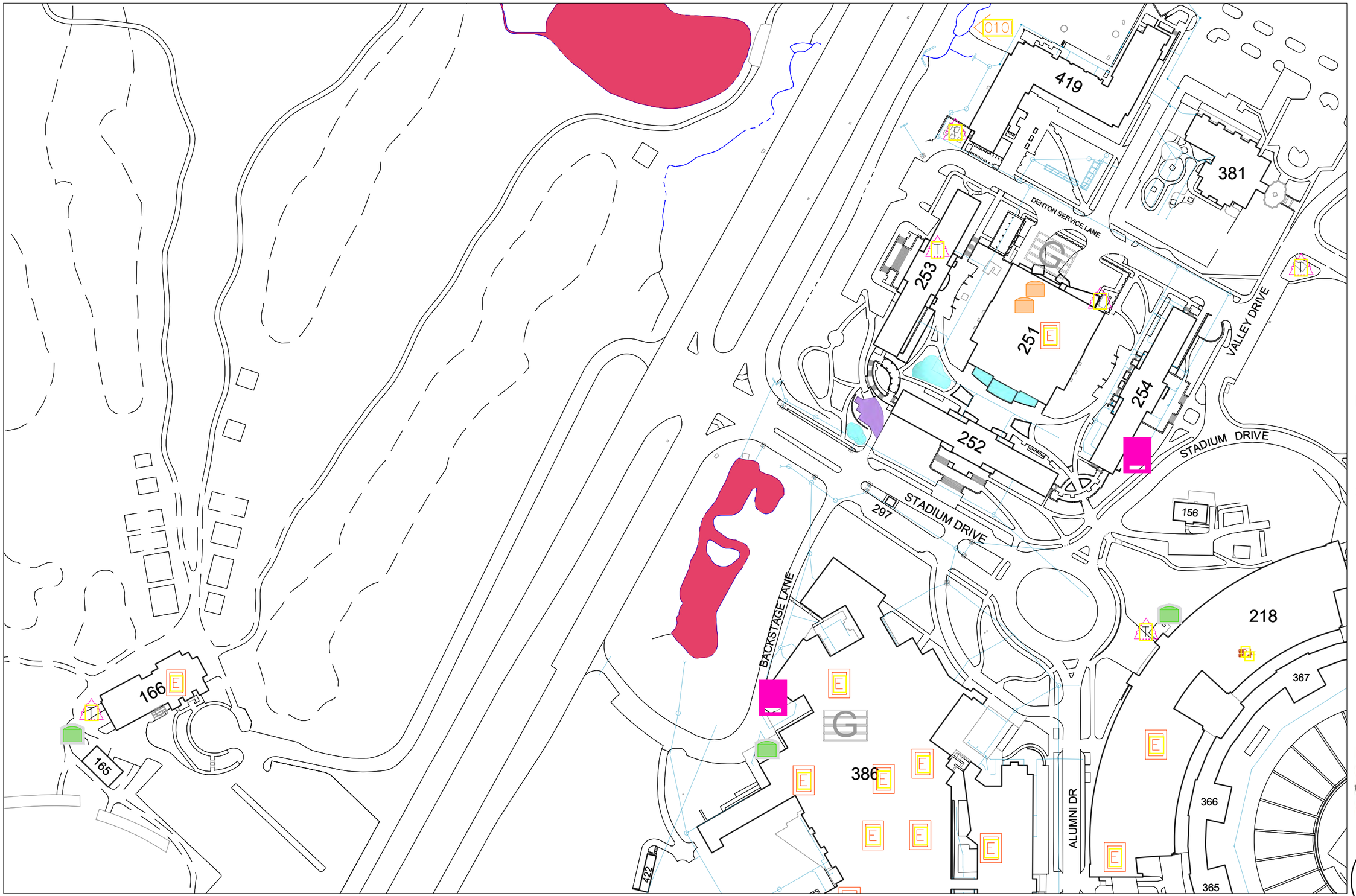
Scale: 1" = 150'

0 150 300 450 600

SPCC

5

SHEET 2



N

SHEET 7

Scale: 1" = 150'

0 150 300 450 600

SHEET 9

SPCC

UNIVERSITY OF MARYLAND 18 56

6

SHEET 3

SHEET 6

SHEET 8

N

SHEET 10

SPCC

7

Scale: 1" = 150'

0 150 300 450 600

VALLEY DRIVE

FARM DRIVE

STADIUM DRIVE

WELLNESS WAY

REGENTS DRIVE

INDUSTRIAL LA

068

399

255

019

018

121

099

257

258

259

122

097

098

256

434

096

436

435

224

227

415

085

142

083

110

119

103

102

109

108

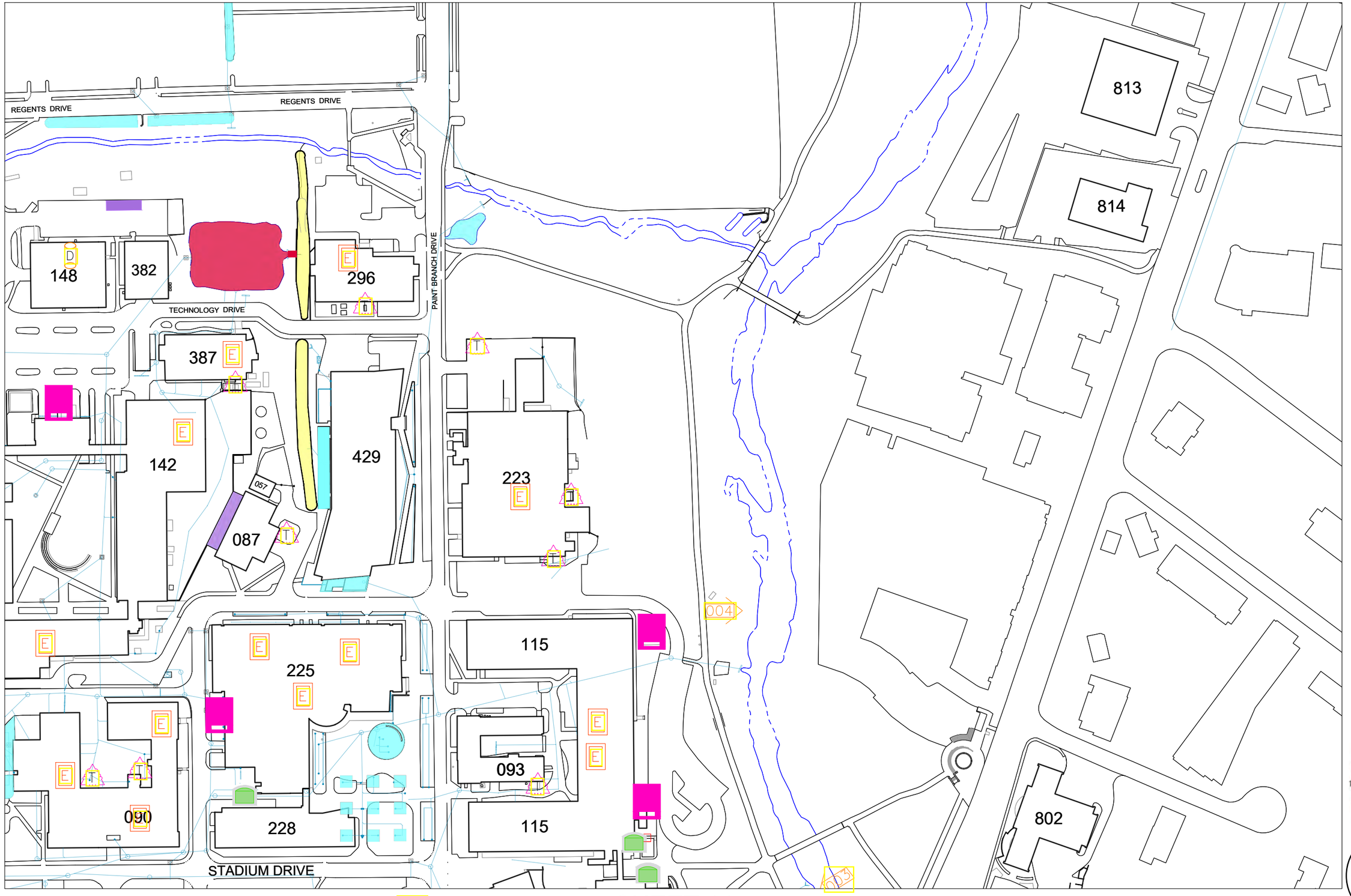
368

370

369

UNIVERSITY OF MARYLAND 1856

SHEET 4



SHEET 7

SHEET 11

SPCC

8

SHEET 6

309

UNIVERSITY BLVD.

ROUTE 193

SERVICE DRIVE

164

PRESIDENTIAL DRIVE

407

FIELDHOUSE DRIVE

361

364

CHAMPIONSHIP LANE

ALUMNI DR

388

389

162

417

347

346

348

EHRENSBERGER DRIVE

PRESIDENTIAL DRIVE

N

SHEET 10

Scale: 1" = 150'

0 150 300 450 600

SHEET 12

SPCC

UNIVERSITY OF MARYLAND 1856

9

SHEET 7

SHEET 9

SHEET 11

SHEET 13

N

Scale: 1" = 150'

0 150 300 450 600

SPCC

10

158
379
420
363
362
392
159
FIELDHOUSE DRIVE
179
162
UNION DRIVE
163
232
056
231
413
144
010
202
091
036
REGENTS DRIVE
082
147
237
LIBRARY LANE
140
062
064
034
073
143
035
CAMPUS DRIVE
226
076

SHEET 8

SHEET 10

N

405
406
081
091
045
089
088
432
PAINT BRANCH DRIVE
002
299
295
084
CAMPUS DRIVE
001
TESTUDO WAY
The Hotel
DIAMONDBACK DR
HOTEL DRIVE
CAMPUS DRIVE
011
016
052
079
078
003

Scale: 1" = 150'

0 150 300 450 600

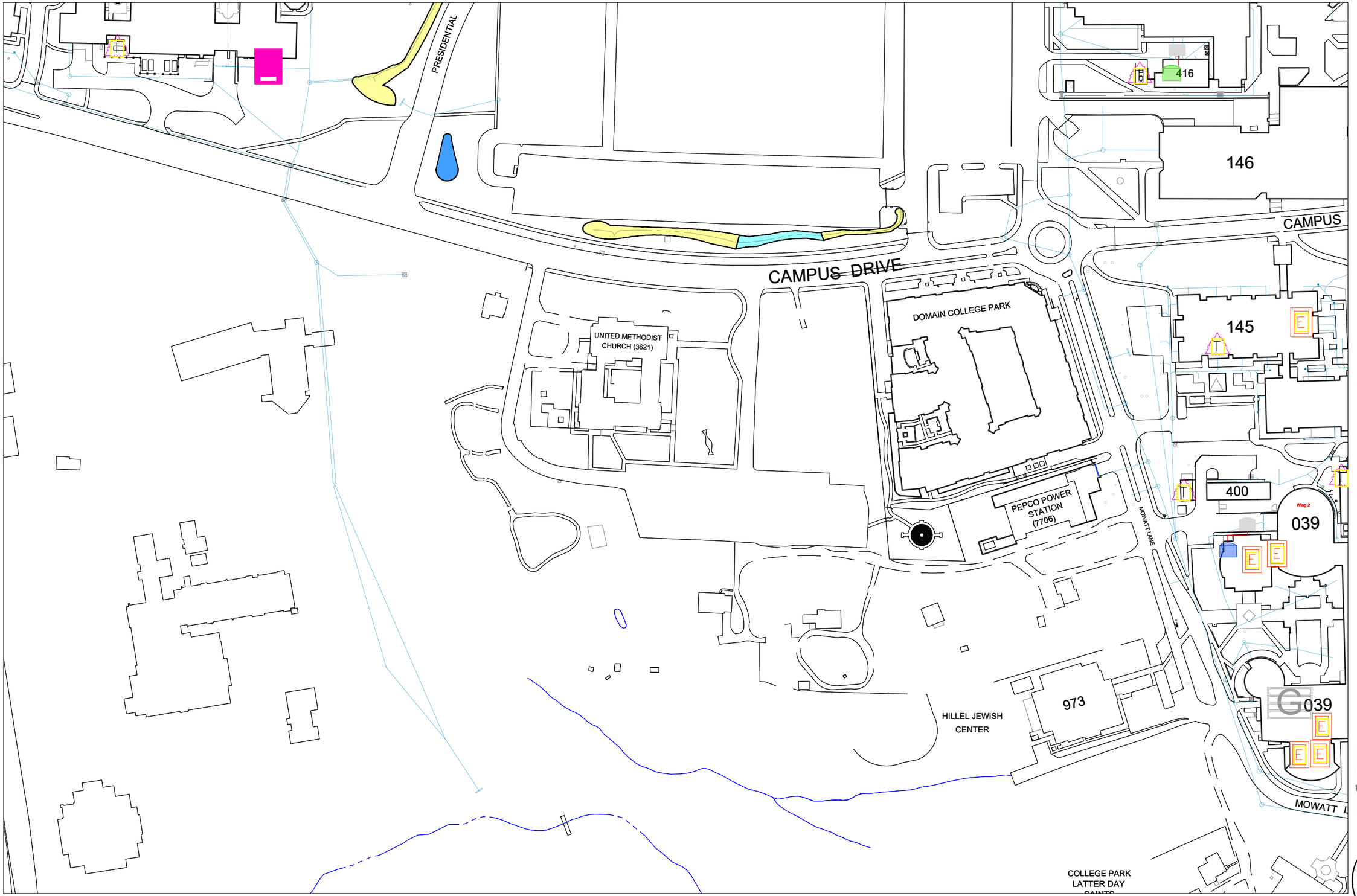
SHEET 14

SPCC

UNIVERSITY OF MARYLAND 18 56

11

SHEET 6



N

SHEET 13

Scale: 1" = 150'

0 150 300 450 600

SPCC 12

SHEET 10

SHEET 12

SHEET 14

N

PREINKERT DRIVE

LIBRARY LANE

CHAPEL LANE

REGENTS DRIVE

CALVERT SERVICE LANE

060 035 061 063 059 042 048 043 047 044 046 071 054 051 040 009 065 069 070 067 038 037 425 026 030 031 022 015 017 997 974 975 996 021 014 016 008 233 029 019

Scale: 1" = 150'

0 150 300 450 600

SPCC

13

SHEET 11

SHEET 13

N

ROSSBOROUGH LANE

BALTIMORE AVENUE

001 006 080 004 007

126 127 128 129 130 131 132 133 134 135 136 137 138 139

244 245 246 247 248 249 250 201 204 207 116 238 239 240 241 242 243

005 001 401

Scale: 1" = 150'

0 150 300 450 600

SPCC

14

Appendix A
Spill Reporting Forms & Procedures

EMERGENCY RESPONSE PROCEDURES FOR OIL SPILLS

ATTEMPT TO STOP THE FLOW OF OIL FROM SPEADING AND FURTHER IMPACTING THE ENVIRONMENT.

ALWAYS USE REQUIRED PPE.

- **Control:** close any valves or plug or patch any leaks.

- **Contain:** use spill containment equipment including absorbent pads and protective booms to prevent further spreading of the oil.

- **Notify:** UMD's Office of Environmental Affairs Unit ASAP by phone at 405-3990 with the following information:
  301-Time & location of spill
  302-Type & quantity of oil spilled
  303-Source & cause of spill
  304-Description of containment, removal & cleanup operations

The Office of Environmental Affairs will then report to MDE 24-Hour Emergency Response Hotline **within 2 Hours** of recognizing the oil spill. MDE: 1-866-633-4686

If the spill reaches navigable waters, then the Office of Environmental Affairs Unit will also notify the National Response Center at 800-424-8802.

ALWAYS REPORT INCIDENT TO YOUR SUPERVISOR!

MARYLAND DEPARTMENT of the ENVIRONMENT
1800 WASHINGTON BOULEVARD
BALTIMORE , MARYLAND. 21230
(410) 537-3000
1-800-633-6101 (within Maryland)
http://www.mde.state.md.us

State of Maryland
Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore , Maryland. 21230-1721

24 HOUR SPILL REPORTING
(Toll Free) 1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** * * *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* * * ***

ADC Map Coord _____

Date of spill: Mo. __ __ / Day __ __ / Yr. 20 __ __ Time of spill: __ __ __ __ Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address:
_____
_____
City / Town _____
MD County _____
Zip _____

Product Name:
_____
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type:
_____
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank:
_____ Gallons
Amount ***IN*** Vessel, Vehicle or Tank:
_____ Gallons
Estimated ***Amount Spilled:***
_____ Gallons

Transportation Incident:
_____
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
_____
(Indicate Type of Industrial , Commercial , Residential etc.)

- ☐ Contained on Land
- ☐ Entered Storm Drain or Ditch
- ☐ Entered Sanitary Sewer
- ☐ Is Below Ground
- ☐ Entered surface waters: _____ (Waterway Name)

Vehicle Tag Number and State:
_____ _____
DOT or ICC MC Number:
_____
Hull Numbers and Name**:**
_____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name:_____
Address:_____
_____
City/State: _____ Zip: _____
Phone: _____
Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name:_____
Address:_____
_____
City/State: _____ Zip: _____
Phone: _____
Fed. Employer ID No. _____

Cause of Spill:
- ☐ Motor Vehicle Accident
- ☐ Personnel Error/Vandalism
- ☐ Tank/Container/Pipe Leak
- ☐ Mechanical Failure
- ☐ Transfer Accident
- ☐ _____

Identify All Groups that *Participated* in Spill Mitigation :
- ☐ Responsible Party
- ☐ **MDE ERD** # _____ # _____
- ☐ Federal : _____
- ☐ State : _____
- ☐ Local : _____
- ☐ Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: _____ Bags
Sorbent Pads: _____ each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: _____ **Company or Fire Department:**_____
Address : _____ **City / State / Zip** _____
Telephone _____ **Signature** _____

MARYLAND DEPARTMENT of the ENVIRONMENT
1800 WASHINGTON BOULEVARD
BALTIMORE , MARYLAND. 21230
(410) 537-3000
1-800-633-6101 (within Maryland)
http://www.mde.state.md.us

State of Maryland
Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore , Maryland. 21230-1721

24 HOUR SPILL REPORTING
(Toll Free)1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (Environmental Article 4-401 (i) ; the "Person Responsible for the discharge includes , The owner of the discharged oil , The owner , operator and / or the person in charge of the oil storage facility, vessel , barge , or vehicle involved at the time of or immediately before the discharge ; and Any person who through act or ommission , causes the discharge."

**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: _____ **Company or Fire Department:** _____

Address : _____ **City / State / Zip** _____

Telephone _____ **Signature** _____

Appendix B
Spill History Report

UMD Spill History Report

Date	Spill Amount	Details/ Comments (Please Attach copies of Report Forms)
12/04/2018	15 Gallons	An unknown employee dumped used cooking oil/grease into an unlined dumpster in the loading dock. None was observed entering the stormwater system. The leaking dumpster was removed for repair. Sorbent was used to clean the oil on the pavement and disposed of in the dumpster.
08/05/2019	1.5-2 Gallons	An unknown employee overfilled the waste oil AST at the shuttle bus facility. Approx 1.5-2 gallons of oil spilled onto the surrounding concrete and a small patch of soil. None was observed entering the stormwater system. There were already oil sorbent pads deployed prior to the notification of the spill. Loose oil absorbent was used (1 bag) and all cleaning materials in addition to 1 55-gallon drum of soil was removed and disposed of through the University's TSDF.
12/09/2020	200 gallons	A nozzle on the fuel dispenser failed to shut off and resulted in an overflow of diesel fuel during the refueling of one of the buses at the Shuttle Bus facility. All fuel was contained on the containment pad at the fueling site. No fuel entered the environment. OEA deployed absorbent materials to the ground surface. A vacuum truck was used to pump water and fuel from the containment OWS in the middle of the fuel pad.
03/03/2021	1-2 gallons	At approximately 2:45 am an alert went out about a small spill that occurred at the Shuttle Bus fuel island. The alert mentioned that the spill was from the dispenser nozzle and that all the fuel spilled had been contained to the containment pad and oil/water separator. Upon investigation, it was noted the pump house had fuel pooled in the bottom of the structure and that some had leaked out into the adjacent ground. Absorbent material was used on the ground surface and roughly 4-in of contaminated soil was removed.
06/14/2021	2 gallons	Greentech was fuel polishing the diesel fuel at the portable generator located in the loading docks near Terp Trader. During the process, the line disconnected and spilled approximately 2 gallons of diesel fuel. Greentech immediately shut off the fuel and deployed pig absorbent pads to the affected area. A small amount of fuel did enter the zipper drain down the side but did not pool or enter the stormwater system. The pig absorbent mats collected all standing fuel in the affected areas. Two oil socks were deployed into the zipper drain to collect any fuel that would be washed into the stormwater system via a storm event.
08/06/2021	10 gallons	Around 1630 on 8/6/21, approximately 10 gallons of oil overflowed from the used oil tank while transferring oil from a portable oil tank into the used oil tank. Two technicians from the Shuttle Bus facility immediately used loose absorbent to contain and absorb the spill. UMD Fire Marshall and 3 shuttle bus technicians finished cleaning up the spill using the absorbent dust and pads from the spill kit next to the tank. All the spilled oil was contained within the impervious area around the oil tank.
11/22/2021	12 gallons	At approximately 4:28 PM the Fire Marshal's Office was dispatched to the Shuttle Bus Facility for a diesel fuel spill. JRP Fueling was delivering diesel fuel to the Shuttle Bus Facility when a seal between the tank and a discharge valve failed. After containing the initial spill of approximately 8 gallons, the contractor (JRP Fueling) called in another tanker to pump the initial leaking fuel tanker out. After the tanker was fulling emptied to the best of their abilities, the initial tanker started his tanker to leave UMD. However, once the tanker was put into gear, diesel began to spill again from the same discharge valve (approximately an additional 4 gallons).
12/06/2021	2 gallons	At approximately 1600, a call was placed to the University of Maryland CRC of a spill being formed under a vehicle at the Severn Building. The CRC contacted the UMD Fire Marshall's who, in turn, sent out a message to those on call. Once on site, it was discovered that a vehicle was leaking its transmission fluid onto the pavement below.
05/31/2022	>1 gallon	OEA was notified of a small hydraulic oil spill outside on the Washington Quad at approximately 1:45 PM on Tuesday, 5/31/22. After arriving at the scene, a small puddle (1 inch in diameter) of hydraulic oil resting on a brick pathway was observed under a hydraulic loader, which had recently been in use by Facilities Management. The puddle was cleaned up using spill pads, and the loader was turned off and put in an idle position. In doing so, the hydraulic oil leaked a little further, which was cleaned up again. The tank had stopped leaking entirely and was towed away to the repair shop as OEA left the premises.
08/10/2022	>1 gallon	IRU responded to a fuel leak at the Severn fuel island. An employee was fueling at the E85 ethanol tank when the handle got stuck when trying to remove it from the vehicle and a small amount spilled on the fuel pad. By the time IRU arrives, the fuel had dissipated.
12/22/2022	5 gallons	At 8:30am on Friday, 12/2/22, Valley Proteins was here to pick up food waste oil from Building #251. As he was pumping oil for the barrels, the hose disconnected from the truck spilling about 5 gals of food waste oil on the driveway, heading for the street. He reattached the hose to the truck and continued pumping oil for the barrels. After he finished, he moved his truck and tried pumping up some of the oil into his truck. Building #251 had a 1/2 bag of oil dry in the building. After contacting Dining Services Maintenance, we received another 5 bags. Using the oil dry and kitchen rags, we were able to prevent the oil from flowing completely down the street.
04/17/2023	23 gallons	The trash truck driver (Kenneth) struck a discarded refrigerator with the truck. When the refrigerator fell over, it punctured and ruptured the saddle tank in the bottom corner. PGFD Station 841 was the first to arrive on scene and deployed 20 bags of absorbent onto the initial spill. Additionally, they pumped approximately 30 gallons from the saddle tank to prevent additional diesel from spilling. UMD personnel arrive on scene and deployed an additional 6 bags of absorbent onto the pavement.
4/19/2023	3 gallons	At 1856 hours UMPD and The Office of the Fire Marshal were dispatched to the Shuttle Bus Facility (424) for a spill of an unknown product and quantity. Upon arrival, Shuttle Bus Facility personnel informed us that approximately 3 gallons of a hydraulic fluid/oil mix had spilled over approximately 50 - 60 yards. The cause of the spill appeared to be from the failure of an oil feed line to the clutch fan of a shuttle bus. The shuttle bus was at the fuel pump when the failure of the line occurred. A good portion of the product spilled in the area of the fuel pump. Some of the product flowed naturally into the oil/water separator located at the pump. The bus then drove to the opposite end of the lot causing a trail of this mixture to cover an estimated area of 50 - 60 yards. There did not appear to be any contamination to the environment as everything was contained to the parking lot and the oil/water separator. Shuttle Bus Facility personnel recovered as much of the product as possible using 8 bags of Pig Dry Loose Absorbent and brooms.

UMD Spill History Report

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1-800-633-6101 (within Maryland)
http://www.mde.state.md.us

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Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore , Maryland. 21230-1721

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(Toll Free) 1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* ***

ADC Map Coord _____

Date of spill: Mo. 12 / Day 04 / Yr. 2018 Time of spill: 0917 Hours (24 hour clock)

Fire Department Report No.: N/A Police Department Report No.: N/A

Location of spill - Street address: Denton Dining Hall
3951 Denton Service Lane
City / Town College Park, MD
MD County Prince Georges
Zip 20742

Product Name: Cooking Oil / Food Grease
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type: Dumpster
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 1,210 Gallons
Amount *IN* Vessel, Vehicle or Tank: 20 Gallons
Estimated ***Amount Spilled:*** 15 Gallons

Transportation Incident: N/A
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident: Institutional Facility
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: (Waterway Name) _____

Vehicle Tag Number and State: N/A
DOT or ICC MC Number: N/A
Hull Numbers and Name: N/A

Person(s) Responsible for Spill: (Driver if Vehicle)
Name: University of Maryland Dining Services
Address: 3951 Denton Service Lane
City/State: College Park, MD Zip: 20742
Phone: 301-405-0562
Drivers Lic.No. N/A State: _____

Be Sure to Complete Both Sections ⟷ *Don't Forget to Sign Below*

Company Responsible for Spill: (N/A if private citizen.)
Name: University of Maryland - Office of Environmental Affairs
Address: 4716 Pontiac Street, Suite #0103
City/State: College Park, MD Zip: 20742
Phone: 301-405-3990
Fed. Employer ID No. 52-6002033

Cause of Spill:
- [ ] Motor Vehicle Accident
- [x] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [ ] Mechanical Failure
- [ ] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :
- [x] Responsible Party
- [ ] **MDE ERD #** _____ # _____
- [ ] Federal : _____
- [ ] State : _____
- [ ] Local : _____
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: 8 Bags
Sorbent Pads: 12 each or bales
Sorbent Booms: 2 each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other: _____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

An unknown employee dumped used cooking oil / grease into a dumpster located adjacent to the Denton Dining Hall loading dock. Dining Services staff notified the Office of Environmental Affairs (OEA) about the leaking oil at 9:17 am. When OEA staff arrived, sawdust had been deployed to contain the spill. OEA staff deployed additional spill response materials inside the dumpster and on the ground. The dumpster was removed from the facility for repair / replacement. All spill cleanup materials were collected and disposed of.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Oil sorbent booms and pads were deployed to contain the spilled cooking oil / food grease. The spill did not reach the stormdrain system or waters of the state. All oil was contained to the paved parking area near the loading dock. All spill cleanup materials were disposed of in a dumpster. The leaking dumpster was removed for repair.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Dining Services staff are attempting to identify the employee who dumped the cooking oil / food grease into the dumpster. Staff will be retrained regarding proper oil disposal.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Jason Baer, Assistant Director, Office of Environmental Affairs **Company or Fire Department:** University of Maryland
Address : 4716 Pontiac Street, Suite, 0103 **City / State / Zip** College Park, MD 20742
Telephone 301-405-3163 **Signature** Jason Baer Digitally signed by Jason Baer Date: 2018.12.04 15:52:43 -05'00'

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(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** * * *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* * * ***

ADC Map Coord: _____

Date of spill: Mo. 08 / Day 05 / Yr. 2019 Time of spill: 1300 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: 8537 Paint Branch Dr

City / Town: College Park

MD County: Prince Georges

Zip: 20742

Product Name: Waste Oil

(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)

Container Type: AST

(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 550 Gallons

Amount ***IN*** Vessel, Vehicle or Tank: _____ Gallons

Estimated ***Amount Spilled:*** 1.5-2 Gallons

Transportation Incident: _____

(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)

Fixed Facility Incident: Institutional

(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: _____ (Waterway Name)

Vehicle Tag Number and State: N/A _____

DOT or ICC MC Number: N/A

Hull Numbers and Name: N/A _____

Person(s) Responsible for Spill: (Driver if Vehicle)

Name: Shuttle Bus Facility

Address: 8537 Paint Branch Dr

City/State: College Park, MD Zip: 20742

Phone: (301) 314-7269

Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections

Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)

Name: University of Maryland

Address: 1101 Main Administration Building
7901 Regents Drive

City/State: College Park, MD Zip: 20742

Phone: 301-405-1000

Fed. Employer ID No. 52-06002033

Cause of Spill:

- [ ] Motor Vehicle Accident
- [x] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [ ] Mechanical Failure
- [ ] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :

- [ ] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [x] State : University of Maryland
- [ ] Local : _____
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:

Sorbent Dust: 1 Bags

Sorbent Pads: _____ each or bales

Sorbent Booms: _____ each or bales

Sorbent Sweeps: _____ each or bales

Overpack Drums : 1 ea. Steel or Poly

Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

An unknown individual overfilled the waste oil tank located outside of the maintenance shop of the Shuttle Bus Facility. The spill was discovered on Monday, August 5, 2019 at approximately 13:00. Most of the spill was covered by sorbent pads prior to the discovery by the reporting individual. A small amount of the spill had entered the grass/ground adjacent to the waste oil tank.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

The entirety of the spill was cleaned up by collecting the saturated sorbent pads, placing 1 bag of sheen clean loose absorbent to absorb the remaining oil, and a 55-gallon drum of the contaminated soil was removed. All cleaning materials were cleaned up and properly disposed of through the University's TSDF. The soil adjacent to the waste oil tank is being replaced by concrete later this month.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Shuttle Bus personnel will be retrained in proper disposal procedures. In addition to the training, a longer nipple will be installed between the tank and the locking cap to prevent overfills in the future as well as a the installation of a combination tank gauge and audible / visual alarm.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson, Office of Environmental Affairs **Company or Fire Department:** University of Maryland

Address : 4716 Pontiac Street, 0103 **City / State / Zip** College Park, MD 20742

Telephone 301-405-8604 **Signature** Jason Baer

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(410) 537-3932

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ADC Map Coord _____

Date of spill: Mo. 12 / Day 09 / Yr. 20 20 Time of spill: 15 45 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: 8537 Paint Branch Drive, Bldg. 424

City / Town College Park

MD County Prince George's

Zip 20742

Product Name: Ultra Low Sulfur Diesel Fuel

(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)

Container Type: AST / Fuel Dispenser

(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 20,000 Gallons

Amount ***IN*** Vessel, Vehicle or Tank: _____ Gallons

Estimated ***Amount Spilled:*** 200 Gallons

Transportation Incident: _____

(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)

Fixed Facility Incident: Institutional (university) - shuttle bus maintenance facility

(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: Waterway Name _____

Vehicle Tag Number and State: N/A _____

DOT or ICC MC Number: N/A

Hull Numbers and Name: N/A _____

Person(s) Responsible for Spill: (Driver if Vehicle)

Name: Edwin Brown (facility maintenance manager - evening shift)

Address: 8537 Paint Branch Drive, Bldg. 424

City/State: College Park, MD Zip: 20742

Phone: (301) 314-8631

Drivers Lic.No. N/A State: _____

Be Sure to Complete Both Sections

Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)

Name: University of Maryland

Address: 1101 Main Administration Building
7901 Regents Drive

City/State: College Park, MD Zip: 20742

Phone: 301-405-3960

Fed. Employer ID No. 52-06002033

Cause of Spill:

- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [x] Mechanical Failure
- [x] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :

- [x] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [ ] State : _____
- [ ] Local : _____
- [x] Contractor: Triumvirate Environmental

Materials used *by You* to contain/clean-up spill:

Sorbent Dust: 5 Bags

Sorbent Pads: 10 each or bales

Sorbent Booms: 3 each or bales

Sorbent Sweeps: _____ each or bales

Overpack Drums : 1 ea. Steel or Poly

Other: _____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

A nozzle on the fuel dispenser failed to shut off and resulted in an overflow of diesel fuel during the refueling of one of the buses at the facility.

All fuel was contained on the containment pad at the fueling facility.

MDE was notified of the spill by phone at approximately 5:30 pm, once the situation had been assessed and cleanup operations had been initiated.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

The Office of Environmental Affairs responded for the University. Absorbent materials were used to remove the fuel on the ground surface. All liquid was contained to the containment pad at the fueling facility. A vacuum truck was used to pump water and fuel from the containment sump in the middle of the fueling facility. No fuel entered the environment. All fuel spilled was contained and cleaned up.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

We will contact a contractor to service the fuel dispenser and ensure that it is operating properly.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Jason Baer **Company or Fire Department:** University of Maryland

Address : 4716 Pontiac Street, #0103 (Seneca Building) **City / State / Zip** College Park, MD 20742

Telephone 202-441-6391 (cell) **Signature** Jason Baer

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ADC Map Coord _____

Date of spill: Mo. 0 6 / Day 1 4 / Yr. 20 2 1 Time of spill: 1 1 2 5 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address:
Severn Building
5245 Greenbelt Road
City / Town College Park
MD County Prince George's
Zip 20740

Product Name:
Diesel Fuel
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type:
Portable AST Generator
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank:
210 Gallons
Amount ***IN*** Vessel, Vehicle or Tank:
210 Gallons
Estimated ***Amount Spilled:***
2 Gallons

Transportation Incident:
_____
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
Institutional
(Indicate Type of Industrial , Commercial , Residential etc.)

- ☒ Contained on Land
- ☐ Entered Storm Drain or Ditch
- ☐ Entered Sanitary Sewer
- ☐ Is Below Ground
- ☐ Entered surface waters: _____ (Waterway Name)

Vehicle Tag Number and State: _____ _____
DOT or ICC MC Number: _____
Hull Numbers and Name**:** _____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name:_____
Address:_____
_____
City/State: _____ Zip: _____
Phone: _____
Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name: Greentech Fuel Management
Address: 1675 Hosfeld Drive
_____
City/State: Westminster/MD Zip: 21157
Phone: (877)587-7183
Fed. Employer ID No. _____

Cause of Spill:
- ☐ Motor Vehicle Accident
- ☐ Personnel Error/Vandalism
- ☒ Tank/Container/Pipe Leak
- ☐ Mechanical Failure
- ☐ Transfer Accident
- ☐ _____

Identify All Groups that *Participated* in Spill Mitigation :
- ☒ Responsible Party
- ☐ **MDE ERD** # _____ # _____
- ☐ Federal : _____
- ☒ State : University of Maryland
- ☐ Local : _____
- ☒ Contractor: Greentech Fuel Management

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: _____ Bags
Sorbent Pads: 30+ each or bales
Sorbent Booms: 2 each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Greentech was fuel polishing the diesel fuel at the portable generator located in the loading docks near Terp Trader. During the process, the line disconnected and spilled approximately 2 gallons of diesel fuel.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Greentech immediately shut off the fuel and deployed pig absorbent pads to the affected area. In addition to this, Greentech also created a dam-like structure from pig absorbent pads in front of the adjacent zipper drain to prevent fuel from entering. A small amount of fuel did enter the zipper drain down the side but did not pool or entering the stormwater system. The pig (see back)

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

The facility will deploy drain covers prior to future maintenance conducted in exposed areas. Contractors will be asked to deploy preventative maintenance items such as drip pans or oil booms in the event of a spill.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** University of Maryland
Address : 4716 Pontiac Street **City / State / Zip** College Park / MD / 20742
Telephone (202)308-8273 **Signature** _____

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(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (Environmental Article 4-401 (i) ; the "Person Responsible for the discharge includes , The owner of the discharged oil , The owner , operator and / or the person in charge of the oil storage facility, vessel , barge , or vehicle involved at the time of or immediately before the discharge ; and Any person who through act or ommission , causes the discharge."

**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

Describe Containment , Removal and Clean-up operations , including disposal

absorbent mats collected all standing fuel in the affected areas. Two oil socks were deployed into the zipper drain to collect any fuel that would be washed into the stormwater system via a storm event and will be replaced on Tuesday, June 15th, 2021.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: _____ **Company or Fire Department:** _____

Address : _____ **City / State / Zip** _____

Telephone _____ **Signature** _____

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(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." * * * *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* * * *

ADC Map Coord _____

Date of spill: Mo. 0 8 / Day 0 6 / Yr. 20 2 1 Time of spill: 1 6 3 0 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: 8537 Paint Branch Dr
Shuttle Bus Facility
City / Town College Park
MD County Prince George's
Zip 20742

Product Name: Used Oil
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type: AST
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 550 Gallons
Amount ***IN*** Vessel, Vehicle or Tank: 500 Gallons
Estimated ***Amount Spilled:*** 10 Gallons

Transportation Incident: _____
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident: Transportation at an Institution
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: Waterway Name _____

Vehicle Tag Number and State: _____ _____
DOT or ICC MC Number: _____
Hull Numbers and Name**:** _____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name: Shuttle Bus Technician
Address: 8537 Paint Branch Dr
City/State: College Park, Maryland Zip: 20742
Phone: (301) 314-7267
Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name: University of Maryland-Shuttle Bus Facility
Address: 8537 Paint Branch Dr
City/State: College Park, Maryland Zip: 20742
Phone: (301) 314-7267
Fed. Employer ID No. 52-6002033

Cause of Spill:
- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [ ] Mechanical Failure
- [x] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :
- [x] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [x] State : University Of Maryland
- [ ] Local : _____
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: 3 Bags
Sorbent Pads: 10 each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Around 1630 on 8/6/21, approximately 10 gallons of oil overflowed from the used oil tank while transferring oil from a portable oil tank into the used oil tank.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Two technicians from the Shuttle Bus facility immediately used loose absorbent to contain and absorb the spill. UMD Fire Marshall and 3 shuttle bus technicians finished cleaned up the spill using the absorbent dust and pads from the spill kit next to the tank. All of the spilled oil was contained within the impervious area around the oil tank.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

The facility inspected their fuel level alarm to determine the reason it did not sound at the manually adjusted level of 3/4 to 7/8 full. It was noted that the 9V battery in the alarm was low and once it was replaced, the alarm was tested and determined to be in working order. The used oil tank was also pumped out on 8/07/2021 and will be pumped out regularly.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** University of Maryland
Address : 4716 Pontiac Street **City / State / Zip** College Park, MD 20742
Telephone 202-308-8273 **Signature** _____

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(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** * * *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* * * ***

ADC Map Coord _____

Date of spill: Mo. 11 / Day 22 / Yr. 20 21 Time of spill: 1428 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address:
Shuttle Bus Facility-University of Maryland
8537 Paint Branch Dr
City / Town College Park, MD
MD County Prince George's
Zip 20742

Product Name:
Diesel
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type:
Tanker (Low Pressure Bulk Liquid)
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank:
5000 Gallons
Amount ***IN*** Vessel, Vehicle or Tank:
4700 Gallons
Estimated ***Amount Spilled:***
12 Gallons

Transportation Incident:
Fuel delivery tanker
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
Institutional
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: _____ (Waterway Name)

Vehicle Tag Number and State:
421E95 MD
DOT or ICC MC Number:
536632
Hull Numbers and Name**:**
_____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name: Dennis
Address: Refused to provide information
City/State: _____ Zip: _____
Phone: _____
Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name: JRP Fueling/James River Petroleum
Address: 10487 Lakeridge Pkwy
#8115
City/State: Ashland, VA Zip: 23005
Phone: 804.358.9000
Fed. Employer ID No. 54-1331068

Cause of Spill:
- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [x] Mechanical Failure
- [ ] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :
- [x] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [ ] State : _____
- [x] Local : UMD
- [x] Contractor: On-Call First Response, Triumvirate

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: 5 Bags
Sorbent Pads: _____ each or bales
Sorbent Booms: 4 each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : 2 ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

At approximately 4:28 PM the Fire Marshal's Office was dispatched to the Shuttle Bus Facility for a diesel fuel spill. The leaking diesel fuel was determined to be a contractor spill on University of Maryland property. JRP Fueling was delivering diesel fuel to the Shuttle Bus Facility when a seal between the tank and a discharge valve failed. After containing the initial spill of approximately

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Shuttle Bus employees deployed oil booms and loose absorbent to contain the spill. The contractor (JRP) deployed oil absorbent pads underneath the tanker and discharge valve as well as a 5 gallon bucket to collect the trickle of diesel still leaking from the valve. Once it was determined the fuel had penetrated the soil adjacent to the parking lot, Shuttle

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Install signage at fuel pad instructing all loading and unloading to be done with vehicle on the fuel pad where the OWS is located.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** UMD-ESSR
Address : 4716 Pontiac St **City / State / Zip** College Park, MD, 20742
Telephone (301) 405-8604 **Signature** _____

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PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (Environmental Article 4-401 (i) ; the "Person Responsible for the discharge includes , The owner of the discharged oil , The owner , operator and / or the person in charge of the oil storage facility, vessel , barge , or vehicle involved at the time of or immediately before the discharge ; and Any person who through act or ommission , causes the discharge."

**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

8 gallons, the contractor (JRP Fueling) called in another tanker to pump the initial leaking fuel tanker out. After the tanker was fulling emptied to the best of their abilities, the initial tanker started his tanker in an effort to leave UMD. However, once the tanker was put into gear, diesel began to spill again from the same discharge valve (approximately an additional 4 gallons).

Bus employees began to removed the contaminated soil and rocks. It was determined that the extent of the contaminated area was too expansive for the employees to handle and a contractor was contacted take over the clean-up operations. The impervious areas impacted where cleaned using loose absorbent and sweeping the material up into a 55-gallon drum. Once all the loose fuel was removed, the contaminated area was packed with loose absorbent for the night and to be re-evaluated in the morning. The following afternoon, Tuesday November 23rd, at 1:30pm, First Call Environmental was hired by the contractor (JRP) to remediate the contaminated area. First Call arrived with three (3) employees equipped with a hand shovel. It was determined this would not suffice and First Call initiated arrangements for earth-moving equipment and a roll-off to be delivered at the site. Monday, November 29th, Darnell Jackson of First Call contacted UMD stating First Call will be at Shuttle Bus circa 1:00pm on Nov 29 to begin the remediation project. UMD plans to continue to evaluate the remediation project and determine is additional work is needed due to the fact the area impacted is a sand filter BMP.

On Monday, November 29th, First Call removed approximately 1 cubic yard of contaminated soil with an excavator. The soil was placed into a lined roll-off dumpster and transported to Clean Harbors Environmental in Baltimore for disposal. First Call finished and left UMD around 5 pm.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** UMD-ESSR

Address : 4716 Pontiac Street **City / State / Zip** College Park, MD 20742

Telephone (301) 405-8604 **Signature** Kaitlyn Peterson

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ADC Map Coord _____

Date of spill: Mo. 12 / Day 06 / Yr. 2021 Time of spill: 1600 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: 5245 Greenbelt Rd.

City / Town: College Park
MD County: Prince George's
Zip: 20740

Product Name: petroleum product
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type: Vehicle
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 2 Gallons
Amount ***IN*** Vessel, Vehicle or Tank: 2 Gallons
Estimated ***Amount Spilled:*** 2 Gallons

Transportation Incident: Auto
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident: Institutional
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: Waterway Name _____

Vehicle Tag Number and State: 22427SG MD
DOT or ICC MC Number: _____
Hull Numbers and Name: _____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name: _____
Address: 5245 Greenbelt Rd.
City/State: College Park, MD Zip: 20740
Phone: _____
Drivers Lic.No. _____ State: MD

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name: University of Maryland-Motor Pool
Address: 5245 Greenbelt Rd.
City/State: College Park, MD Zip: 20740
Phone: (301) 405-5482
Fed. Employer ID No. 52-6002033

Cause of Spill:
- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [x] Mechanical Failure
- [ ] Transfer Accident
- [ ] _____

Identify All Groups that *Participated* in Spill Mitigation :
- [x] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [x] State : University of Maryland
- [ ] Local : _____
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: 1 Bags
Sorbent Pads: 12 pads each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other: _____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

At approximately 1600, a call was placed to the University of Maryland CRC of a spill being formed under a vechicle at the Severn Building. The CRC contacted the UMD Fire Marshall's who, in turn, sent out a message to those on call. Once on site, it was discovered that a vehicle was leaking it's transmission fluid onto the pavement below.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

The initial UMD personnel on site obtained spill containment materials and placed oil absorbent pads under the vehicle and onto the loose standing oil on the surrounding pavement. The vehicle was not able to be moved due to the loss of all it's transmission fluid, so in the mean time, absorbent pads were placed atop of all the loose standing oil and under

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Ensure that proper maintenance of vehicles are being preformed and pre-start up inspections are being preformed. Check vehicles after parking for long periods of time that there are no spills or leaks before leaving vehicle unattended.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** University of Maryland
Address : 4716 Pontiac Street, Suite 0103 **City / State / Zip** College Park, MD 20742
Telephone 202-308-8273 **Signature** _____

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**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

the vehicle over night. At approximately 10:19 the following morning, Tuesday December 7th, the vehicle was towed from the parking lot to the Motor Pool maintenance facility. UMD Office of Environmental Affairs personnel arrived on scene at approximately 10:30 to further clean up the remaining loose standing oil and used oil absorbent pads. All clean up materials were placed in 15-gallon liners and disposed of in accordance to regulations.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** University of Maryland

Address : 4716 Pontiac Street, Suite 0103 **City / State / Zip** College Park, MD 20742

Telephone 202-308-8273 **Signature**

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ADC Map Coord _____

Date of spill: Mo. 0 4 / Day 1 7 / Yr. 20 2 3 Time of spill: 1 1 4 4 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address:
Leonardtown Community Center Building 250
Yale Ave
City / Town College Park
MD County MD
Zip 20742

Product Name:
Diesel
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type:
Saddle Tank
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank:
55 Gallons
Amount ***IN*** Vessel, Vehicle or Tank:
32 Gallons
Estimated ***Amount Spilled:***
23 Gallons

Transportation Incident:
Trash Truck
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
_____
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: (Waterway Name) _____

Vehicle Tag Number and State:
SG 022088 MD
DOT or ICC MC Number:
_____
Hull Numbers and Name**:**
_____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name: Kenneth Scruggs
Address: Wye Oak Building #428
4201 Landscape Ln
City/State: College Park, MD Zip: 20742
Phone: _____
Drivers Lic.No._____ State: MD

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name: University of Maryland
Address: 4716 Pontiac St. #0103
_____
City/State: College Park Zip: 20742
Phone: 202-441-6291
Fed. Employer ID No. _____

Cause of Spill:
- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [x] Tank/Container/Pipe Leak
- [ ] Mechanical Failure
- [ ] Transfer Accident
- [ ] Tank punctured by abandoned refrigerator

Identify All Groups that *Participated* in Spill Mitigation :
- [x] Responsible Party
- [ ] **MDE ERD** # _____ # _____
- [ ] Federal : _____
- [ ] State : _____
- [x] Local : PGFD
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: 6 Bags
Sorbent Pads: _____ each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Trash truck driver (Kenneth) struck a discarded refrigerator with the truck. When the refrigerator fell over, it punctured and ruptured the saddle tank in the bottom corner.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

PGFD Station 841 was the first to arrive on scene and deployed 20 bags of absorbent onto the initial spill. Additionally, they pumped approximately 30 gallons from the saddle tank to prevent additional diesel from spilling. UMD personnel arrive on scene and deployed an additional 6 bags of absorbent onto the pavement.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Inspect area prior to approaching, discard of materials such as the refrigerator appropriately, move obstacles in the safe and appropriate manner.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kaitlyn Peterson **Company or Fire Department:** University of Maryland
Address : 4716 Pontiac St, **City / State / Zip** College Park MD 20742
Telephone 301-405-8604 **Signature** _____

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**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal:

All the used absorbent was swept up and disposed of accordingly. The trash truck was towed from the scene once the saddle tank was confirmed to be empty.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Kailtyn Peterson **Company or Fire Department:** University of Maryland

Address : 4716 Pontiac St, **City / State / Zip** College Park MD 20742

Telephone 301-405-8604 **Signature**

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ADC Map Coord

Date of spill: Mo. 04 / Day 17 / Yr. 2023 Time of spill: 1144 Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: Leonardtown Community Center Building 250
City / Town College Park
MD County PG County
Zip 20742

Product Name: Diesel fuel
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type: Saddle tank
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: 55 Gallons
Amount ***IN*** Vessel, Vehicle or Tank: 35 Gallons
Estimated ***Amount Spilled:*** 22.5 Gallons

Transportation Incident: Trash truck
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
(Indicate Type of Industrial , Commercial , Residential etc.)

- [x] Contained on Land
- [ ] Entered Storm Drain or Ditch
- [ ] Entered Sanitary Sewer
- [ ] Is Below Ground
- [ ] Entered surface waters: (Waterway Name)

Vehicle Tag Number and State: 822086
DOT or ICC MC Number:
Hull Numbers and Name:

Person(s) Responsible for Spill: (Driver if Vehicle)
Name:
Address:
City/State: Zip:
Phone: 703-986-8745
Drivers Lic.No. State:

Be Sure to Complete Both Sections — *Don't Forget to Sign Below*

Company Responsible for Spill: (N/A if private citizen.)
Name: University of MD
Address: Seneca Bldg 4716 Pontiac St
City/State: College Park Zip: 20742
Phone: 202-441-6391
Fed. Employer ID No.

Cause of Spill:
- [ ] Motor Vehicle Accident
- [ ] Personnel Error/Vandalism
- [ ] Tank/Container/Pipe Leak
- [ ] Mechanical Failure
- [ ] Transfer Accident
- [x] Punctured from refridgerator

Identify All Groups that *Participated* in Spill Mitigation :
- [ ] Responsible Party
- [ ] MDE ERD # _____ # _____
- [ ] Federal : _____
- [ ] State : _____
- [ ] Local : _____
- [ ] Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: _____ Bags
Sorbent Pads: _____ each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other: _____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Punctured fuel tank from a refridgerator.

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

20 bags of absorbment. Company getting rid of material at University of MD.

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Not place used refrigerators beside dumpsters.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Ryan Schlegel Company or Fire Department: Station 441 PGFD
Address : 3939 Powder Mill Rd Beltsville MD City / State / Zip Beltsville MD 20705
Telephone 301-683-7741 Signature

Fire Services Building
6820 Webster Street
Landover Hills, Maryland. 20784
(301) 583-1830

Correction Order

Follow Up Date	Notice 1st	2nd	3rd

Use Group		Construction Type	*Vehicle*	Permit		Date	4/17/23
Name of Business	University of Maryland			Phone	301-405-3292		
Address	Terp Leonardtown Community Center, Bldg 250						
Manager Name	Jay Smith			Phone			
Owner Name	Gabriel Purviance			Phone			
Address of Owner	Wyeoak Building, Building 428 College Park MD 20742						

PURSUANT TO SUBTITLE 11 [FIRE SAFETY] OF THE PRINCE GEORGES COUNTY CODE YOU ARE DIRECTED TO COMPLY WITH THE FOLLOWING NOTICE: THE OWNER/MANAGER MUST ACT IMMEDIATELY TO CORRECT THE LISTED ISSUES, PRIOR TO THE NEXT SCHEDULED APPOINTMENT

	CODE SECTION
Abate Dangerous Condition: You are ordered to take the following actions in response	11-161
to the release of petroleum/oil that occurred on	
at PGFD Incident #	
1) Arrange for the immediate removal and proper disposal of all spilled petroleum	COMAR 26.10
products, recovered petroleum, contaminated sorbents, and contaminated soils	
(MDE Contractor List provided). All contaminated products must be disposed of in	
accordance with all applicable Federal, State, and Local laws.	
2) Notify the Maryland Department of the Environment of the release of petroleum into the	COMAR 26.10
environment by calling 410-537-3975 or 866-633-4686 within two (2) hours of the release.	
(COMAR 26.10 Overview Provided)	
3) **Compliance with Fire Safety Laws, Orders, and Notices** Notify this Office upon	11-111
compliance with this Corrective Order by calling 301-262-6325 OR 301-262-6326	
4) **Non-Compliance** - ALL ABOVE LISTED ITEMS MUST BE CORRECTED	11-114
IMMEDIATELY. Failure to comply with this Corrective Order could result in prosecution.	
See reverse	

PLEASE SEE ATTACHED FOR DETAILS

RECEIVED BY Jason Baer
TITLE ~~Mgr~~ Asst. Director GSSR

ISSUED BY Lt. Ryan Schlegel
TITLE 202-441-6391 PHONE

DATE 4/17/2

P.G.C. FORM#150 (REV. 12/01) FOR FIRE AND EMS DIAL 911

office of environmental affairs.

Appendix C
Table of Aboveground Storage Tanks (ASTs) and 55-Gallon Drums

Appendix C:
Table of Aboveground Storage Tanks (ASTs) and
55-gallon Drums

ASTs

Tank ID	Bldg. Name	Bldg. #	Map #	Tank Capacity	Est. Spill Rate (gal/hr)	Contents	Containment	Type	Details	Storm Drain Location	Receiving Outfall
55A	Gudelsky Veterinary Science	795	1	1,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	75' E	Ditch
55C	Gudelsky Veterinary Science	795	1	80	Gradual to Instantaneous	Diesel	Double Wall	Day Tank	Day tank for Generator	75' E	Ditch
55D	Gudelsky Veterinary Science	795	1	80	Gradual to Instantaneous	Diesel	Double Wall	Day Tank	Day tank for Generator	75' E	Ditch
57	Lab for Physical Sciences	796	1	6,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	75' NE	Ditch
38A	Golf Maintenance	318	2	1,000	Gradual to Instantaneous	Gasoline	Double Wall	HORIZ. AST	HORIZ. AST	600' W	Pond
38B	Golf Maintenance	318	2	500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	HORIZ. AST	600' W	Pond
38C	Golf Maintenance	314	2	280	Gradual to Instantaneous	Used Oil	Double Wall	HORIZ. AST	HORIZ. AST	600' W	Pond
52A	Grounds Operations	328	3	1,000	Gradual to Instantaneous	Gasoline	Double Wall	HORIZ. AST	HORIZ. AST	5' SE	Pond
52B	Grounds Operations	328	3	1,500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	HORIZ. AST	5' SE	Pond
52C	Grounds Operations	328	3	280	Gradual to Instantaneous	Used Oil	Double Wall	HORIZ. AST	HORIZ. AST	20' SE	Pond
71	Research Greenhouse	398	3	800	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	150' NE	Pond
84	Wye Oak Building	428	3	521	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	21' SW	StormDrain
67A	Xfinity Center	360	3	500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	145' NE	Pond
67B	Xfinity Center	360	3	500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	115' E	Pond
VZW	Xfinity Center	360	3	1,050	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	103' S	Zipper Drain
11	Seneca	812	4	250	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	130' SW	StormDrain
78AB	Shuttle Bus	424	4	165	Gradual to Instantaneous	Motor oil	Double Wall	VERT. AST	VERT. AST	180' S	Stream
78AR	Shuttle Bus	424	4	275	Gradual to Instantaneous	Motor oil	Double Wall	VERT. AST	VERT. AST	180' S	Stream
78B	Shuttle Bus	424	4	20,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	HORIZ. AST	55' S	Pond
78C	Shuttle Bus	424	4	550	Gradual to Instantaneous	Used Oil	Double Wall	HORIZ. AST	HORIZ. AST	180' S	Stream
79A	Severn	810	5	12,000	Gradual to Instantaneous	#2 Fuel Oil	Double Wall and Dike	HORIZ. AST	HORIZ. AST	39' NE	StormDrain
79B	Severn	810	5	10,000	Gradual to Instantaneous	Gasoline	Double Wall	HORIZ. AST	HORIZ. AST	58' NW	StormDrain
79C	Severn	810	5	10,000	Gradual to Instantaneous	Gasoline	Double Wall	HORIZ. AST	HORIZ. AST	58' NW	StormDrain
79F	Severn	810	5	10,000	Gradual to Instantaneous	E-85	Double Wall	HORIZ. AST	HORIZ. AST	88' E	StormDrain
79G	Severn	810	5	280	Gradual to Instantaneous	Used Oil	Double Wall	Lube Cube	AST	34' NW	StormDrain
79H	Severn	810	5	280	Gradual to Instantaneous	Motor oil	Double Wall	Lube Cube	AST	34' NW	StormDrain
79I	Severn	810	5	200	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	HORIZ. AST	Contained	-
79J	Severn	810	5	-	Gradual to Instantaneous	Oil	Double Wall	Undg. Pipe	Undg. Pipe	Contained	-
89A	Severn	810	5	80	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Portable Generator	Varies	Varies
89B	Severn	810	5	468	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Portable Generator	Varies	Varies
89C	Severn	810	5	200	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Portable Generator	Varies	Varies
90	Severn (mobile tank)	810	5	100	Gradual to Instantaneous	Diesel	Sec. Containment	HORIZ. AST	Portable AST	Varies	Varies
68	Clarice Smith Performing Arts	386	6	500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	40' NE	Stream
17A	Denton Dining Hall	251	6	183	Gradual to Instantaneous	Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	Contained	-
17B	Denton Dining Hall	251	6	183	Gradual to Instantaneous	Used Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	Contained	-
72	Golf Course Club House	166	6	100	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	34' E	Pond
42	Stadium Parking Garage	218	6	400	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	100' N	10

Appendix C:
Table of Aboveground Storage Tanks (ASTs) and
55-gallon Drums

27	Animal Science	142	7	1,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	5' S	4
81	Atlantic Building	224	7	2,220	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	90' NW	4
20	Campus Recreation Center	068	7	576	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	50' N	Stream
96B	Johnson-Whittle Hall	435	7	555	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	SE	19
82	PSC	224	7	660	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	90' NW	4
96A	Pyon-Chen Hall	434 PCH	7	555	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	E	19
21	School of Public Health	255	7	660	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	50' W	19
23	SECU Stadium Maintenance Building	369	7	250	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST	60' NE	4
13A	Yahentamitsi Dining Hall	436	7	183	Gradual to Instantaneous	Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	Contained	-
13B	Yahentamitsi Dining Hall	436	7	183	Gradual to Instantaneous	Used Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	Contained	-
25	A.V. Williams	115	8	60	Gradual to Instantaneous	Diesel	Double Wall	Lube Cube	AST for Generator	NE	4
26	Computer Instructional Center	406	8	150	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	168' NE	3
95	E.A. Fernandez IDEA Factory	228	8	700	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	155' SW	3
94	Cole Field House	162	9	4,250	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	82' NW	5
66A	Bioscience Research Bldg	413	10	1,350	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	14' N	4
66B	Bioscience Research Bldg	413	10	1,350	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	14' N	4
37	Cole Field House	162	10	275	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	140' NE	4
19	Dorchester	064	10	60	Gradual to Instantaneous	Diesel	Double Wall	Lube Cube	AST for Generator	78' SW	5
69	H. J. Patterson	073	10	675	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	75' NE	4
14R	McKeldin	035	10	215	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	18' NE	5
6	Patuxent	010	10	1,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	3' E	4
63	SCUB 3	392	10	1,350	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	100' SE	4
30A	Stamp Student Union	163	10	150	Gradual to Instantaneous	Food Grease	Double Wall	HORIZ. AST	Used Food Oil/Grease	Contained	-
30B	Stamp Student Union	163	10	150	Gradual to Instantaneous	Food Grease	Double Wall	HORIZ. AST	Used Food Oil/Grease	Contained	-
80A	Engineering Laboratory Basement	089	11	250	Gradual to Instantaneous	Hydraulic oil	Sec. Containment	HORIZ. AST	Hydraulic Tank	Contained	-
80B	Engineering Laboratory Ground Level	089	11	250	Gradual to Instantaneous	Hydraulic oil	Sec. Containment	HORIZ. AST	Hydraulic Tank	Contained	-
64A	SCUB 4	405	11	1,350	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	15' S	3
64B	SCUB 4	405	11	1,350	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	15' SW	3
64C	SCUB 4	405	11	1,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	155' SW	3
85	SCUB 5	416	12	189	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	Contained	-
15	Van Munching	039	12	500	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	Contained	-
75	Anne Arundel Hall	060	13	60	Gradual to Instantaneous	Diesel	Double Wall	Lube Cube	AST for Generator	170' NE	14
9	Calvert Hall	015	13	250	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	AST for Generator	10' SW	14
16R	Marie Mount	046	13	265	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	15' NW	5
10	SCUB 1	019	13	250	Gradual to Instantaneous	Diesel	Double Wall	Lube Cube	AST for Generator	50' E	6
18A	South Campus Dining Hall	026	13	183	Gradual to Instantaneous	Used Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	300' SW	14
18B	South Campus Dining Hall	026	13	183	Gradual to Instantaneous	Cooking Oil	Sec. Containment	VERT. AST	Oil Recycler	300' SW	14
86	Former CP Police Station	003	14	700	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	140' S	16

Appendix C:
Table of Aboveground Storage Tanks (ASTs) and
55-gallon Drums

61	Leornardtown Community Cntr.	250	14	125	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	50' NE	7
3	Plant Ops./Maint.	006	14	250	Gradual to Instantaneous	Waste Oil	Double Wall	HORIZ. AST	HORIZ. AST	31' SSE	5
62	Plant Ops./Maint.	006	14	280	Gradual to Instantaneous	Waste Oil	Double Wall	HORIZ. AST	HORIZ. AST	31' SSE	5
1A	Plant Ops./Maint.	006	14	8,000	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	HORIZ. AST	20' SE	5
2A	Plant Ops./Maint.	006	14	252,762	Gradual to Instantaneous	#2 Fuel Oil	Dike	VERT. AST	AST	20' SE	5
2B	Plant Ops./Maint.	006	14	252,762	Gradual to Instantaneous	#2 Fuel Oil	Dike	VERT. AST	AST	20' SE	5
83	Pocomoke Building	007	14	2,400	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	50' SE	StormDrain
4	Ritchie Coliseum	004	14	250	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	5' E	5
7	Steam Plant	001	14	250	Gradual to Instantaneous	Used Oil	Sec. Containment	HORIZ. AST	AST	200' N	1
65	Steam Plant	001	14	300	Gradual to Instantaneous	Diesel	Double Wall	HORIZ. AST	Generator	200' N	1
			Total:	**624,041**							

Appendix C:
Table of Aboveground Storage Tanks (ASTs) and
55-gallon Drums

55-Gallon Drums

Bldg. Name	Bldg. #	Map #	Maxiumum # of Drums	Capacity (Gal.)	Est. Spill Rate (gal/hr)	Contents	Containment	Storm Drain Location	Receiving Outfall
Xfinity Center	360	3	2	110	Gradual to Instantaneous	Used Cooking Oil	Sec. Cont.	145' NE	Pond
Shuttle Bus	424	4	30	1,650	Gradual to Instantaneous	Waste Oil, Lube, and Motor Oil	Maint. Shop and Sec. Cont.	265' E	Stream
Severn	810	5	1	55	Gradual to Instantaneous	Used Oil/Freon	Maint. Shop	Contained	Contained
Severn Motor Pool	810	5	12	660	Gradual to Instantaneous	Motor Oil	Maint. Shop	Contained	Contained
Ellicott Dining Hall	257	7	4	220	Gradual to Instantaneous	Used Cooking Oil	Sec. Cont.	117' NE	StormDrain
Manufacturing Building	148	8	1	55	Gradual to Instantaneous	Hydraulic Oil	Contained in building	Contained	Contained
Golf Course Club House	166	9	4	220	Gradual to Instantaneous	Used Cooking Oil	Sec. Cont.	23' SE	Ditch
Steam Plant	001	14	6	330	Gradual to Instantaneous	Motor Oil	Sec. Cont.	200' N	1
			Total:	**3,300**					

Appendix D
Table of Oil-Filled Operational Equipment

Appendix D:
Table of Oil-Filled Operational Equipment

Hydraulic Elevators

ID	Bldg. Name	Bldg. #	Capacity	Est. Spill Rate (gal/hr)	Contents	Room #	Receiving Outfall
1	A.V. Williams	115	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1152A	Contained
2	A.V. Williams	115	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1152A	Contained
3	Animal Science	142	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0418	Contained
4	Animal Science	142	Apprx. 130	Gradual to Instantaneous	Hydraulic oil	0489	Contained
5	Annapolis Hall	008	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0104	Contained
6	Anne Arundel Hall	060	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0113	Contained
7	Architecture	145	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0104	Contained
8	Arena Parking Garage	403	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	Level A	Contained
9	Arena Parking Garage	403	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	Level A	Contained
10	Arena Parking Garage	403	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	Level A	Contained
11	Atlantic Building	224	Apprx. 126	Gradual to Instantaneous	Hydraulic oil	0296	Contained
12	Benjamin Hall	143	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	107	Contained
13	Biomolecular Sciences Building	296	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1114E	Contained
14	Cambridge Hall	096	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0211	Contained
15	Campus Recreation Center	068	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0114	Contained
16	Campus Recreation Center	068	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0101	Contained
17	Chem. & Nucl. Engineering	090	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1145	Contained
18	Chem. & Nucl. Engineering	090	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1213	Contained
19	Chem. & Nucl. Engineering	090	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1303	Contained
20	Chemistry	091	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0515A	Contained
21	Chesapeake	338	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1103	Contained
22	Chincoteague Hall	059	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1100	Contained
23	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1206	Contained
24	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1232	Contained
25	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	2175	Contained
26	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1201	Contained
27	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1724	Contained
28	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1752	Contained
29	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1524	Contained
30	Clarice Smith Performing Arts	386	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0728	Contained

31	College Park Fire House	802	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	Ground Floor	Contained
32	Computer Science Instr. Center	406	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1119	Contained
33	Denton Dining Hall	251	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0119	Contained
34	Dorchester Hall	064	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0124A	Contained
35	Edward St. John	226	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0290	Contained
36	Energy Research	223	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0200	Contained
37	Football Team Building	379	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0108	Contained
38	Geology	237	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1116	Contained
39	Golf Course Club House	166	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0100D	Contained
40	H. J. Patterson Hall	073	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0203	Contained
41	Health Center	140	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0109	Contained
42	Health Center	140	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0170L	Contained
43	Institute for Phy. Sci. and Tech.	085	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0103A	Contained
44	J. M. Patterson Hall	083	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1206	Contained
45	Jimenez Hall	034	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0102B	Contained
46	Kim Engineering Building	225	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1104	Contained
47	Kim Engineering Building	225	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1104	Contained
48	Kim Engineering Building	225	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1224	Contained
49	Knight Hall	417	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1298	Contained
50	Laboratory for Physical Sciences	796	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	100	Contained
51	Laboratory for Physical Sciences	796	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0398	Contained
52	Lee Building	071	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0117C	Contained
53	LeFrak Hall	038	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0211A	Contained
54	Marie Mount Hall	046	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0407A	Contained
55	Marie Mount Hall	046	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0403A	Contained
56	Martin Hall	088	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0203A	Contained
57	Martin Hall	088	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0401A	Contained
58	Mathematics	084	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	5200A	Contained
59	Mathematics	084	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	4920	Contained
60	MFRI	199	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1205	Contained
61	MFRI	199	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1101	Contained

62	Microbiology	231	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0118A	Contained
63	Mitchell Building	052	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0116A	Contained
64	Nyumburu Cultural Center	232	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	100	Contained
65	Parking Garage #5	404	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	NE Level G	Contained
66	Parking Garage #5	404	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	NW Level G	Contained
67	Patuxent	010	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0103	Contained
68	Physics	082	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0116	Contained
69	Physics	082	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	SB0333A	Contained
70	Physical Sciences Complex	415 PSC	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0598	Contained
71	Queen Anne's Hall	061	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	104	Contained
72	Ritchie Coliseum	004	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0102	Contained
73	Samuel Riggs IV Alumni Bldg.	407	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1120A	Contained
74	Samuel Riggs IV Alumni Bldg.	407	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1120A	Contained
75	School Of Public Health	255	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0315	Contained
76	School Of Public Health	255	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0245	Contained
77	School Of Public Health	255	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0123	Contained
78	Seneca	812	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0111	Contained
79	Severn	810	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0196	Contained
80	Severn	810	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0696	Contained
81	Shoemaker Hall	037	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0141	Contained
82	Skinner Bldg.	044	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0101	Contained
83	Somerset Hall	063	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0118	Contained
84	South Campus Dining Hall	026	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0195	Contained
85	South Campus Dining Hall	026	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0119A	Contained
86	South Campus Dining Hall	026	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0119A	Contained
87	Stadium Garage (PG 3)	218	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	NW Level G	Contained
88	Stadium Garage (PG 3)	218	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	SW Level G	Contained
89	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B1004	Contained
90	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0202	Contained
91	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0202	Contained
92	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	SB0240	Contained

93	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	SB0201	Contained
94	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0106M	Contained
95	Stamp Student Union	163	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0106M	Contained
96	Susquehanna Hall	233	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1126	Contained
97	Symons Hall	076	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	3313	Contained
98	Taliaferro Hall	043	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0105	Contained
99	Tawes Fine Arts	141	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0146	Contained
100	Tech. Advancement Prog Bldg	387	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	1111	Contained
101	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0504	Contained
102	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0504	Contained
103	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0504	Contained
104	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0101A	Contained
105	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0101A	Contained
106	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0102A	Contained
107	Van Munching Hall	039	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	0102A	Contained
108	Woods Hall	047	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	B0200D	Contained
109	Xfinity Center	360	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	2301	Contained
110	Yahentamitsi Dining Hall	436	Apprx. 125	Gradual to Instantaneous	Hydraulic oil	Basement	Contained

Total Capacity (Approx.) 13,750

Lube Oil Reservoir

97	Plant Science	036 PLS	95	Gradual to Instantaneous	Lube oil	10	Double Wall

Total Capacity (Approx.) 95

Appendix E
Table of Oil-Filled Electrical Equipment

Appendix E:
Table of Oil-Filled Electrical Equipment Transformers

Transformer ID	Bldg. Name	Bldg. #	Capacity (gallons)	Contents	Location Details	Est. Spill Rate (gal/hr)	Storm Drain Location	Receiving Outfall
1	A. James Clark Hall	429	604	Mineral Oil	Northwest 429	Gradual to Instantaneous	8' W	Tax Ditch 80' NW
2	A. James Clark Hall	429	604	Mineral Oil	Northwest 430	Gradual to Instantaneous	8' W	Tax Ditch 80' NW
3	A.V. Williams-S Wing - PH I	115	725	Mineral Oil	Southeast 115	Gradual to Instantaneous	NA to Storm Drain	004
4	A.V. Williams-N Wing - PH II	115	690	Mineral Oil	Northeast 115	Gradual to Instantaneous	61' SE	004
5	A.V. Williams-N Wing - PH II	115	690	Mineral Oil	Northeast 115	Gradual to Instantaneous	61' SE	004
6	A.V. Williams-S Wing - PH I	115	725	Mineral Oil	Southeast 115	Gradual to Instantaneous	NA to Storm Drain	004
7	Agriculture Shed	102	105	Mineral Oil	East 142	Gradual to Instantaneous	60' SW	Stream 800ft NE
8	Animal Science	142	162	Mineral Oil	Northwest 142	Gradual to Instantaneous	125' SW	004
9	Animal Science	142	242	Mineral Oil	Northwest 142 (ESW)	Gradual to Instantaneous	65' SW	004
10	Animal Science	142	242	Mineral Oil	Northwest 142	Gradual to Instantaneous	65' SW	004
11	Architecture	145	320	Mineral Oil	Room B0103	Gradual to Instantaneous	73' SE	012
12	Terripan Trail Garage	403	296	Mineral Oil	South 403	Gradual to Instantaneous	105' NE	Pond 400ft N
13	Atlantic Building	224	391	Mineral Oil	Northeast 224 (ESW)	Gradual to Instantaneous	34' W	004
14	Atlantic Building	224	585	Mineral Oil	Northeast 224 (ESW)	Gradual to Instantaneous	34' W	004
15	Atlantic Building	224	675	Mineral Oil	Northeast 224 (ESW)	Gradual to Instantaneous	34' W	004
16	Benjamin	143	296	Mineral Oil	Southwest 143	Gradual to Instantaneous	283' SW	005
17	Beta Theta Pi #6 Frat. Row	131	302	Mineral Oil	North 131	Gradual to Instantaneous	146' NE	005
18	Biomolecular Sciences Building	296	477	Mineral Oil	Southwest 296	Gradual to Instantaneous	100' SW	Stream 200ft NE
19	Bioscience Research Building	413 BRB	499	Mineral Oil	Northwest 413	Gradual to Instantaneous	28' SW	003
20	Brendan Iribe Center	432 IRB	604	Mineral Oil	Northwest 432 IRM	Gradual to Instantaneous	212' E	Pond
21	SECU Stadium North Lights	368	320	Mineral Oil	Southeast 256	Gradual to Instantaneous	430' E	004
22	SECU Stadium Upper Deck	368	397	Mineral Oil	Southwest 3868	Gradual to Instantaneous	70' NE	003
23	Calvert Hall	015	173	Mineral Oil	West 015	Gradual to Instantaneous	38' SW	007
24	Cambridge Community Center	097	496	Mineral Oil	Southwest 099	Gradual to Instantaneous	225' SW	Stream 800ft NE
25	Cambridge Hall	096	165	Mineral Oil	East 096	Gradual to Instantaneous	161' SE	004
26	Campus Recreation Center	068	523	Mineral Oil	Northeast 068	Gradual to Instantaneous	150' SW	Stream 100ft N
27	Capital One Field at Maryland Stadium	125	263	Mineral Oil	B125	Gradual to Instantaneous	109'	Storm Drain
28	Center For Young Children	381	170	Mineral Oil	Southwest 381B	Gradual to Instantaneous	150' W	Pond 500ft NE
29	Central Animal Resources	087	176	Mineral Oil	East 087	Gradual to Instantaneous	11' W	004
30	Central Heating Plant	001	418	Mineral Oil	Northeast 001	Gradual to Instantaneous	11' W	004
31	Central Heating Plant	001	213	Mineral Oil	West 006	Gradual to Instantaneous	106' NW	016
32	Chem & Nuclear Engineering	090	311	Mineral Oil	Room 1141	Gradual to Instantaneous	12' NW	004
33	Chem & Nuclear Engineering	090	257	Mineral Oil	Room 1141	Gradual to Instantaneous	12' NW	004
34	Chem & Nuclear Engineering	091	397	Mineral Oil	SE Corner of Parking Lot KI	Gradual to Instantaneous	98' NW	004
35	Chemistry	091	500	Mineral Oil	Room 0102	Gradual to Instantaneous	15' E	003
36	Chemistry Wing II	091	296	Mineral Oil	South Side	Gradual to Instantaneous	52' S	003
37	Chemistry Wing III	091	423	Mineral Oil	ENE 091	Gradual to Instantaneous	60' SW	003
38	Chemistry Wing V	091	423	Mineral Oil	B091	Gradual to Instantaneous	75' SW	003
39	Chesapeake Building	338	494	Mineral Oil	North 338	Gradual to Instantaneous	219 NE	Pond 200ft SE
40	Chincoteague	059	140	Mineral Oil	East 059	Gradual to Instantaneous	NA to Outfall	005

41	Clarice Smith Performing Arts Center Trans #1	386	730	Mineral Oil	West 386	Gradual to Instantaneous	28' SW	Stream 200ft NW
42	Clarice Smith Performing Arts Center Trans #2	386	730	Mineral Oil	West 386	Gradual to Instantaneous	35' SW	Stream 200ft NW
43	Cole Field House	162	267	Mineral Oil	East 162	Gradual to Instantaneous	15' N	004
44	College Park Marriott Hotel & Conference Center-East	345	256	Mineral Oil	345-2	Gradual to Instantaneous	88' SW	Storm Drain
45	College Park Marriott Hotel & Conference Center-East	345	296	Mineral Oil	345-1	Gradual to Instantaneous	127' SW	Storm Drain
46	College Park Marriott Hotel & Conference Center-West	345	448	Mineral Oil	345-3	Gradual to Instantaneous	100' SW	Storm Drain
47	Computer Science Instructional Center	406	239	Mineral Oil	Southeast 115	Gradual to Instantaneous	NA to Outfall	004
48	Cumberland Hall	122	378	Mineral Oil	Southeast 122	Gradual to Instantaneous	205' SE	Stream 600ft N
49	Denton Area Dining Hall	251	370	Mineral Oil	Northeast 251	Gradual to Instantaneous	175' NE	Stream 700ft N
50	Dorchester Hall	064	140	Mineral Oil	West 064	Gradual to Instantaneous	42' NE	005
51	E.A. Fernandez IDEA Factory	228	229	Mineral Oil	North 228	Gradual to Instantaneous	23' N	004
52	Easton Hall	253	370	Mineral Oil	B353	Gradual to Instantaneous	203' SE	Storm Drain
53	Memorial Chapel	009	75	Mineral Oil	Room Elec	Gradual to Instantaneous	22' W	006
54	Ellicott Area Dining Hall	257	458	Mineral Oil	Southwest 257B	Gradual to Instantaneous	63' E	Stream 500ft N
55	Ellicott Hall	256	379	Mineral Oil	Room 0119	Gradual to Instantaneous	57' N	Stream 500ft N
56	Energy Research	223	296	Mineral Oil	Southeast 223	Gradual to Instantaneous	30' S	Stream 300ft E
57	Energy Research	223	512	Mineral Oil	Southeast 223	Gradual to Instantaneous	30' S	Stream 300ft E
58	Energy Research	223	378	Mineral Oil	Northwest 223	Gradual to Instantaneous	100' E to stream	Stream 300ft E
59	Engineering Laboratory	089	420	Mineral Oil	West 089	Gradual to Instantaneous	105' S	003
60	Engineering Research	093	229	Mineral Oil	South 093	Gradual to Instantaneous	31' W	004
61	Football Team Building	379	450	Mineral Oil	Northeast 379	Gradual to Instantaneous	20' N	004
62	Francis Scott Key Hall	048	189	Mineral Oil	Northeast 048	Gradual to Instantaneous	100' SE	005
63	Morrill Hall	040	153	Mineral Oil	West 040	Gradual to Instantaneous	99' E	005
64	Tydings Hall	042	100	Mineral Oil	Southwest 042	Gradual to Instantaneous	99' E	005
65	H. J. Patterson Hall	073	407	Mineral Oil	Southeast 073	Gradual to Instantaneous	40' E	005
66	H. J. Patterson Hall	073	426	Mineral Oil	Room 0116A	Gradual to Instantaneous	40' E	005
67	Harford Hall	014	147	Mineral Oil	Southeast 014	Gradual to Instantaneous	110' W	014
68	Health Center	140	257	Mineral Oil	Southwest 140	Gradual to Instantaneous	57' ESE	005
69	Hornbake Library	147	563	Mineral Oil	Northeast 147	Gradual to Instantaneous	38' SE	002
70	Indoor Practice Facility	309	163	Mineral Oil	Southwest 309	Gradual to Instantaneous	290' E	Ditch 290ft SE
71	Jimenez Hall	034	198	Mineral Oil	Southeast 140	Gradual to Instantaneous	45' E	005
72	J.M. Patterson Building	083 JMP	295	Mineral Oil	Centeral East 083	Gradual to Instantaneous	82' E	004
73	Tawes Scub	141	457	Mineral Oil	B141	Gradual to Instantaneous	53' NE	Storm Drain
74	Jones Hill House	162	604	Mineral Oil	Northwest 162	Gradual to Instantaneous	108' NW	Storm Drain
75	Jull Hall	227	325	Mineral Oil	Northwest 227	Gradual to Instantaneous	100' W	004
76	Kappa Alpha #1Frat. Row	126	302	Mineral Oil	East 126	Gradual to Instantaneous	240' E	005
77	Kehoe Sports Facility	388	176	Mineral Oil	West 388	Gradual to Instantaneous	257' S	Ditch 200ft SW
78	Kim Engineering	225	378	Mineral Oil	West 225	Gradual to Instantaneous	100'E	004
79	Kim Engineering	225	378	Mineral Oil	West 225	Gradual to Instantaneous	100'E	004
80	Knight Hall	417	287	Mineral Oil	B417	Gradual to Instantaneous	68' SW	Storm Drain
81	Golf Course Club House	166	163	Mineral Oil	Southwest 166	Gradual to Instantaneous	20' NE	Ditch 400ft SE

82	Edward St. John Learning & Teaching Center	226	126	Mineral Oil	South 226	Gradual to Instantaneous	NA	002
83	Laplata Hall	259	370	Mineral Oil	Room 0112	Gradual to Instantaneous	47' E	Stream 500ft N
84	Edward St. John Learning & Teaching Center	226	105	Mineral Oil	Northwest 226	Gradual to Instantaneous	89' N	002
85	Lee	071	153	Mineral Oil	Room Mech	Gradual to Instantaneous	135' ENE	005
86	Lefrak Hall	038	330	Mineral Oil	West Mech Rm.	Gradual to Instantaneous	49 SW	014
87	Leonardtown Modular	238	180	Mineral Oil	West 238	Gradual to Instantaneous	68' N	007
88	Leonardtown Modular	239	180	Mineral Oil	Southwest 239	Gradual to Instantaneous	250' E	007
89	Leonardtown Modular	240	180	Mineral Oil	East 240	Gradual to Instantaneous	11' N	007
90	Leonardtown Modular	241	170	Mineral Oil	Southwest 241	Gradual to Instantaneous	76' E	007
91	Leonardtown Modular	242	180	Mineral Oil	East 242	Gradual to Instantaneous	93' N	007
92	Leonardtown Modular	243	170	Mineral Oil	Norhtwest 243	Gradual to Instantaneous	45' W	007
93	Leonardtown Modular	244	210	Mineral Oil	Southeast 244	Gradual to Instantaneous	44' W	005
94	Leonardtown Modular	245	210	Mineral Oil	Southwest 245	Gradual to Instantaneous	23' N	005
95	Leonardtown Modular	246	210	Mineral Oil	Norhtwest 246	Gradual to Instantaneous	45' SE	006
96	Leonardtown Modular	247	210	Mineral Oil	Southwest 247	Gradual to Instantaneous	44' SE	006
97	Leonardtown Modular	248	210	Mineral Oil	Northeast 248	Gradual to Instantaneous	58' E	006
98	Leonardtown Modular	249	210	Mineral Oil	Northwest 249	Gradual to Instantaneous	58' N	006
99	Leonardtown Modular	250	350	Mineral Oil	Southwest 250	Gradual to Instantaneous	68' N	006
100	Leonardtown Office Building	201	144	Mineral Oil	Southwest 201	Gradual to Instantaneous	100' W	007
101	Main Admin	077	253	Mineral Oil	South 077	Gradual to Instantaneous	400' E	005
102	Manufacturing	148	348	Mineral Oil	North 148	Gradual to Instantaneous	190' SW	Pond 190ft E
103	School Of Public Health West	255	400	Mineral Oil	B255	Gradual to Instantaneous	58' E	Storm Drain
104	Mitchell	052	253	Mineral Oil	B052	Gradual to Instantaneous	388' SE	Storm Drain
105	Hagerstown Hall	258	370	Mineral Oil	Northeast 258	Gradual to Instantaneous	67' NW	Storm Drain
106	Laplata Hall	259	188	Mineral Oil	Room 0112	Gradual to Instantaneous	47' E	Stream 500ft N
107	North Field Lights/Shuttle Bus Facility	424	217	Mineral Oil	S. Nor Sub	Gradual to Instantaneous	690' SW	004
108	Oakland Hall	419	641	Mineral Oil	B419	Gradual to Instantaneous	66' SW	Storm Drain
109	SCUB III	392	257	Mineral Oil	West 392	Gradual to Instantaneous	23' N	004
110	Patuxent	010	288	Mineral Oil	Southwest 010	Gradual to Instantaneous	100' E	004
111	Physical Sciences Complex	415	589	Mineral Oil	B415	Gradual to Instantaneous	57' SE	Storm Drain
112	Physics	082	407	Mineral Oil	West 082	Gradual to Instantaneous	63' N	004
113	Physics	082	449	Mineral Oil	North 082	Gradual to Instantaneous	31' S	004
114	Plant Maintenance Shops	006	263	Mineral Oil	West 006	Gradual to Instantaneous	111' NW	016
115	Plant Sciences	036	505	Mineral Oil	South 036 (Center-SW)	Gradual to Instantaneous	14' N	002
116	Plant Sciences	036	555	Mineral Oil	South 036 (ESW)	Gradual to Instantaneous	14' N	002
117	Plant Sciences	036	555	Mineral Oil	South 036 (WSW)	Gradual to Instantaneous	14' N	002
118	Preinkert Field House	054	218	Mineral Oil	South 054	Gradual to Instantaneous	215' SW	014
119	Pyon-Chen Hall	434 PCH	397	Mineral Oil	East 436	Gradual to Instantaneous	238' NE	Storm Drain
120	Research Greenhouse	398	450	Mineral Oil	B398	Gradual to Instantaneous	200' NE	Pond 200ft E
121	Riggs Alumni Center	407	613	Mineral Oil	Southeast 407	Gradual to Instantaneous	41' W	003
122	Ritchie Coliseum	004	296	Mineral Oil	East 004	Gradual to Instantaneous	7' E	005

123	School Of Public Health	255	675	Mineral Oil	B255	Gradual to Instantaneous	40' SE	Storm Drain
124	Parking Garage #5	404	325	Mineral Oil	Norhtwest 404	Gradual to Instantaneous	140' SW	12
125	Thurgood Marshall Hall	433 SPP	604	Mineral Oil	Northwest 433	Gradual to Instantaneous	50' SW	Storm Drain
126	SCUB II	067	520	Mineral Oil	South 067	Gradual to Instantaneous	62' S	014
127	SCUB V	416	475	Mineral Oil	B416	Gradual to Instantaneous	145' NW	Storm Drain
128	SCUB III Addition	392	646	Mineral Oil	West 392	Gradual to Instantaneous	23' N	004
129	SCUB IV A	405	407	Mineral Oil	West Side 405	Gradual to Instantaneous	150' NW	003
130	SCUB IV B	405	423	Mineral Oil	West Side 405	Gradual to Instantaneous	165' NW	003
131	SCUB IV C	405	423	Mineral Oil	West Side 405	Gradual to Instantaneous	180' NW	003
132	SCUB IV D	405	423	Mineral Oil	East 091	Gradual to Instantaneous	140' N	003
133	Johnson-Whittle	435	397	Mineral Oil	South 435	Gradual to Instantaneous	35' SE	Storm Drain
134	SCUB VI	418	523	Mineral Oil	B419	Gradual to Instantaneous	66' SW	Storm Drain
135	SCUB VI	418	194	Mineral Oil	B419	Gradual to Instantaneous	66' SW	Storm Drain
136	Service Building Annex	005	279	Mineral Oil	East 005	Gradual to Instantaneous	155' SE	016
137	Shoemaker	037	237	Mineral Oil	South 037	Gradual to Instantaneous	62' SE	014
138	Shuttle Bus Facility	424	276	Mineral Oil	SW 107	Gradual to Instantaneous	124' NW	Wetlands 100ft NE
139	Sigma Kappa #10 Frat. Row	135	302	Mineral Oil	East 135	Gradual to Instantaneous	38' E	006
140	Skinner	044	252	Mineral Oil	East 044	Gradual to Instantaneous	9' N	005
141	Somerset Hall	063	374	Mineral Oil	Northeast 063	Gradual to Instantaneous	260' N	005
142	Stadium Garage #3	218	166	Mineral Oil	Northwest 218	Gradual to Instantaneous	36' SW	Stream 1000ft N
143	Susquehanna Hall	233	194	Mineral Oil	West 233	Gradual to Instantaneous	130' SW	004
144	Symons Hall	076	296	Mineral Oil	Southwest 076	Gradual to Instantaneous	45' E	002
145	Tawes Fine Arts	141	250	Mineral Oil	Northeast 141	Gradual to Instantaneous	76' NW	012
146	Laboratory for Physical Sciences	796	365	Mineral Oil	West 796	Gradual to Instantaneous	26' NE	Pond
147	Tech. Advancement Prog Bldg	387	393	Mineral Oil	Southeast 387	Gradual to Instantaneous	4' W	Pond 100ft N
148	The Hotel Parking Lot	-	100	Mineral Oil	East Adj. Campus Drive	Gradual to Instantaneous	36' S	001
149	Laboratory for Physical Sciences	796	423	Mineral Oil	South 796	Gradual to Instantaneous	20' SW	Pond
150	Tyser Tower	361	641	Mineral Oil	B361	Gradual to Instantaneous	38' SW	Storm Drain
151	Van Munching	039	418	Mineral Oil	Northwest 039	Gradual to Instantaneous	78' SE	012
152	Van Munching (Addition)	039	359	Mineral Oil	Northeast 039	Gradual to Instantaneous	West 400	78' SE
153	Varsity Sports Team House	158	165	Mineral Oil	North 158	Gradual to Instantaneous	11' W	004
154	Wind Tunnel	081	600	Mineral Oil	B081	Gradual to Instantaneous	212' E	Pond
155	Xfinity Arena A	360	542	Mineral Oil	North 360	Gradual to Instantaneous	105' NE	Pond 400ft N
156	Xfinity Arena B	360	378	Mineral Oil	North 360	Gradual to Instantaneous	105' NE	Pond 400ft N
157	Xfinity Arena C	360	370	Mineral Oil	North 360	Gradual to Instantaneous	105' NE	Pond 400ft N
158	Yahentamitsi Dining Hall	436	499	Mineral Oil	Northeast 436	Gradual to Instantaneous	239' NE	Storm Drain

Total Oil Storage: 55,731

Appendix F
Table of Transfer Area Fault Analysis

Appendix F

Table of Transfer Area Fault Analysis

Transfer Area	Bldg. Name	Bldg. #	Map #	Company	Largest Compartment (gallons)	Flow Rate (GPM)*	Most Probable Amount Spilled**	Est. Spill Rate (gal/hr)	Product Transferred	Storm Drain Location	Receiving Outfall
Refueling Area	Golf Course Maintenance	314	2	Griffith Energy Services, Inc.	1,000	20	60	Gradual to Instantaneous	Gasoline, Diesel	732' SW	Stream
Refueling Area	Grounds Operations & Maintenance Building	328	3	Griffith Energy Services, Inc. and Carroll Fuels	1,500	20	60	Gradual to Instantaneous	Gasoline, Diesel	78' NE	Pond
Refueling Area	Shuttle Bus Facility	424	4	Carroll Fuels	3,500	350	1050	Gradual to Instantaneous	Diesel	55' S	Pond
Fuel Island	Severn	810	5	James River Petroleum	20,000	350	1050	Gradual to Instantaneous	Gasoline, E-85	58' NW	StormDrain
Refueling Area	SECU Stadium Maintenance Building	369	7	Griffith Energy Services, Inc.	250	20	60	Gradual to Instantaneous	Diesel	60' NE	4
Parking Lot K2	Plant Operations and Maintenance	006	14	Mansfield Energy-Petrol Express	8,500	300	900	Gradual to Instantaneous	Diesel	20' SE	5
Mobile Refuler	Various	Various	Various	University of Maryland	100	20	60	Gradual to Instantaneous	Diesel	Various	Various

*Values are estimated

**Values are estimated for a 3-minute response time

Appendix G

Oil/Water Separator (OWS) SOP and Monthly Inspection

SOP 11: OIL/WATER SEPARATOR (OWS) MAINTENANCE

Oil/water separators (OWS) are structural devices intended to allow oils (and substances lighter than water) to be intercepted and be removed for disposal. Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.

OWS units are generally required where petroleum-based products, wastes containing petroleum, or oily and/or flammable materials are used, produced, or stored. OWS units should not be used to manage stormwater or flow from vehicle washing facilities. High flow rates through an OWS will reduce the structure's ability to separate materials. Detergents and solvents can emulsify oil and grease, allowing the particles to enter the sewer, so these should not be disposed of in drains entering the OWS.

General OWS Maintenance Requirements

1. Each OWS at a facility may receive different materials in different quantities, so the cleanout schedule may not be the same for every OWS at a facility.
2. Employees performing inspections of an OWS must be properly trained and be familiar with the maintenance of that specific structure, since function can vary based on design. Third-party firms may be utilized to perform quarterly inspections.
3. Do not drain petroleum, oil, or lubricants directly to an OWS. The structures are designed to manage these materials at low and medium concentrations in sanitary sewage, not as slug loads.
4. Do not drain antifreeze, degreasers, detergents, fuels, alcohols, solvents, coolant, or paint to the OWS.
5. Separator compartment covers should be tightly sealed to ensure drainage only enters the first compartment of the OWS.
6. Drains should be kept free of debris and sediment to the maximum extent practicable.
7. Spill cleanup materials should be maintained in the area served by the OWS.

OWS Inspection Procedures

Daily inspection of an OWS should include a visual examination of the area served by the OWS for evidence of spills or leaks.

Monthly inspections of an OWS should include the following:

1. Visually examine the area served by the OWS for evidence of spills or leaks.
2. Inspect the point of discharge (i.e., sewer manhole) for evidence of petroleum bypassing the OWS.
3. Inspect drains for any signs of unauthorized substances entering the OWS.
4. Examine the OWS for signs of leaks or any malfunction.
5. Complete the Monthly OWS Inspection Checklist, attached, during the inspection.
6. Take the following measurements to benchmark function of the OWS:
    A. Distance from rim of access cover to bottom of structure
    B. Distance from rim of access cover to top of sludge layer
    C. Depth of sludge layer (C = A – B)

D. Distance from rim of access cover to the oil/water interface
E. Distance from rim of access cover to the top of the liquid surface
F. Depth of oil layer (F = D – E)

OWS Cleaning Procedures

Cleaning of the OWS is required when there has been a spill to the OWS that exceeds ten gallons of oil, one gallon of detergent or solvent, or any material prohibited by the owner of the sanitary sewer. Cleaning is also required when the levels of accumulated sludge and/or oil meet the manufacturer's recommended levels for cleaning. This will vary based on the manufacturer of the OWS. If the manufacturer's recommendations are unknown, the following guidelines are appropriate for determining when to clean:

1. When sludge accumulates to 25% of the wetted height of the separator compartment; or
2. When oil accumulates to 5% of the wetted height of the separator compartment; or
3. When 75% of the retention capacity of the OWS is filled.

Cleaning should be performed a minimum of once per year. When cleaning is required, it shall be performed by licensed OWS maintenance companies. Materials removed from the OWS must be disposed of in accordance with applicable state and federal regulations.

Documentation of Cleaning and Service

The operator of the premises where the OWS is located shall maintain a log describing the date and type of all inspections, service and maintenance performed in connection with the Separator. Documentation shall include the identity of the inspector (or the identity of the person or entity that performed the service and/or maintenance). Records shall also document the amount of residue removed from the OWS each time it was cleaned, and how removed materials were disposed. This documentation shall be maintained for a minimum of five years.

Attachments

1. Monthly OWS Inspection Checklist

Oil-Water Separator Inspection and Maintenance Checklist

Facility:			
Location/Address:			
Date:	**Time:**	**Weather Conditions:**	**Date of Last Inspection:**
Inspector:		**Title:**	
Rain in Last 48 Hours □ **Yes** □ **No**		**If yes, list amount and timing:**	
Pretreatment: □ **vegetated filter strip** □ **swale** □ **turf grass** □ **forebay** □ **other, specify:**			□ **none**
Site Plan or As-Built Plan Available: □ **Yes** □ **No**			

*Do not enter underground detention chambers to inspect system unless Occupational Safety & Health Administration (OSHA) regulations for confined space entry are followed.
*Follow inspection and maintenance instructions and schedules provided by system manufacturer and installer.
* Properly dispose of all wastes.

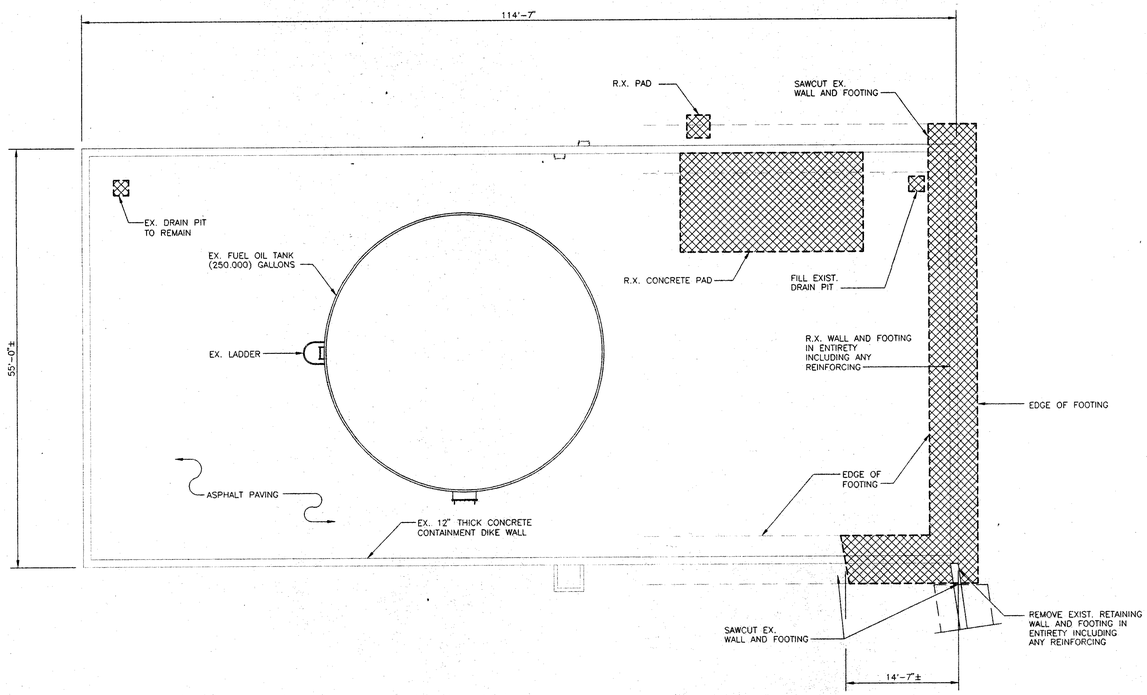
Inspection Item		Comment	Action Needed
1. PRETREATMENT			
Sediment has accumulated.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Trash and debris have accumulated.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
2. INLETS			
Inlets are in poor structural condition.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Sediment, trash, or debris has accumulated and/or is blocking the inlets.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
3. OIL CONTAINMENT CHAMBER			
Oil volume threshold has been reached.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Oil-absorbing pads are saturated.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
4. SEDIMENT COLLECTION CHAMBER			
Sediment accumulation threshold has been reached.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Sludge accumulation threshold at bottom of chamber has been reached.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
4. OTHER SYSTEM COMPONENTS			
Structural deterioration is evident.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Spills or leaks are evident.	☐**Yes** ☐**No** ☐**N/A**		
5. OUTLETS			
Outlets in poor structural condition.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Sediment, trash or debris is blocking outlets.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Erosion is occurring around outlets.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
6. OTHER			
Evidence of ponding water on area draining to system.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Evidence that water is not being conveyed through the system.	☐**Yes** ☐**No** ☐**N/A**		☐**Yes** ☐**No**
Additional Notes			
Wet weather inspection needed □ **Yes** □ **No**			

Measurements	A	Distance from rim of access cover to bottom of structure	
	B	Distance from rim of access cover to top of sludge layer	
	C = A - B	Depth of sludge layer	
	D	Distance from rim of access cover to the oil/water interface	
	E	Distance from rim of access cover to the top of the liquid surface	
	F = D - E	Depth of oil layer	

If the values for “C” and/or “F” are greater than those in the manufacturer’s recommendations, the OWS must be cleaned by a licensed OWS maintenance company.

Appendix H
Engineering Drawings for Oil Associated Piping

Field-Erected ASTs



FUEL OIL CONTAINMENT DIKE – DEMOLITION

SCALE: 1/8" = 1'-0"

8 4 0 8 16

SCALE: 1/8" = 1'-0"

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Date	Description	By

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: FUEL OIL CONTAINMENT DIKE – DEMOLITION

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116
Date: 06/26/98	Dwn.by WRB	Chk.by

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Dwg.no. S1.01

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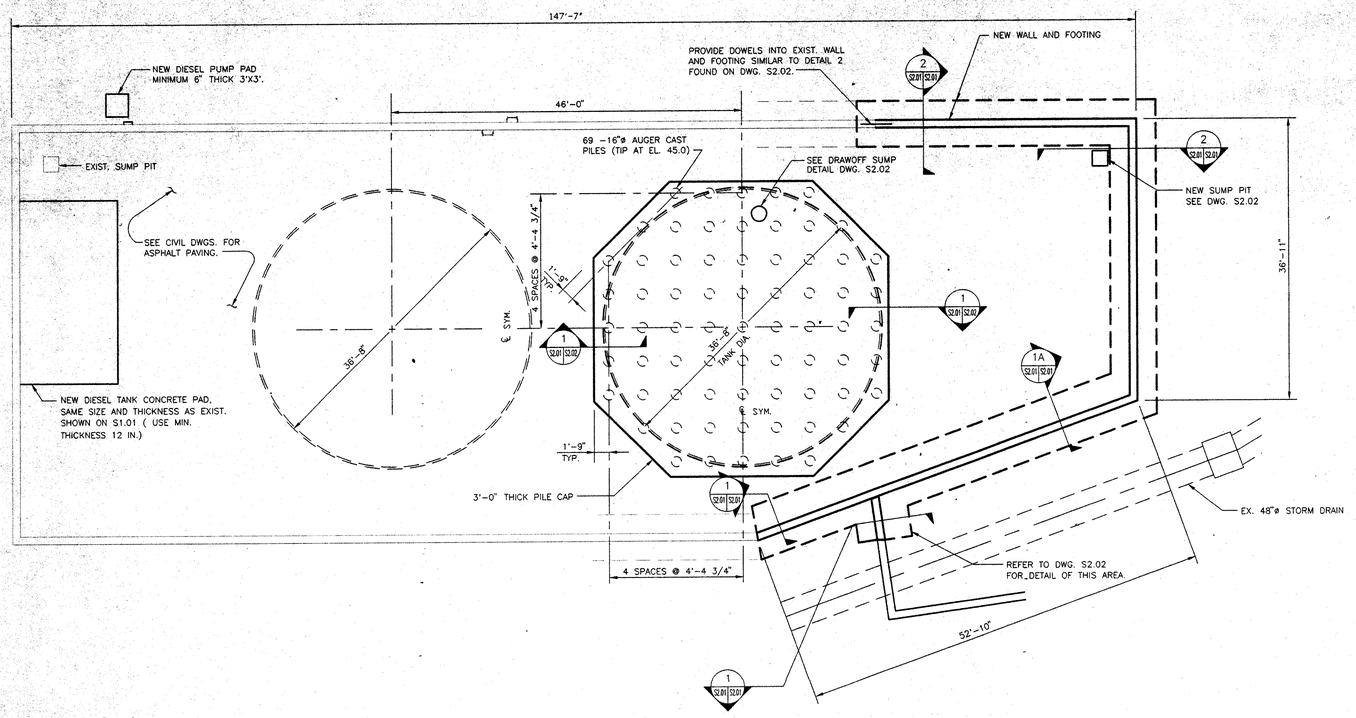
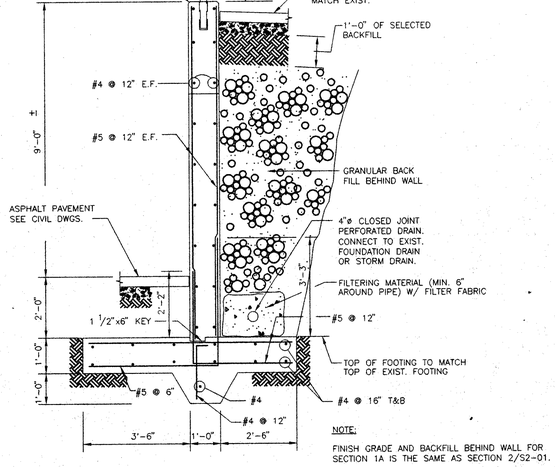


FUEL OIL CONTAINMENT DIKE – NEW WORK

SCALE: 1/8" = 1'-0"

NOTES:

(1) AUGER CAST PILE ALLOWABLE WORKING LOAD CAPACITY EQUALS 20 TONS.

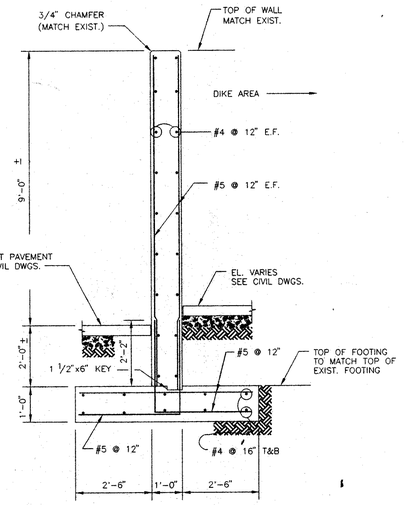


NOTE:

FINISH GRADE AND BACKFILL BEHIND WALL FOR SECTION 1A IS THE SAME AS SECTION 2/S2-01.

CONTAINMENT WALL SECTION (1 S2.01 | S2.01) (1A S2.01 | S2.01)

SCALE: 1/2" = 1'-0"



CONTAINMENT WALL SECTION (2 S2.01 | S2.01)

SCALE: 1/2" = 1'-0"

GENERAL NOTES – STRUCTURAL DESIGN CODES AND SPECIFICATIONS

(ALL LATEST EDITIONS)

A. ASCE 7-93, MINIMUM DESIGN LOADS FOR BUILDINGS & STRUCTURES.
B. AMERICAN CONCRETE INSTITUTE (ACI).
C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
D. API STANDARD 650 – APPENDIX E

DESIGN LOADS

A. THE NEW ADDITION AND MODIFICATION WAS DESIGNED FOR THE MINIMUM LIVE LOADS SHOWN BELOW AND DEAD LOADS AS REQUIRED BY CONSTRUCTION MATERIALS.

B. ALL LOADS SHOWN BELOW ARE IN POUNDS PER SQUARE FOOT UNLESS NOTED OTHERWISE.

ROOF:	30 (SNOW)
WIND: BASIC WIND SPEED,	V=100 mph EXPOSURE C
SEISMIC ZONE:	Av = 0.05, Aa = 0.05

C. PROVIDE ALL GUYS, BRACES, STRUTS, ETC. REQUIRED TO ACCOMODATE ALL LIVE AND DEAD LOADS ENCOUNTERED DURING THE CONSTRUCTION PROCESS.

FOUNDATIONS

A. WALL FOOTINGS ARE DESIGNED FOR A 2500 PSF ALLOWABLE SOIL BEARING PRESSURE. IF SOIL OF THIS CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS INDICATED ON THE PLANS, NOTIFY THE CONTRACTING OFFICER PRIOR TO COMMENCING WITH THE FOUNDATION WORK.

B. WHERE SPREAD FOOTINGS ARE UTILIZED THEY ARE TO BEAR ON UNFROZEN UNDISTURBED SOIL OR ENGINEERED COMPACTED FILL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE SOILS BELOW THE FOOTINGS REMAIN UNFROZEN.

C. ALL COMPACTED FILL MATERIALS SHALL BE FREE OF ORGANIC MATERIAL, BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY, AND OBTAIN A MINIMUM BEARING PRESSURE AS SET FORTH ABOVE.

D. AUGER CAST PILES ARE UTILIZED TO SUPPORT THE NEW OIL TANK. THEY ARE 16 INCH IN DIAMETER, AND TO BE PLACED WITH THEIR TIP AT ELEVATION 45. EACH PILE HAS AN ALLOWABLE CAPACITY OF 20 TONS.

STRUCTURAL STEEL

A. FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, 9TH ED.

B. STEEL SHAPES AND PLATES: PER OIL TANK MANUFACTURER.

C. BOLTED CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

D. ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE ON PLANS.

E. USE E70XX ELECTRODES FOR ALL WELDS. ALL WELDERS SHALL BE CERTIFIED IN IN ACCORDANCE WITH A.W.S.

F. SHOP PAINT STEEL IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS WITH STANDARD INSTRUCTIONS RUST-INHIBITING PRIMER.

G. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 OR A36.

CONCRETE

A. ALL CONCRETE WORK INCLUDING FORMING, MIXING, PLACING, AND CURING SHALL BE IN ACCORDANCE WITH ACI 318-95.

B. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI.

C. CONCRETE REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. (ASTM A706 FOR WELDABLE REBARS) SUBMIT COMPLETE SHOP AND ERECTION DRAWINGS FOR REVIEW PRIOR TO FABRICATION OR ERECTION.

D. CONCRETE COVER FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318-95.

EXISTING CONSTRUCTION

A. THE CONTRACTOR IS ADVISED THAT ALL PLANS, DIMENSIONS AND DETAILS OF THE ADJACENT EXISTING CONSTRUCTION DEPICT FIELD CONDITIONS AS KNOWN. SINCE MINOR VARIATIONS ARE TO BE EXPECTED, THE CONTRACTOR SHALL VERIFY BY FIELD MEASUREMENT ALL PLANNED DIMENSIONS OF NEW CONSTRUCTION IN RELATION TO THE EXISTING CONDITIONS. ANY DEVIATIONS IN PLANNED DIMENSIONS FROM THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE OWNER IN WRITING PRIOR TO PROCEEDING WITH THE WORK.

B. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE EXISTING STRUCTURE DURING THE COURSE OF CONSTRUCTION AND ADVISE THE OWNER OF ANY AREAS WHERE THE STRUCTURE EXHIBITS DISTRESS OR FAILURE.

8 4 0 8 16
SCALE: 1/8" = 1'-0"

2 1 0 2 4
SCALE: 1/2" = 1'-0"

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Revisions:

Date	Description	By

ARCHIVES
Bldg # 001 Inv # 0200
0010200

IN 267

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: FUEL OIL CONTAINMENT DIKE AND DETAILS – NEW WORK

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116	Dwg.no. S2.01
Date: 06/26/98	Dwn.by WRB	Chk.by	

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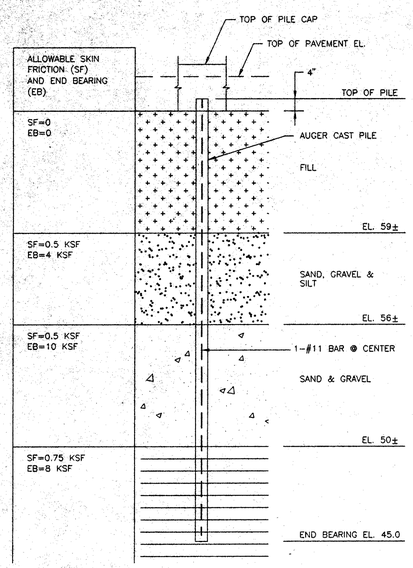
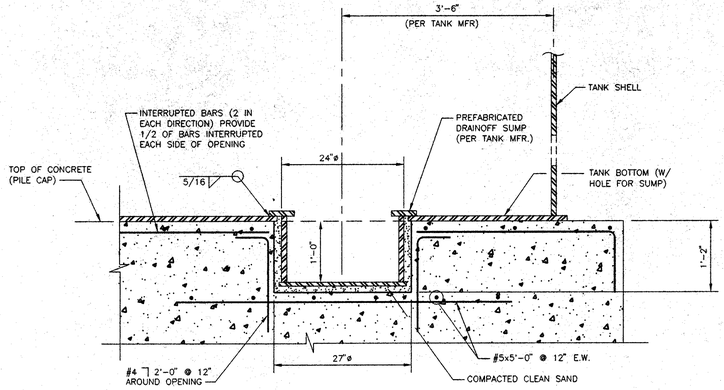


TYPICAL PILE DETAIL

SCALE: NONE

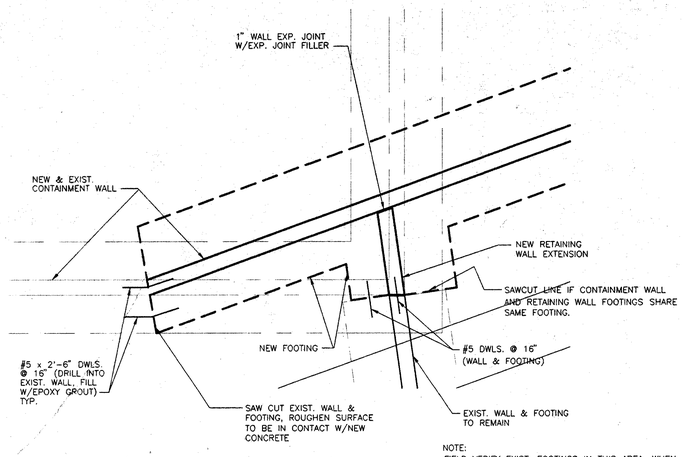
NOTES:
1. THE ABOVE INFORMATION IS TAKEN FROM GEOTECHNICAL REPORT BY T.L.B. ASSOCIATES, INC. ACTUAL ELEVATIONS VARY AND SHALL BE FIELD VERIFIED.
2. THE DESIGN ALLOWABLE PILE CAPACITY IS 20 TONS.



NOTE:
CONTRACTOR SHALL COORDINATE LOCATION OF WATER DRAWOFF SUMP WITH TANK MANUFACTURER.

DETAIL @ DRAWOFF SUMP

SCALE: NONE

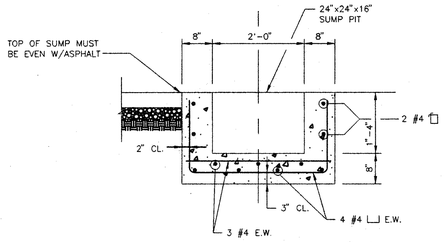


NOTE:
FIELD VERIFY EXIST. FOOTINGS IN THIS AREA. WHEN SAWCUT & REMOVE EXISTING CONTAINMENT WALL AND FOOTING, THE STABILITY AND BEARING CAPACITY OF THE EXISTING RETAINING WALL SHALL BE MAINTAINED. PROVIDE TEMPORARY SUPPORTS AND UNDERPINING AS NECESSARY.

DETAIL

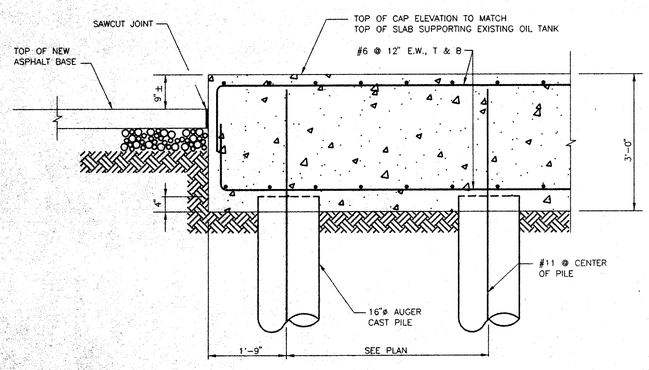
SCALE: 1/4" = 1'-0"

(2 / S2.01&S2.02)



SUMP PIT DETAIL

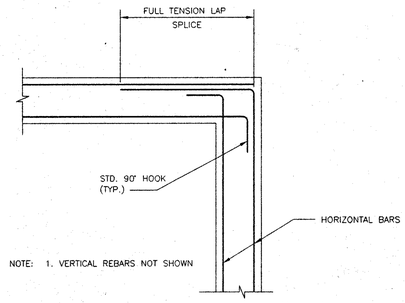
SCALE: 3/4" = 1'-0"



SECTION

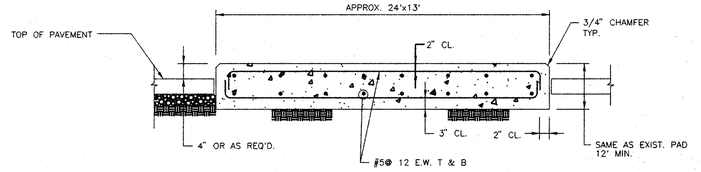
SCALE: 3/4" = 1'-0"

(1 / S2.01&S2.02)



TYPICAL DETAIL @ WALL INTERSECTION

SCALE: NONE



NOTE:
COORDINATE SIZE, NUMBER AND LOCATION OF ANCHOR BOLTS WITH EXISTING TANK.

DEISEL TANK PAD DETAIL

SCALE: NONE

4 2 0 4 8
SCALE: 1/4" = 1'-0"

1 0 1 2 3
SCALE: 3/4" = 1'-0"

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Bldg # 001 Inv # 0201
0010201

IN 20

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: FUEL OIL FOUNDATION DETAILS

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116	Dwg.no. S2.02
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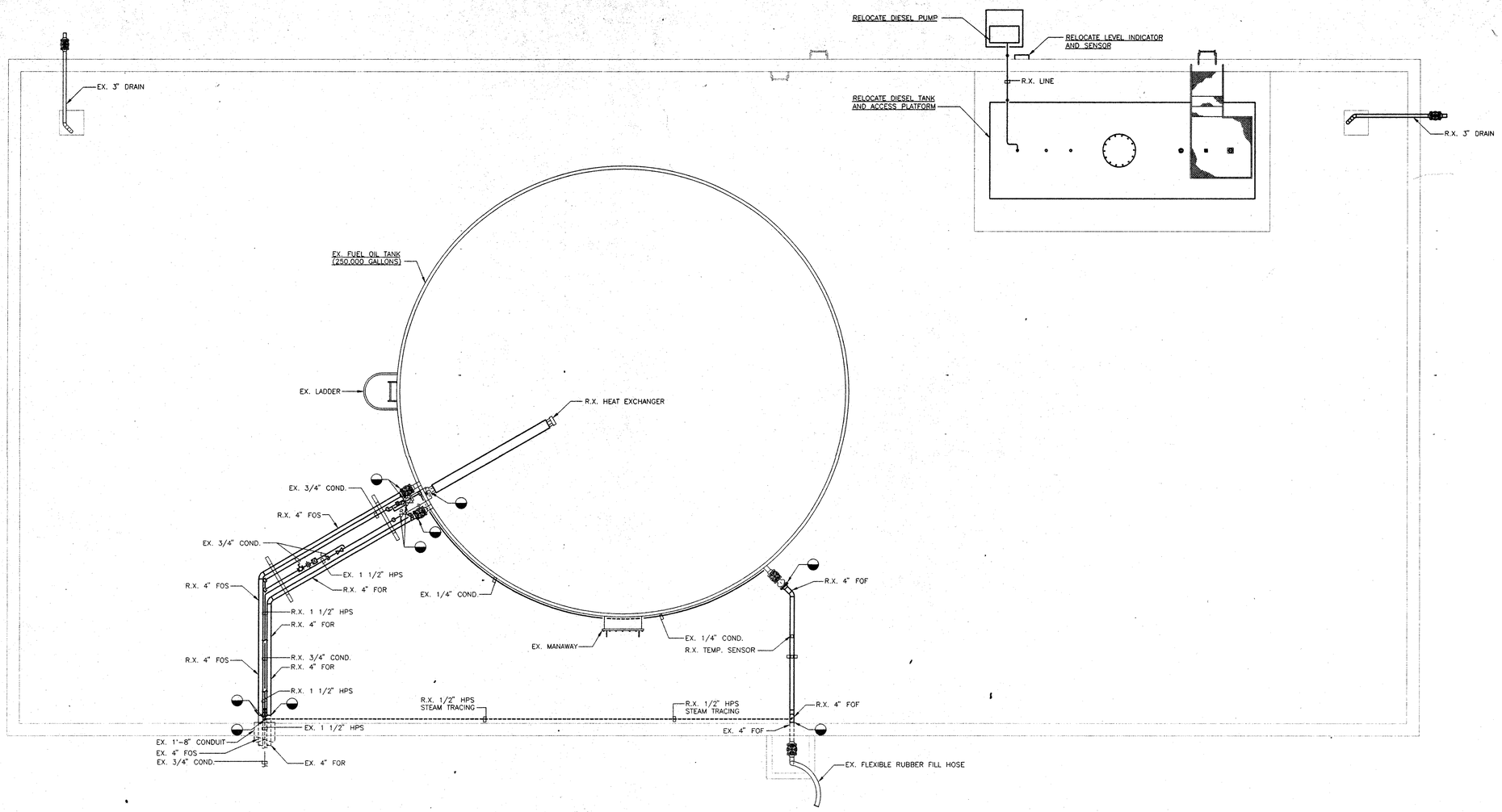
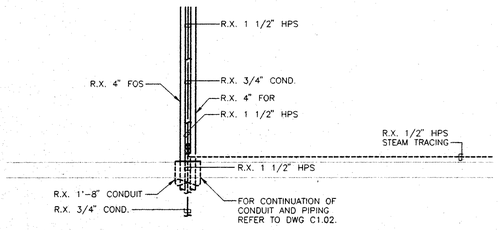


FUEL OIL TANK – PLAN – DEMOLITION

SCALE: 1/4"=1'-0"



FUEL OIL TANK – PART PLAN – DEMOLITION (BID ALTERNATE NO. 1)

SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL REMOVE ALL STEAM TRACING FROM EXISTING FUEL OIL LINES INSIDE OF CONTAINMENT DIKE.
2. CONTRACTOR SHALL REMOVE ALL INSULATION ON FOS, FOF, FOR AND STEAM LINES IN THE CONTAINMENT DIKE.
3. CONTRACTOR SHALL REMOVE A 10' X 10' AREA OF TANK INSULATION TO FACILITATE HEAT EXCHANGER REPLACEMENT.
4. CONTRACTOR IS RESPONSIBLE FOR THE DRAINING AND TEMPORARY STORAGE OF THE FUEL OIL AS REQUIRED TO FACILITATE FUEL OIL PIPING REMOVAL AND INSTALLATION.

4 2 0 4 8

SCALE: 1/4" = 1'-0"

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Title: FUEL OIL TANK – PLANS – DEMOLITION

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116
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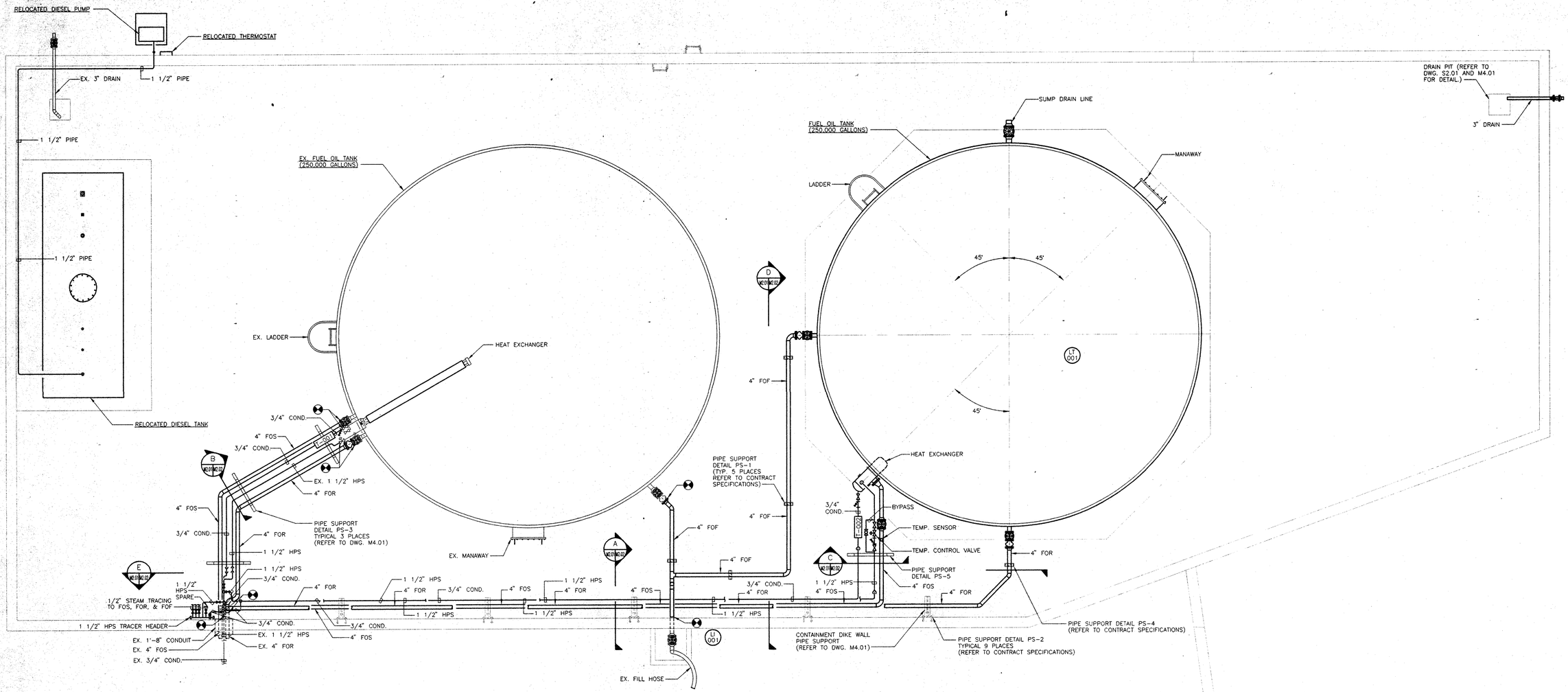
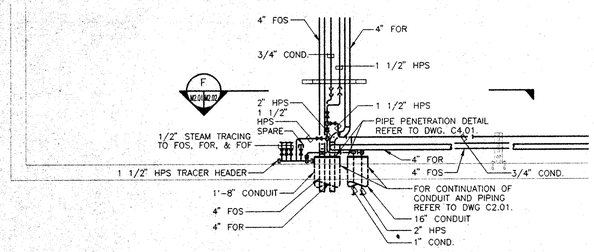


FUEL OIL TANKS – PLAN – NEW WORK

SCALE: 1/4"=1'-0"



FUEL OIL TANK – PART PLAN – NEW WORK (BID ALTERNATE NO. 1)

SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE STEAM TRACING AS INDICATED ON M3.04.

4 2 0 4 8

SCALE: 1/4" = 1'-0"

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Revisions:		
Date	Description	By

IN 204

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: FUEL OIL TANKS – PLANS – NEW WORK

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116	Dwg.no. M2.01
Date: 06/26/98	Dwn.by JML	Chk.by	

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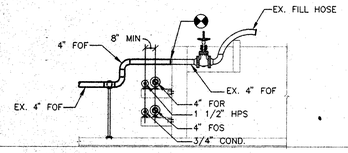
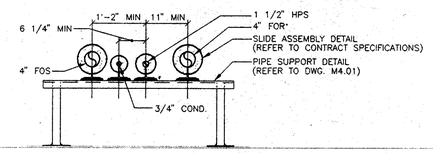


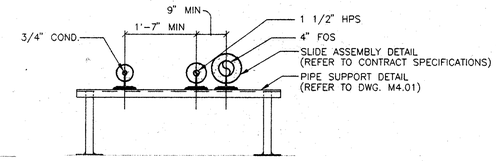
SECTION – NEW WORK (A)

SCALE: 1/4"=1'-0"



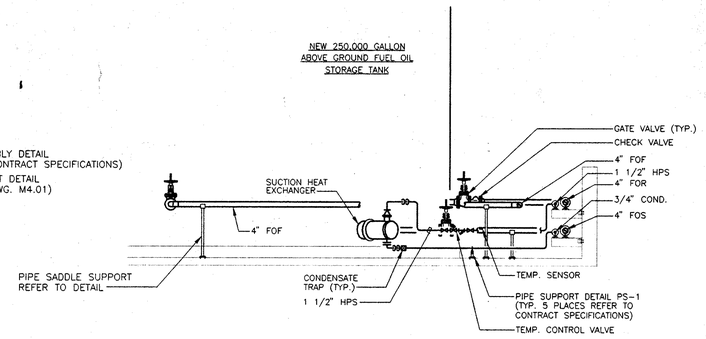
SECTION – NEW WORK (B)

SCALE: 3/4"=1'-0"



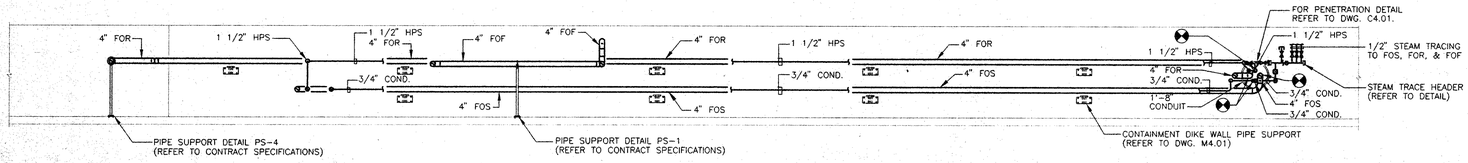
SECTION – NEW WORK (C)

SCALE: 3/4"=1'-0"



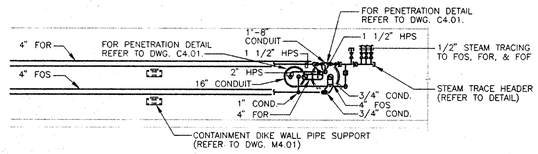
FUEL OIL TANK – SECTION – NEW WORK (D)

SCALE: 1/4"=1'-0"



FUEL OIL PIPING – SECTION – NEW WORK (E)

SCALE: 1/4"=1'-0"



FUEL OIL PIPING – SECTION – NEW WORK (BID ALTERNATE NO. 1) (F)

SCALE: 1/4"=1'-0"

1 0 1 2 3
SCALE: 3/4" = 1'-0"

4 2 0 4 8
SCALE: 1/4" = 1'-0"

SEAL:

RMF ENGINEERING, INC.
190 WEST OSTEND STREET
BALTIMORE, MARYLAND 21230

UNIVERSITY OF MARYLAND
APPROVED
NOT APPROVED
BY:
DATE:
CAMPUS COMMUNICATION SERVICES

APPROVED BY

USING AGENCY	DATE
DPP	DATE
DAEC	DATE

Revisions:

Date	Description	By

ARCHIVES
Bldg # 001 Inv # 0205
0010205

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

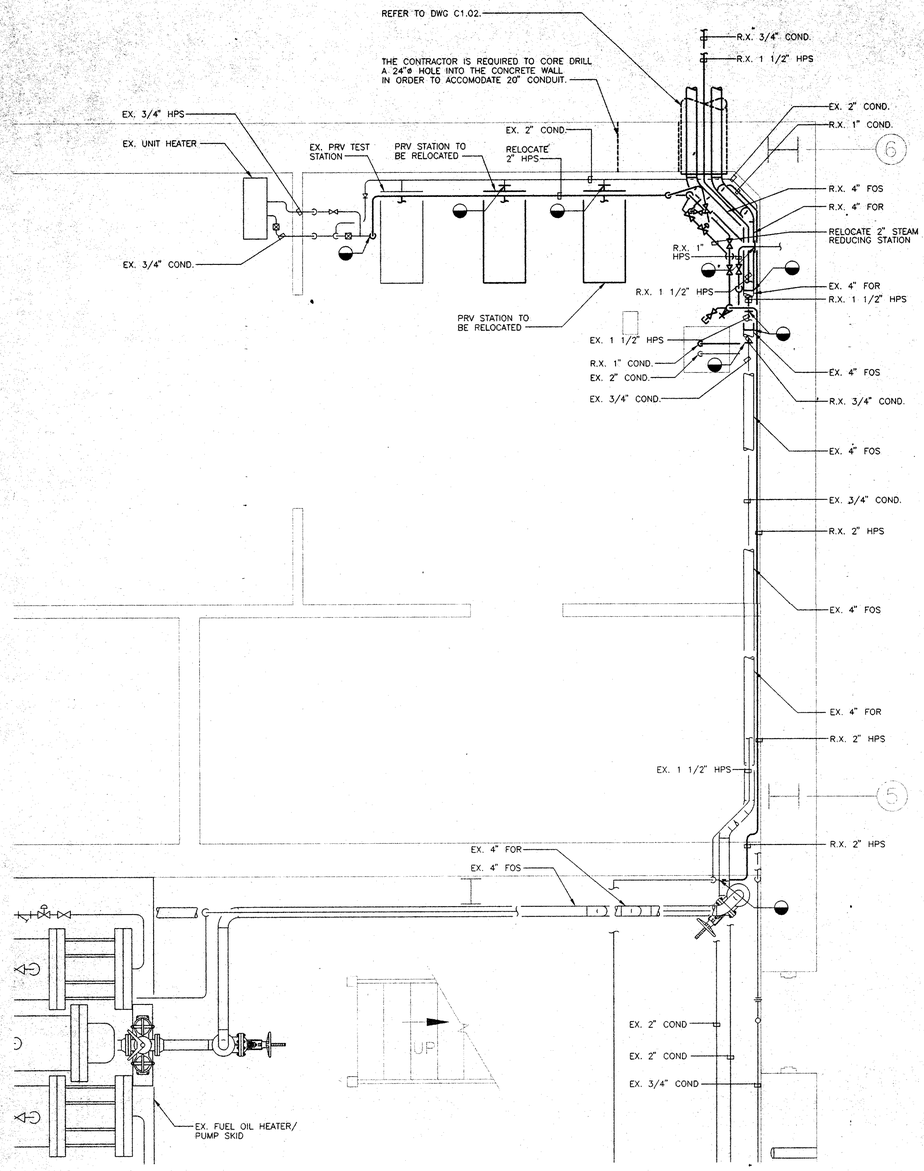
Title: FUEL OIL TANKS – SECTIONS – NEW WORK

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116	Dwg.no. M2.02
Date: 06/26/98	Dwn.by JML	Chk.by	

Department of Architecture, Engineering, and Construction
The University of Maryland College Park Campus

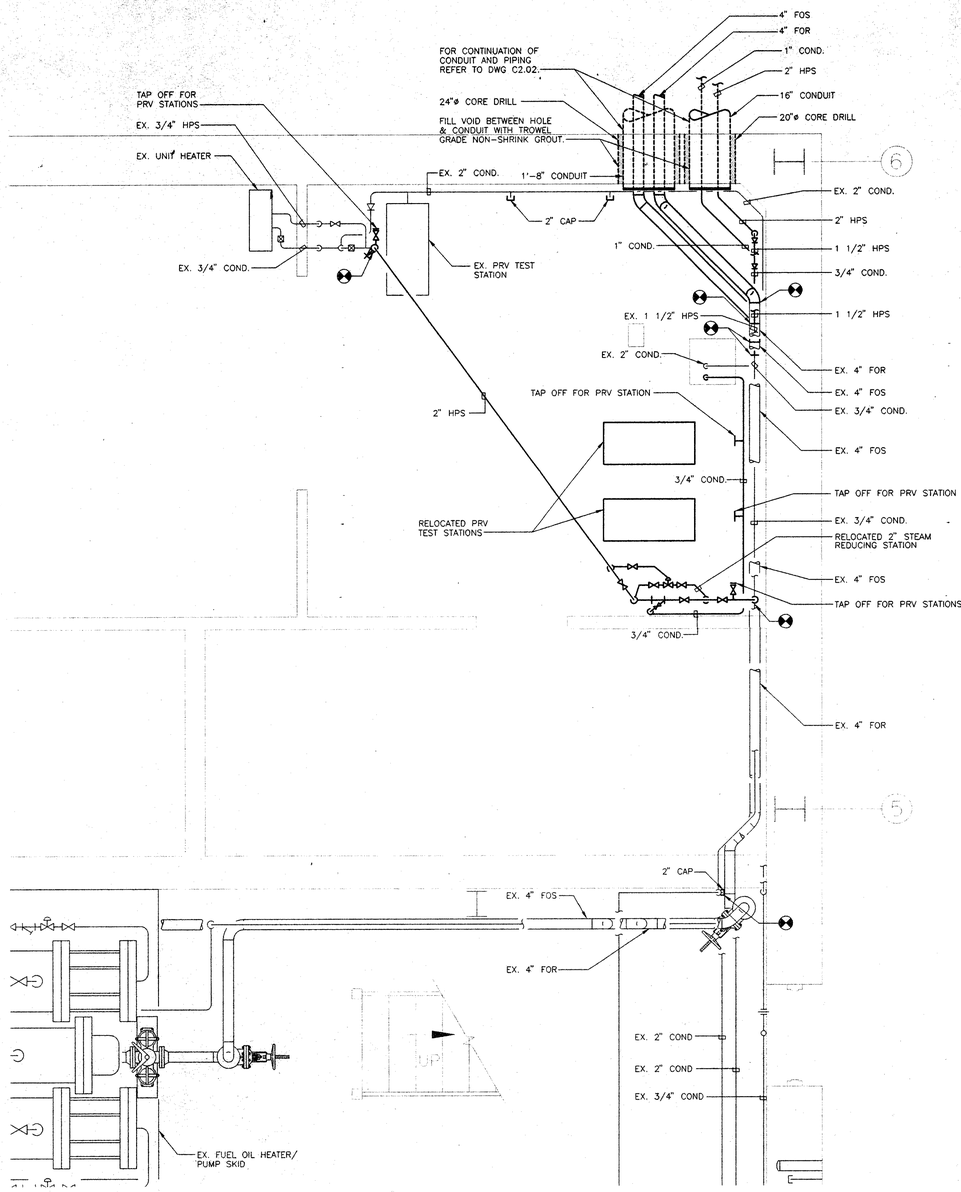
IN 205

SHEET 20 of 26



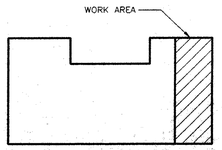
BASEMENT PART PLAN – DEMOLITION (BID ALTERNATE NO. 1)

SCALE: 1/2"=1'0"



BASEMENT PART PLAN – NEW WORK (BID ALTERNATE NO. 1)

SCALE: 1/2"=1'0"



KEY PLAN

SCALE: NONE

GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF THE PRESSURE REDUCING STATION AND THE RECONNECTION OF THE EX. UNIT HEATER.
2. REARRANGING OF SHELVES, TABLES, MATERIALS, AND RELOCATION OF PRV TEST STATIONS SHALL BE THE RESPONSIBILITY OF UMCP PLANT PERSONNEL.
3. ALL WORK IN THIS AREA SHALL BE DONE COINCIDING WITH ALL OTHER ABOVEGROUND FUEL OIL STORAGE TANK ADDITION WORK.

4 2 0 4 8

SCALE: 1/4" = 1'-0"

SEAL:

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190 WEST OSTEND STREET
BALTIMORE, MARYLAND 21230

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BY:
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UMCP COMMUNICATION SERVICES

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USING AGENCY	DATE
DPP	DATE
DAEC	DATE

Revisions:

Date	Description	By

ARCHIVES
Bldg # 001 Inv # 0208
0010206

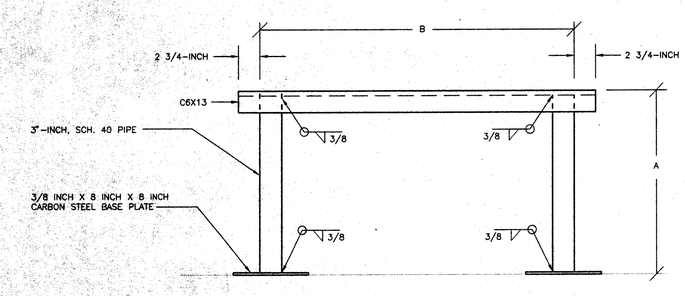
Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: BASEMENT PART PLANS – DEMOLITION AND NEW WORK

Scale: NOTED	Bldg.no. 0001	Proj. no. E-900116	Dwg.no. M2.03
Date: 06/26/98	Dwn.by JMW	Chk.by RJB	

Department of Architecture, Engineering, and Construction
The University of Maryland College Park Campus

SHEET 21 of 26

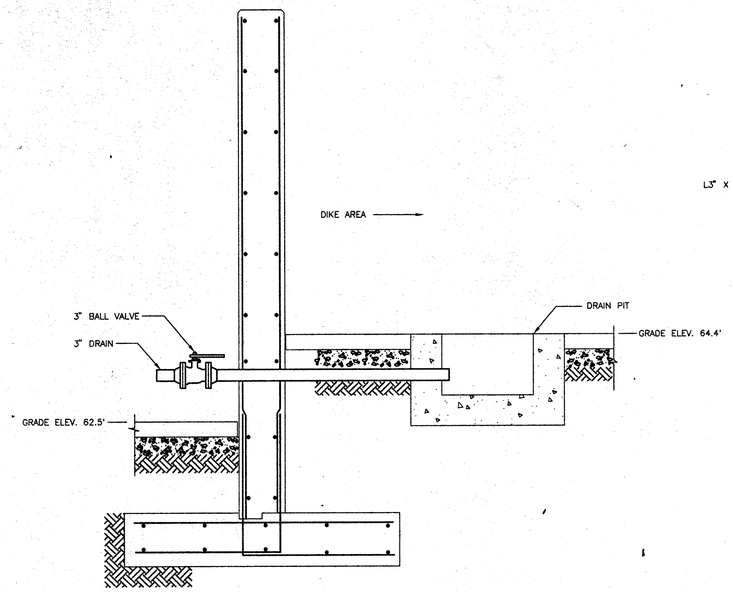


DETAIL – PIPE SUPPORT

SCALE: NONE
(PS-3 PS-5)

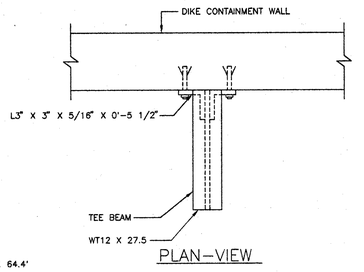
NOTES:

1. CONTRACTOR TO DETERMINE A & B DIMENSION BASED ON AS-BUILT CONDITION OF PIPE.

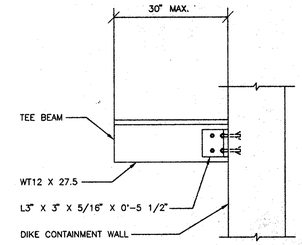


DRAIN PIT DETAIL

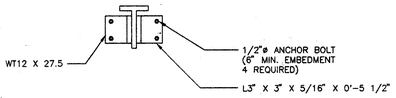
SCALE: 3/4" = 1'-0"



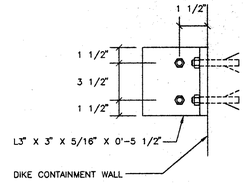
PLAN-VIEW



SIDE-VIEW



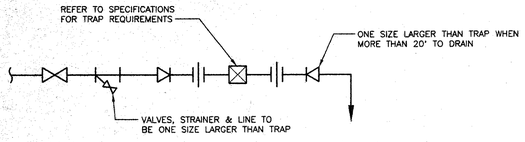
FRONT-VIEW



ANGLE

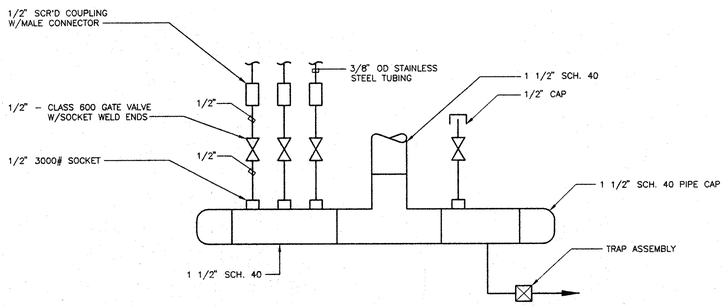
DETAIL – CONTAINMENT DIKE WALL PIPE SUPPORT

SCALE: NONE



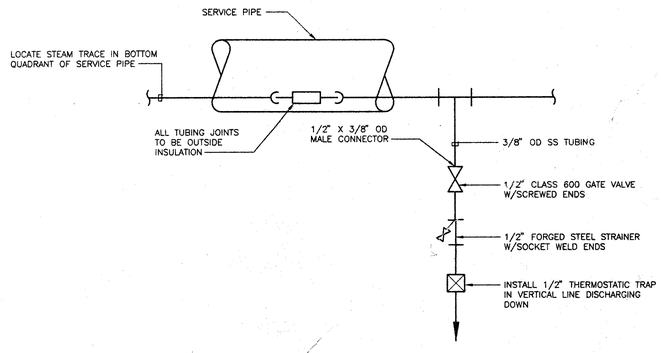
DETAIL – T-001, T-002 TRAP ASSEMBLY

SCALE: NONE



DETAIL – STEAM TRACE HEADER

SCALE: NONE



DETAIL – STEAM TRACE PIPING

SCALE: NONE

SEAL:

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190 WEST OSTEND STREET
BALTIMORE, MARYLAND 21230

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DPP DATE

DAEC DATE

Revisions:		
Date	Description	By

ARCHIVES
Bldg # 001 Inv # 0211
0010211

IN 211

Project: ABOVEGROUND FUEL OIL STORAGE TANK ADDITION

Title: DETAILS

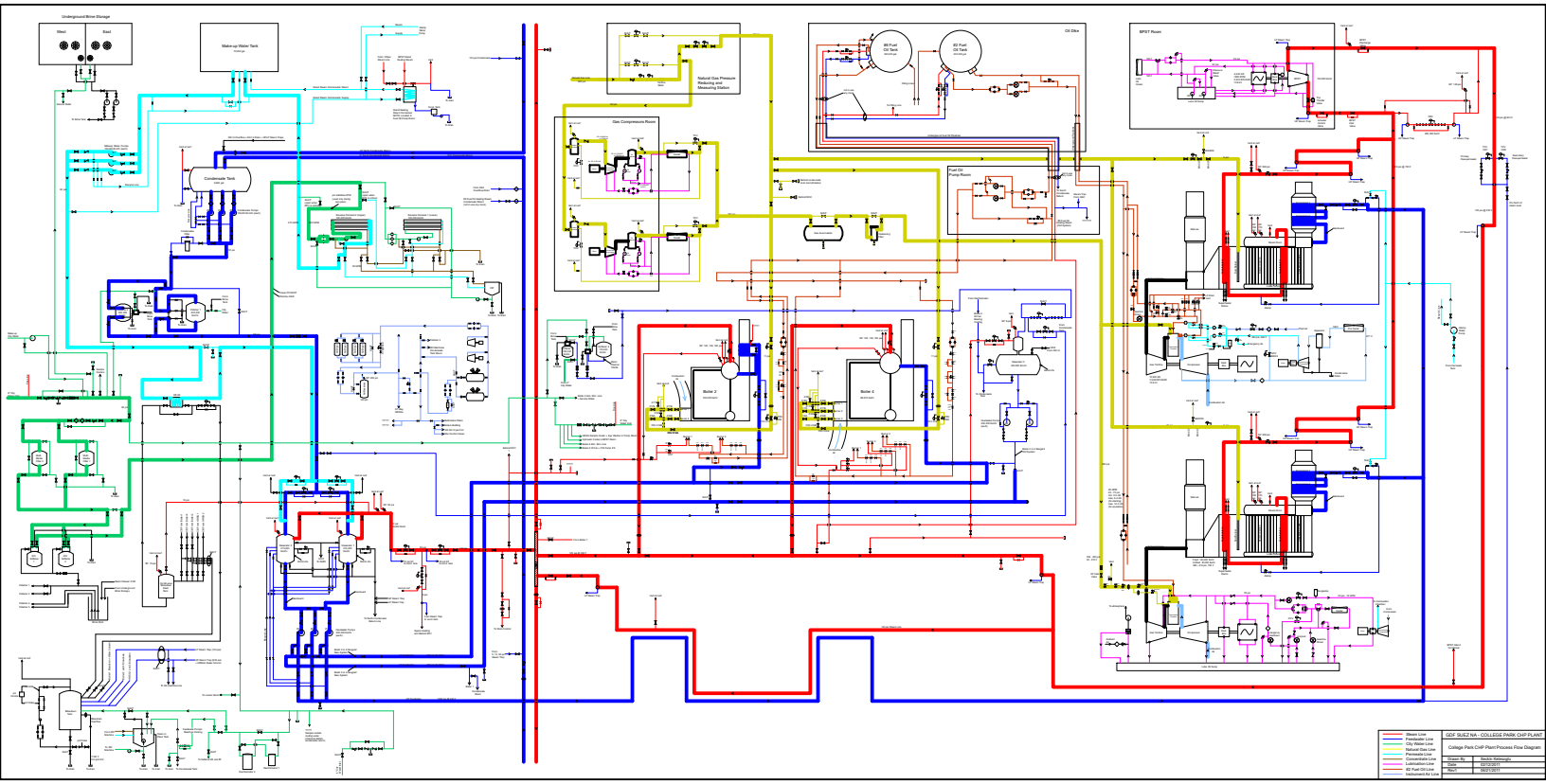
Scale:	Bldg.no. 0001	Proj. no. E-900116	Dwg.no.
Date: 06/26/98	Dwn.by	Chk.by	M4.01

Department of Architecture, Engineering, and Construction
The University of Maryland College Park Campus

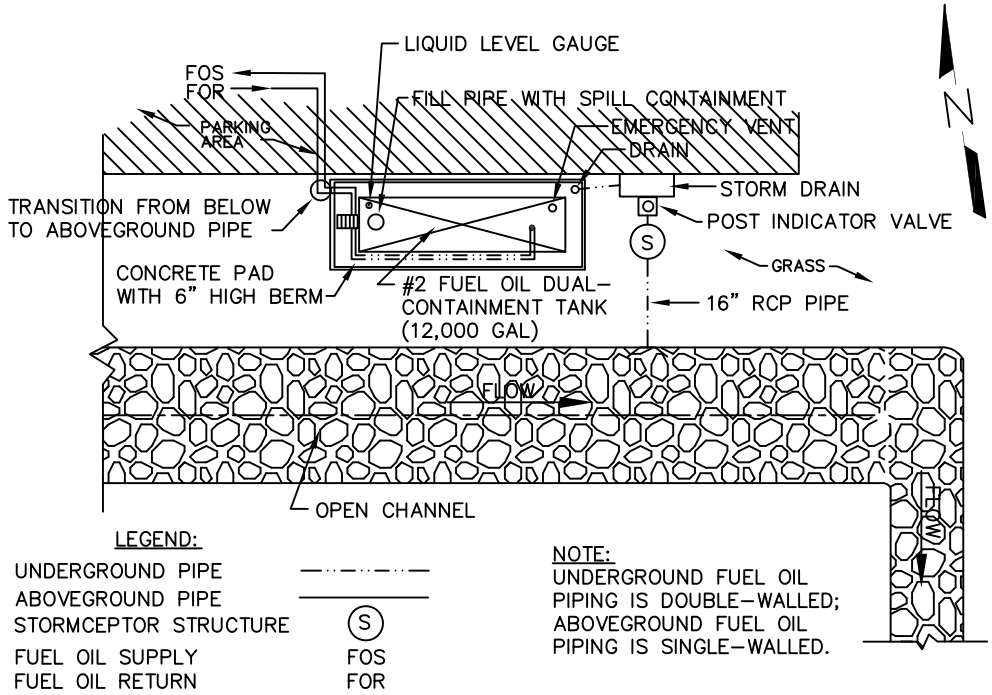
SHEET 26 of 26

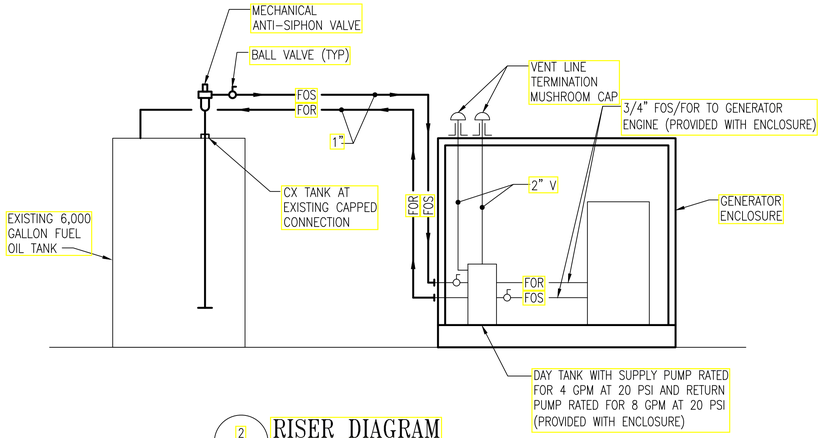
Oil Associated Piping

Piping Diagram for the CHP



Underground double-walled piping located at the Severn Building (Bldg. # 810)





2 / M1.1 RISER DIAGRAM
SCALE: NONE

RECOVERY AFTER POWER FAILURE SEQUENCE OF OPERATIONS

GENERAL:

1. THE DDC SYSTEM SHALL MONITOR THE BUILDING'S POWER SOURCE SERVING SWITCHBOARD A AND SWITCHBOARD B.

2. UPON A POWER FAILURE TO EITHER SWITCHBOARD, THE BAS SHALL DISABLE THE CONTROL SEQUENCES FOR CHILLERS ACC-796-01-01, ACC-796-01-02, AND ACC-796-01-03.

RECOVERY AFTER POWER FAILURE SERVING SWITCHBOARD "B"

3. UPON RESTORATION OF POWER FROM THE GENERATOR SERVING SWITCHBOARD B (AS DETERMINED FROM MONITORING AUTOMATIC TRANSFER SWITCH POSITION), CONFIRM POWER IS AVAILABLE (NORMAL OR EMERGENCY) AT SWITCHBOARD A. ONCE POWER IS AVAILABLE AT SWITCHBOARD A:

   a. BUILDING CHILLER ACC-796-01-03 SHALL REMAIN DISABLED.
   b. ROTATE LEAD / LAG STATUS OF PROCESS COOLING CHILLERS (ACC-796-01-01 AND ACC-796-01-02) TO BE OPPOSITE OF STATUS BEFORE UTILITY POWER OUTAGE. ENABLE EXISTING PROCESS COOLING CHILLED WATER SEQUENCE OF OPERATION WITH THE FOLLOWING MODIFICATIONS:
      i. LAG PROCESS COOLING CHILLER SHALL REMAIN DISABLED. CLOSE ASSOCIATED CHILLED WATER ISOLATION VALVE.
      ii. DELAY START OF LEAD PROCESS COOLING CHILLER FOR 60 SECONDS.
      iii. MONITOR THE GENERATOR OUTPUT THROUGH THE REMOTE GENERATOR ANNUNCIATOR PANEL LOCATED IN ROOM 1209A AND PROVIDE CURRENT LIMITING SIGNAL TO CHILLER TO PREVENT EXCEEDING THE CAPACITY OF GENERATOR.

RECOVERY AFTER POWER FAILURE SERVING SWITCHBOARD A

4. CONFIRM POWER IS AVAILABLE AT SWITCHBOARD B AND DETERMINE IF IT IS SERVED BY NORMAL OR EMERGENCY POWER (AS DETERMINED FROM MONITORING AUTOMATIC TRANSFER SWITCH POSITION).

5. IF SWITCHBOARD B IS SERVED BY GENERATOR POWER, FOLLOW THE "RECOVERY AFTER POWER FAILURE SERVING SWITCHBOARD B" SEQUENCE OF OPERATION.

6. IF SWITCHBOARD B IS SERVED BY UTILITY POWER, FOLLOW THE "RESTORATION OF NORMAL POWER SEQUENCE OF OPERATION."

RESTORATION OF NORMAL POWER

7. UPON RESTORATION OF POWER FROM THE UTILITY (AS DETERMINED FROM MONITORING AUTOMATIC TRANSFER SWITCH POSITION):

   a. ROTATE LEAD / LAG STATUS OF PROCESS COOLING CHILLERS (ACC-796-01-01 AND ACC-796-01-02) TO BE OPPOSITE OF STATUS BEFORE RESTORATION OF POWER. ENABLE EXISTING PROCESS COOLING CHILLED WATER SEQUENCE OF OPERATION.
   b. ENABLE BUILDING CHILLER ACC-796-01-03 AFTER 120 SECOND DELAY.

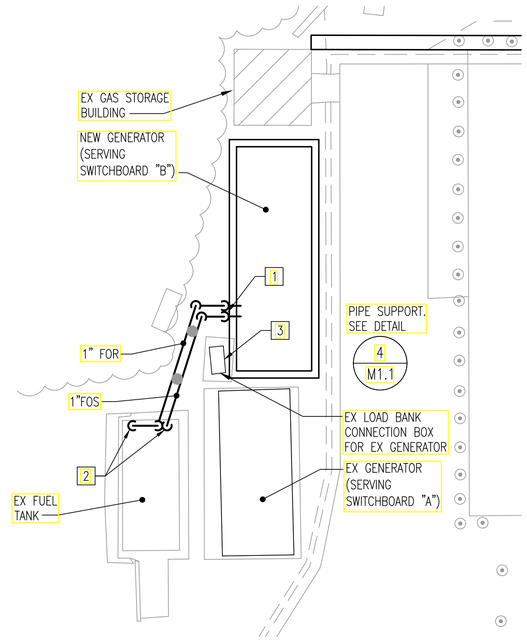
GENERATOR MONITORING SYSTEM SEQUENCE OF OPERATIONS

1. THE DDC SYSTEM SHALL MONITOR THE DAY TANK'S COMBINATION LOW FUEL / HIGH FUEL LEVEL ALARM AND LEAK DETECTOR THROUGH A MODBUS CONNECTION TO THE REMOTE GENERATOR ANNUNCIATOR PANEL LOCATED IN ROOM 1209A. ANNUNCIATE AN ALARM THROUGH THE BUILDING'S GRAPHIC USER INTERFACE WHEN ALARMS ARE ACTIVATED.

BMS SYSTEM CONTROLLER									
POINT I.D. #	POINT DESCRIPTION	AI	AO	DI	DO	ALARM			NOTES
						HI/LOW	MAINT.	FAILURE	
1	ACC796-01-0-1, CHILLER ENABLE (EX POINT)				X				1
2	ACC-796-01-02, CHILLER ENABLE (EX POINT)				X				1
3	ACC-796-01-03, CHILLER ENABLE (EX POINT)				X				1
4	ACC-796-01-02, CHILLER CURRENT LIMITING		X						1
5	ACC-796-01-03, CHILLER CURRENT LIMITING		X						1
6	AUTOMATIC TRANSFER SWITCH POSITION			X					1
7	REMOTE GENERATOR ANNUNCIATOR PANEL								1,2

NOTES: 1. MONITIORED THROUGH MODBUS CONNECTION.
2. REFER TO ELECTRICAL DRAWINGS FOR EQUIPMENT LOCATIONS.

5 / M1.1 BUILDING CONTROL MODIFICATIONS
SCALE: NONE



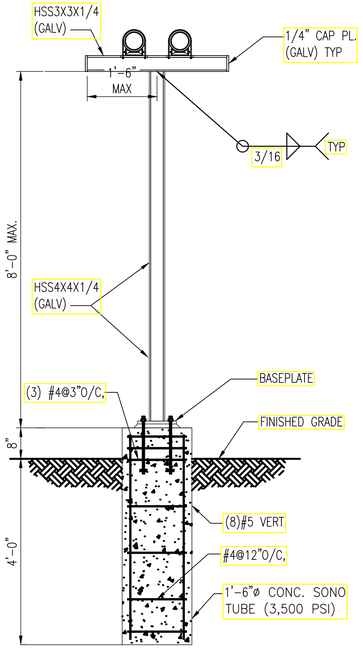
1 / M1.1 GENERATOR SITE PLAN - NEW WORK
SCALE: 1" = 10'

SPECIFIC NOTES

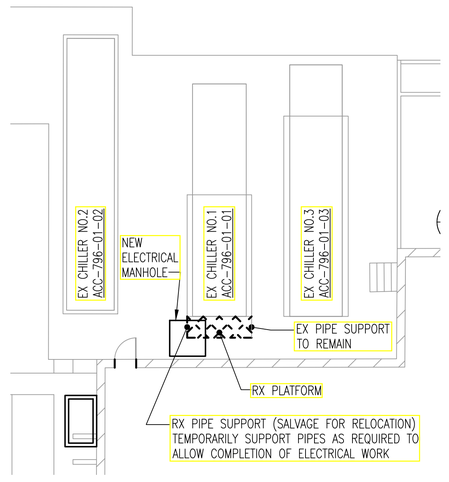
1. 1" FOS & FOR DN. EXTEND TO DAY TANK LOCATED IN GENERATOR ENCLOSURE. COORDINATE LOCATION WITH GENERATOR MANUFACTURER.
2. CONNECT TO EX TANK THROUGH EX UNUSED 4" TANK CONNECTION.
3. EXISTING LOAD BANK CONNECTION CABINET WILL BE REMOVED UNDER SEPARATE CONTRACT PRIOR TO THIS CONTRACT.

ABBREVIATIONS

ACC	AIR COOLED CHILLER
AI	ANALOG INPUT
AO	ANALOG OUTPUT
CONC	CONCRETE
CX	CONNECT TO EXISTING
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
EX	EXISTING
FOR	FUEL-OIL RETURN
FOS	FUEL-OIL SUPPLY
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HSS	HOLLOW STRUCTURAL SECTION
MAX	MAXIMUM
OC	ON CENTER
PSI	POUNDS PER SQUARE INCH
PL	PLATE
RX	REMOVE EXISTING
TYP	TYPICAL



4 / M1.1 TYPICAL PIPE SUPPORT DETAIL
SCALE: NONE



3 / M1.1 CHILLER AREA SITE PLAN - DEMOLITION
SCALE: 1" = 10'

REVISIONS		
	ISSUED FOR BID	7/12/18

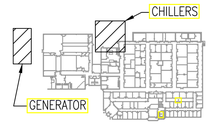
UNIVERSITY OF MARYLAND 18 56

COLLEGE PARK MARYLAND

LPS ELECTRICAL UPGRADE - SWITCHBOARD B

BLDG: LABORATORY OF PHYSICAL SCIENCE
BLDG NO.: 796
UMD PROJECT NO.: 15-667-765

KEY PLAN



GRAPHIC SCALES

0 5' 10' 20'
SCALE: 1" = 10'

SIGNATURE

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20215
EXPIRATION DATE: 10/12/2019
SIGNATURE:

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

MECH SITE PLAN & CONTROLS - NEW WORK & DEMOLITION

Drawing No.

M1.1

Scale: 1" = 10'		
Date: 7/12/2018	Sheet 14 of 22	
Des: GGG	Drawn: PBF	Check: GGG

Oil/Water Separators

Highland Tank

Highland Manufacturing Locations

One Highland Road
Stoystown, PA 15563-0338
(814) 893-5701
FAX 893-6126

2225 Chestnut Street
Lebanon, PA 17042
(717) 664-0602
FAX 664-0631

99 West Elizabethtown Road
Manheim, PA 17545-9410
(717) 664-0600
FAX 664-0617

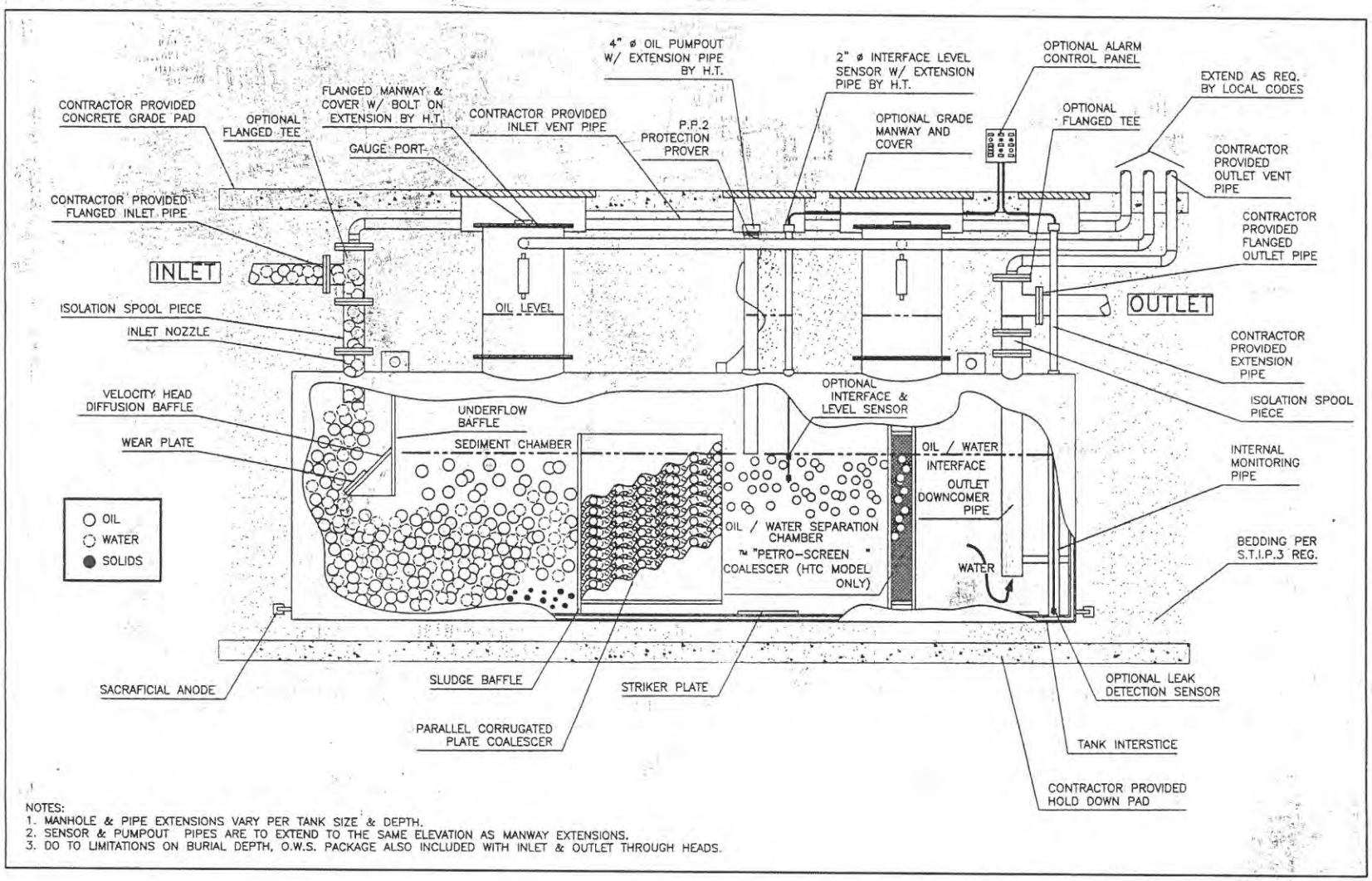
2700 Petterson Street
Greensboro, NC 27407
(336) 218-0801
FAX 218-1292

958 19th Street
Watervliet, NY 12189
(518) 273-0801
FAX 273-1365

354 Route 108
Somersworth, NH 03878
(603) 692-2012
FAX 692-2014

Please visit us at www.highlandtank.com

OWS Reference Drawing

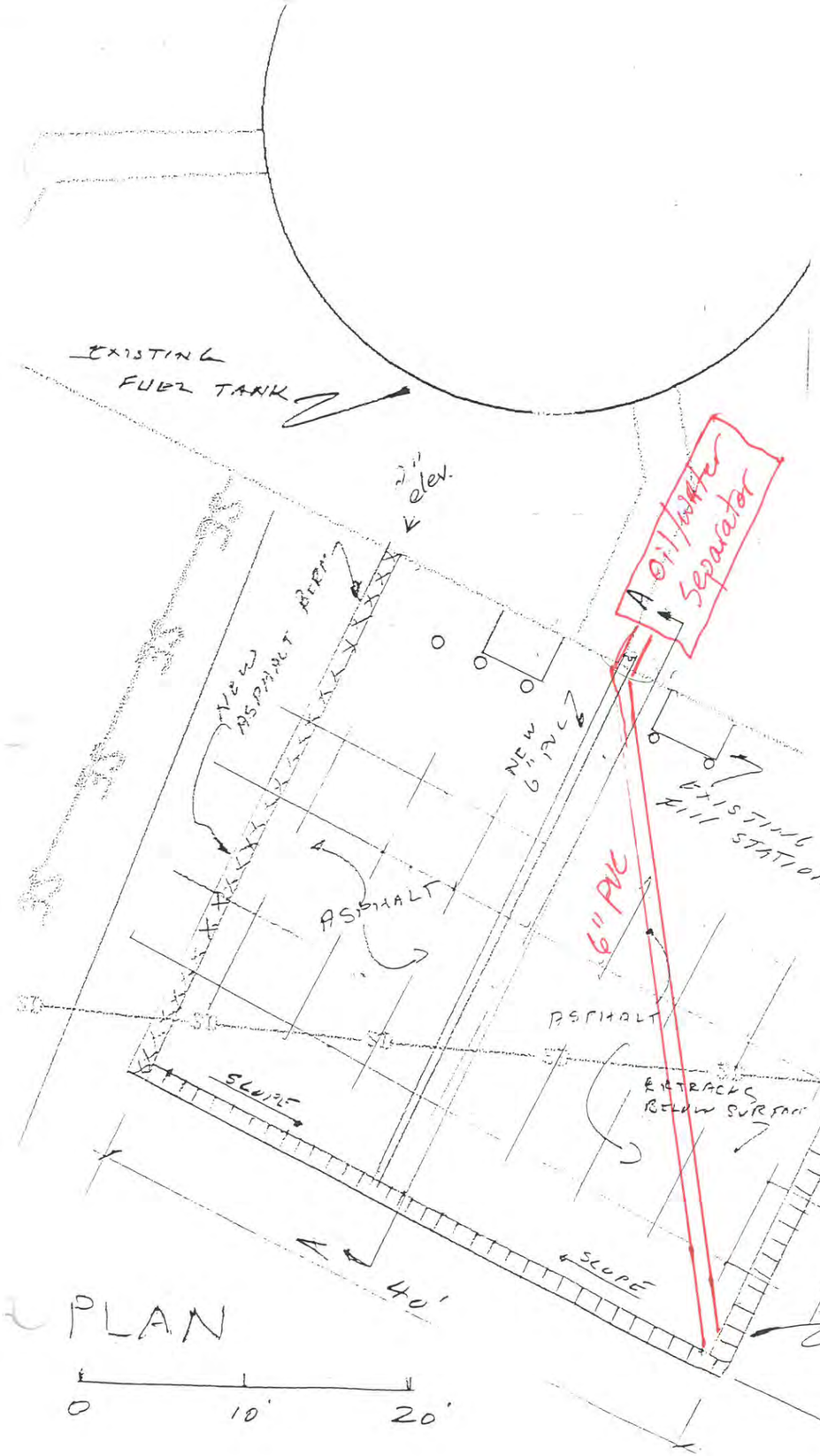


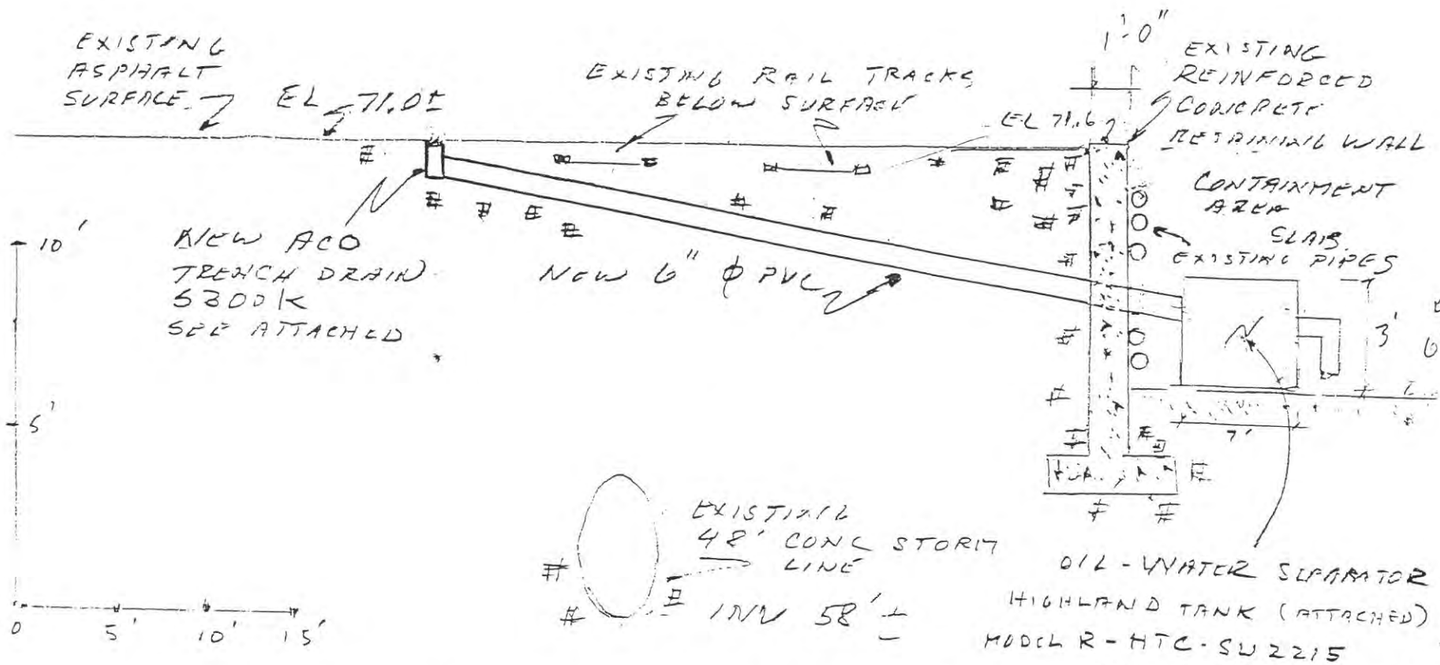
NOTES:
1. MANHOLE & PIPE EXTENSIONS VARY PER TANK SIZE & DEPTH.
2. SENSOR & PUMPOUT PIPES ARE TO EXTEND TO THE SAME ELEVATION AS MANWAY EXTENSIONS.
3. DO TO LIMITATIONS ON BURIAL DEPTH, O.W.S. PACKAGE ALSO INCLUDED WITH INLET & OUTLET THROUGH HEADS.

QC8052

NEW SPILL CONTAINMENT
OIL TRUCK DELIVERY AREA
PARKING LOT K-2
UNIV OF MD COLLEGE PARK

J. COFFEY
X5-2462
20 MAY 03





ELEVATION SECTION 17-A

Building 006 Fuel Area Dike OWS

ACO drain

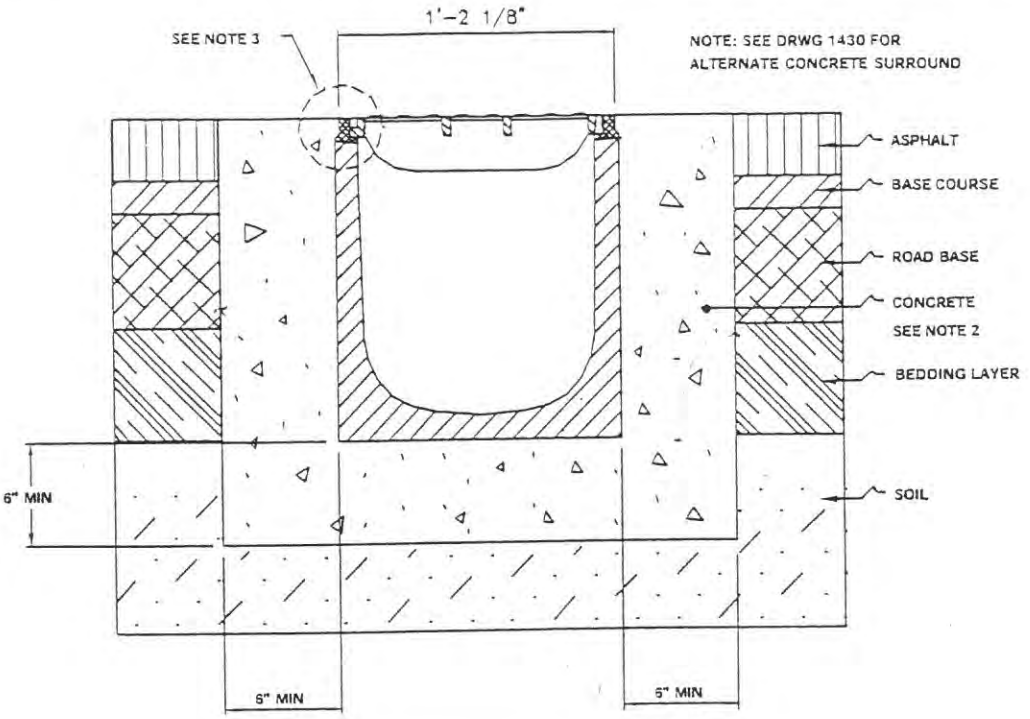
DRWG# 1514 Date: 02.25.02

WWW.ACOUSA.COM

INSTALLATION DRAWING

S300K: Load Class E: Asphalt

ACO Polymer Products Inc.
P.O. Box 245
Chardon, OH 44024
PH: 440-285-7000
FX: 440-285-8517
e-mail: sales@acousa.com



NOTES:
1. It is necessary to ensure the minimum dimensions shown are suitable for the existing ground conditions. *Engineering advice may be required.*
2. A minimum concrete strength of 3000 PSI is recommended. The concrete should be vibrated to eliminate air pockets.
3. The finished level of the concrete surround must be approx. 1/8" above the top of the channel edge.
4. Refer to ACO'S latest installation instructions for complete details.

ACO drain

DRWG# 1514 Date: 02.25.02

WWW.ACOUSA.COM

SPECIFICATION CLAUSE

S300K Trench Drain System

ACO Polymer Products Inc.
P.O. Box 245
Chardon, OH 44024
PH: 440-285-7000
FX: 440-285-8517
e-mail: sales@acousa.com

The surface drainage system shall be polymer concrete S300K channel system with ductile iron rail and grate as manufactured by ACO Polymer Products, Inc., Chardon, Oh.

Channels will be manufactured from polyester resin polymer concrete with an integrally cast in ductile iron rail and supplied with ductile iron grates.

The system shall be 12 inches (300mm) nominal inside width with a 14.1 in. (360mm) overall width and a built-in slope of 0.6 %. All channels shall be interlocking with a male/female join. Each channel shall have preformed 6 in. (171mm) and 8 in. (218mm) schedule 40 drill-out on the bottom for vertical connection with underground piping.

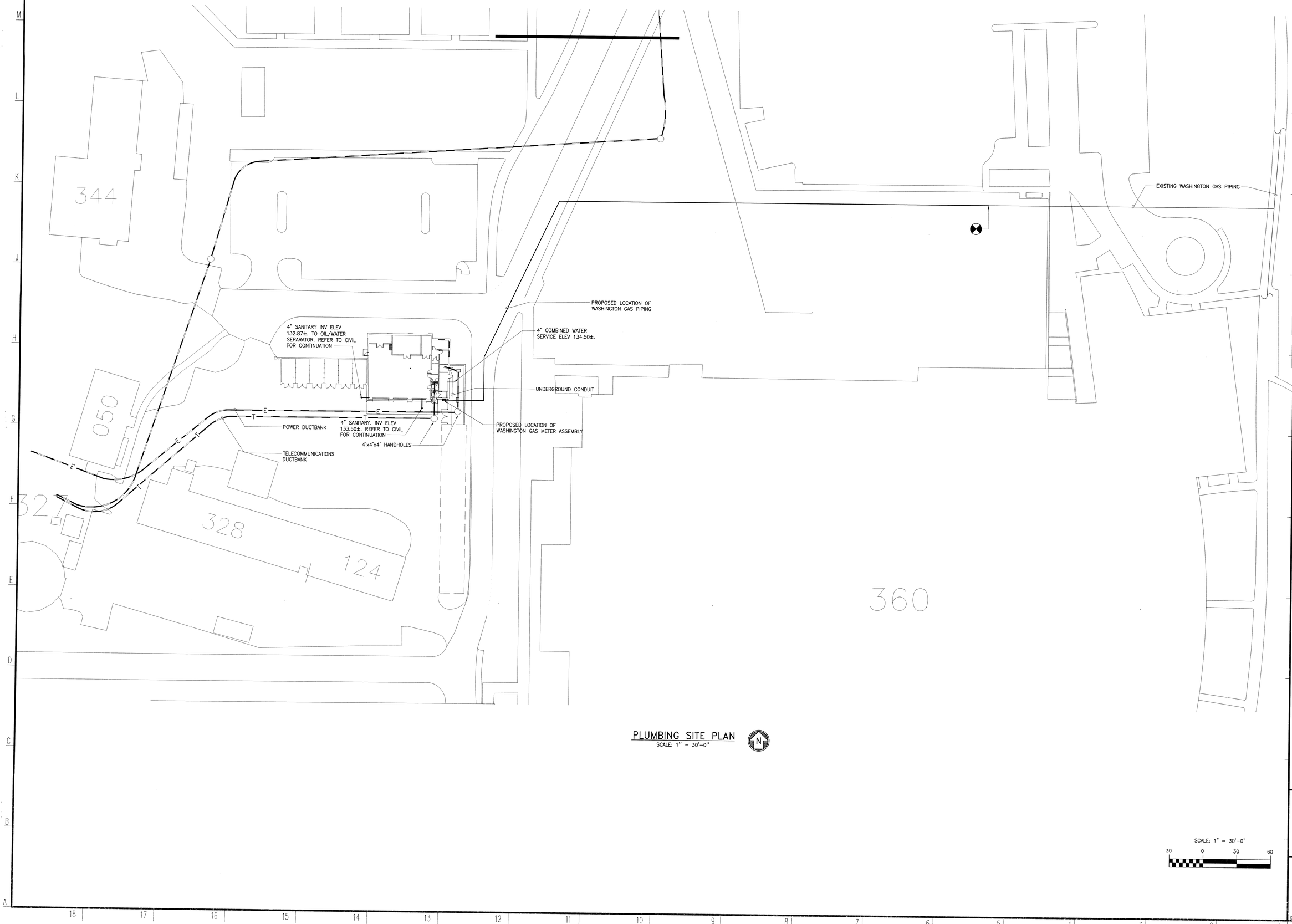
The complete drainage system shall be by ACO Polymer Products, Inc. Any deviation or partial system design and/or improper installation will void any and all warranties provided by ACO Polymer Products, Inc.

The channel sytem shall be independantly certified to withstand loadings to load class F (DIN19580). Grates shall be secured using 'Powerlok' Boltless locking system. Grate and Locking system shall be fully removable from channel.

Polymer Concrete shall have material properties of: compressive strength range between 14,000-14,500 psi; flexural strength between 3600-4500 psi; tensile strength of 1500 psi. The material water absorption rate shall not exceed 0.1 % by weight and shall be resistant to prolonged salt exposure, repetitive frost cycles and chemically resistant to dilute acids and alkalis.

The system shall be installed in accordance with the manufacturer's instructions and recommendations.

Wye Oak Building (428)



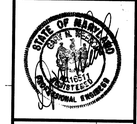
PLUMBING SITE PLAN
SCALE: 1" = 30'-0"

SCALE: 1" = 30'-0"
30 0 30 60

Gipe Associates Inc.
Consulting Engineers
Baltimore, Maryland
Easton, Maryland

W.O.# 07035L

STAMPED SET



11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
Fax 301.595.0089

1955 Beverly Road
Suite 105
McLean, VA 22101
Tel 703.903.9100
Fax 703.903.9755

GRIMM + PARKER ARCHITECTS

GP# 21030

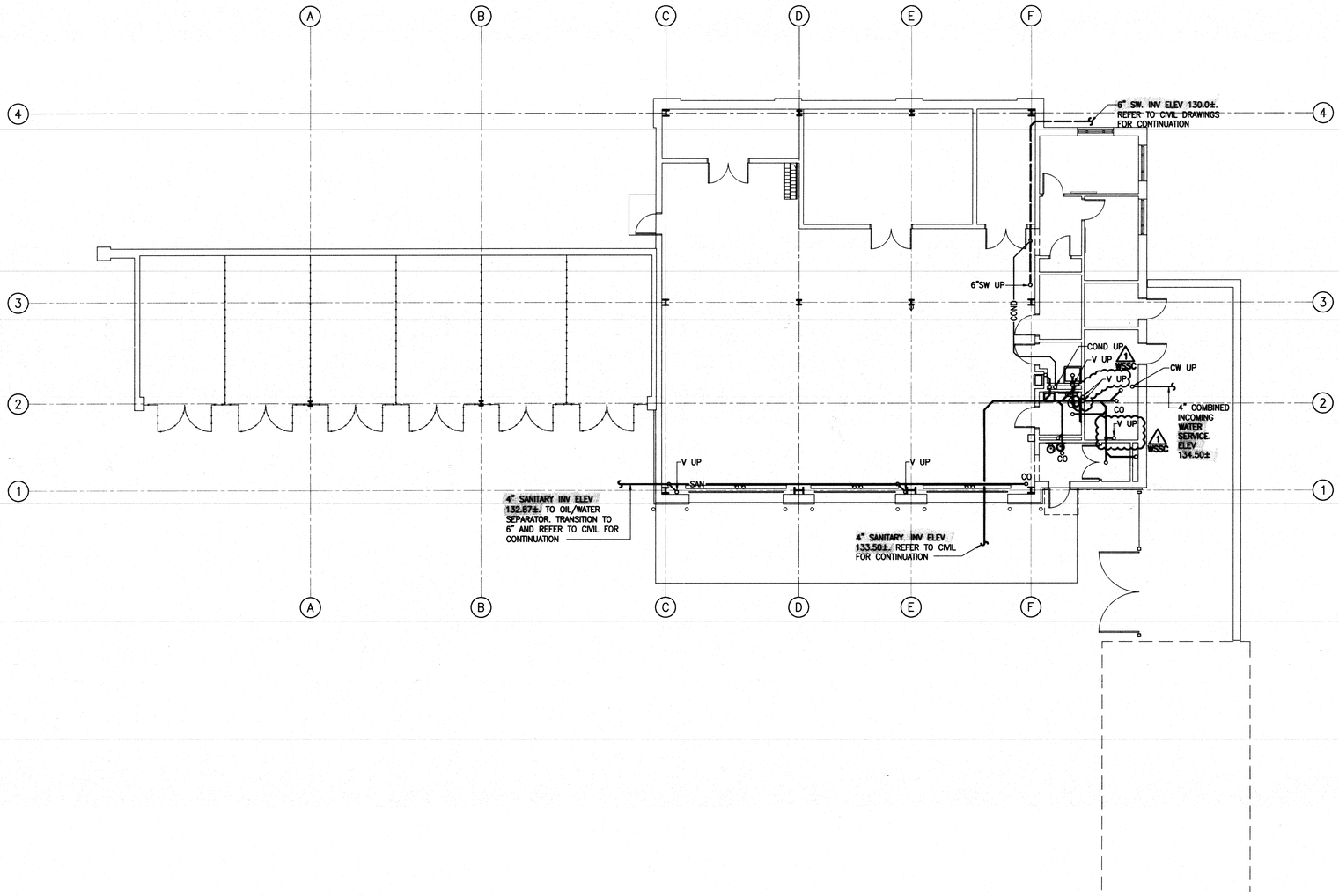
PLUMBING SITE PLAN

UNIVERSITY OF MARYLAND BLS BUILDING
COLLEGE PARK, MARYLAND

PS-01

2/18/2011
BID SET

Wye Oak Building (428)



PLUMBING FOUNDATION PLAN
SCALE: 1/8" = 1'-0"
F.F. ELEV 137.5

SCALE: 1/8" = 1'-0"
8 0 8 16

Gipe Associates Inc.
Consulting Engineers
Baltimore, Maryland
Easton, Maryland

11720 Beltsville Drive
Suite 600
Calverton, MD 20705
Tel 301.595.1000
Fax 301.595.0089

1355 Beverly Road
Suite 250
McLean, VA 22101
Tel 703.903.9100
Fax 703.903.9715

GRIMM + PARKER ARCHITECTS

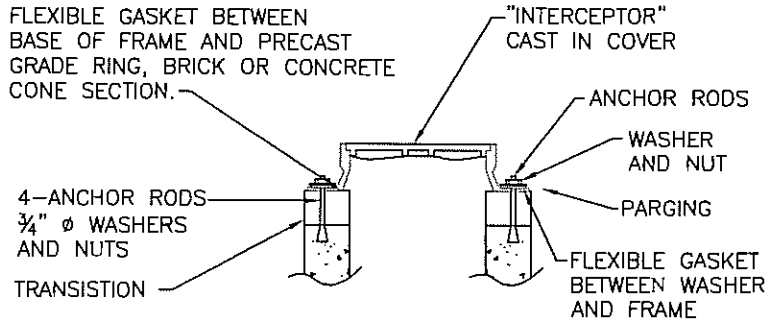
W.O.# 07035L

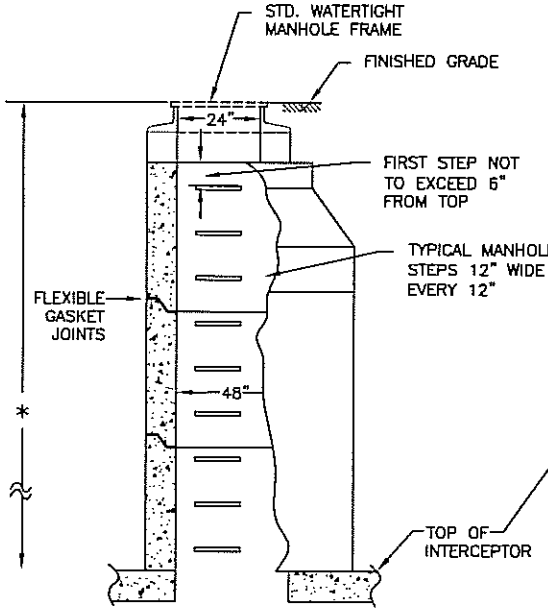
GP# 21030

PLUMBING FOUNDATION PLAN
UNIVERSITY OF MARYLAND BLS BUILDING
COLLEGE PARK, MARYLAND

P-2.0

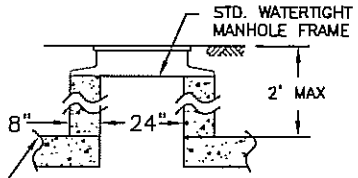
2/18/2011
BID SET





MANHOLE FOR DEPTHS OVER 2 FEET.

SCALE: NTS



MANHOLE FOR SHALLOW DEPTH INTERCEPTOR

SCALE: NTS

* TOTAL DEPTH FROM BOTTOM OF INTERCEPTOR TO PUMP TRUCK STAGGING ELEVATION NOT TO EXCEED 20 FEET.

GREASE OR SAND/OIL INTERCEPTOR

- TANKS AND MANHOLES IN TRAFFIC-BEARING LOCATIONS SHALL MEET OR EXCEED H20 (SHA) LOADING DESIGN.
- 6" INCHES OF BEDDING AND THE BACKFILL ALL SIDES (UP TO TOP OF TANK), SHALL BE MD#6 OR SMALLER AGGREGATE.
- BAFFLES SHALL BE 16 GAUGE (.059 INCH) OR HEAVIER, TYPE 302 OR 304 STAINLESS STEEL.
- BAFFLE TRACKS SHALL BE ¼" OR 1" STAINLESS STEAL OR ALUMINUM, TRACK ANCHORS SHALL BE WELDED TO BACK OF TRACK ANCHOR IN THE WALL CASING.
- MANHOLE COVERS SHALL HAVE THE WORD "INTERCEPTOR" CAST IN

MODIFICATIONS FOR UNTRAPPED GARAGE DRAINS

- MANUFACTURER SHALL NOT INSTALL AN INLET BAFFLE.
- PLUMBER SHALL INSTALL INLET PIPE AS SHOWN ON DETAIL.
- THE TANK MUST BE VENTED AS SHOWN ON DETAIL.

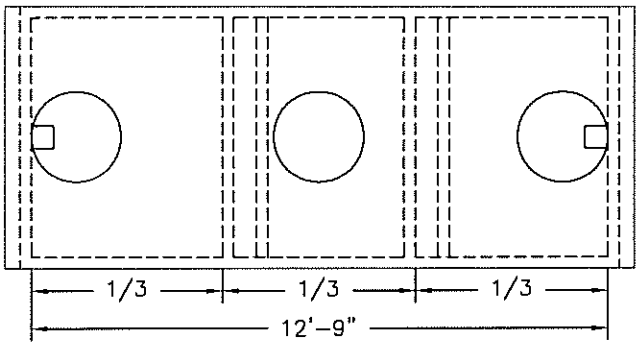
APPROVED
REGULATORY SERVICES

DATE: 9-9-08
SHEET NO. 2
OF 2

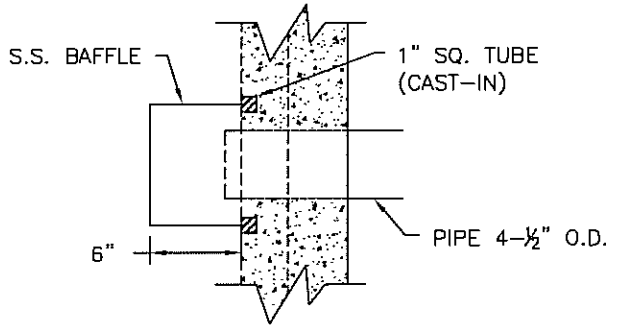
CONCRETE INTERCEPTOR DETAILS AND SPECIFICATIONS

REGULATORY SERVICES GROUP

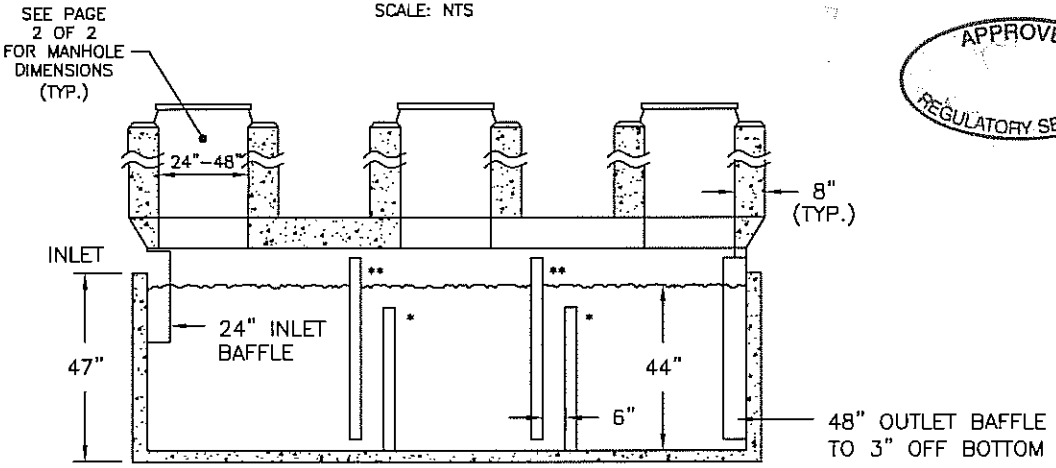
WASHINGTON SUBURBAN SANITARY COMMISSION



PLAN
SCALE: NTS

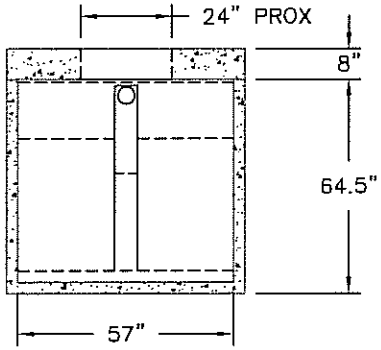


BAFFLE DETAIL
SCALE: NTS



ELEVATION
SCALE: NTS

APPROVED
REGULATORY SERVICES



CROSS SECTION
SCALE: NTS

* RAISED BAFFLE WALLS, 3" OFF BOTTOM, ½"-1" FROM TOP.
** LOWER BAFFLE WALLS SHALL BE STRUCTUAL CONCRETE ONLY. TERMINATE 6" BELOW LIQUID LEVEL.

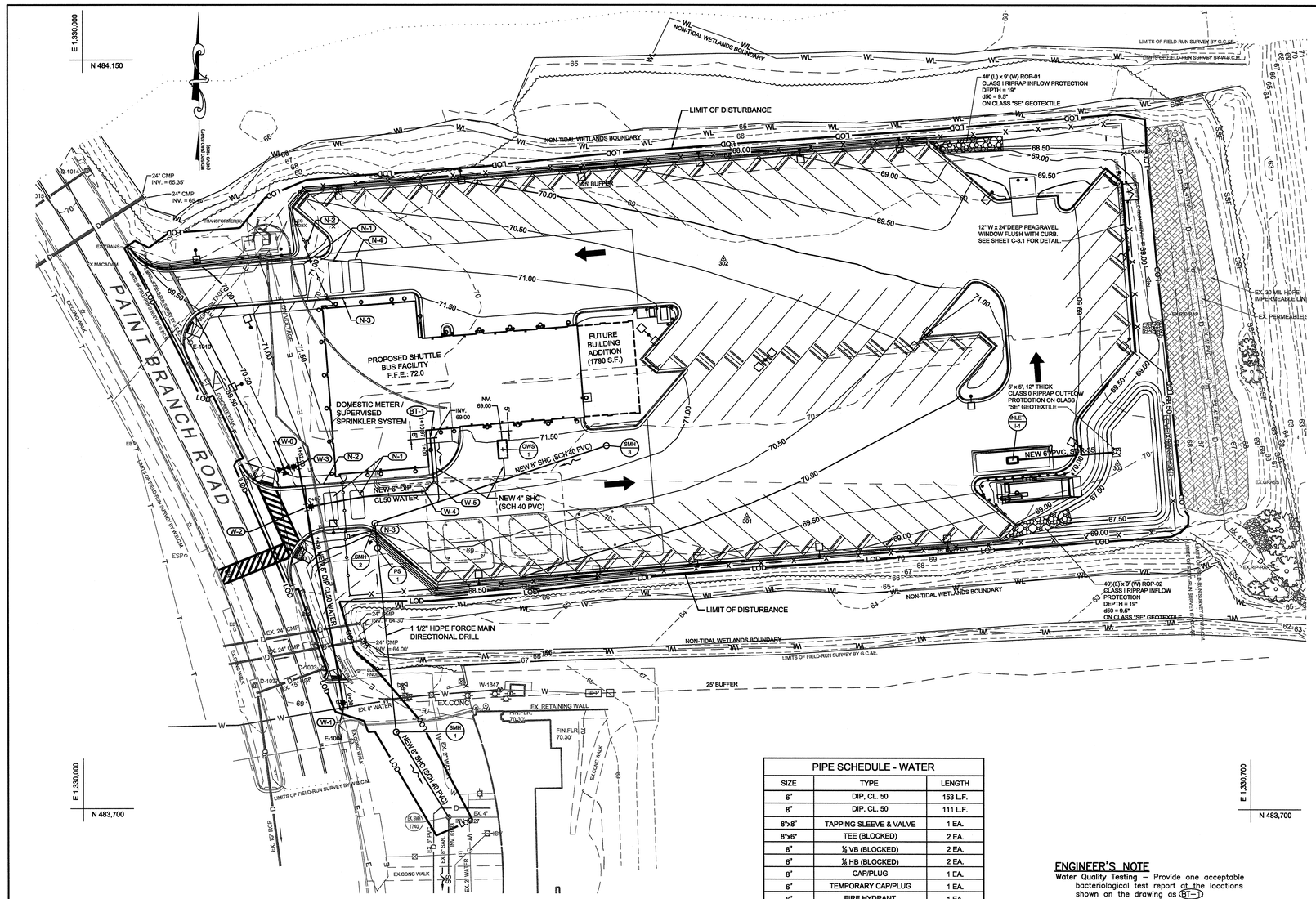
DATE: 9-9-08
SHEET NO. 1 OF 2

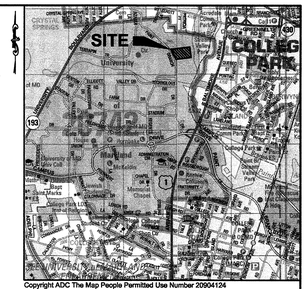
1600 GALLON CONCRETE INTERCEPTOR GREASE OR SAND/OIL

REGULATORY SERVICES GROUP

WASHINGTON SUBURBAN SANITARY COMMISSION

Shuttle Bus Facility (#424)





VICINITY MAP

SCALE: 1"=2000'
MONTGOMERY CO. ADC MAP- 5409-K1 & 5410-A1
WSSC - SHEET: -

SANITARY STRUCTURE SCHEDULE

NO.	DESCRIPTION	NORTHING	EASTING
SMH-1	WSSC STD. DET. S-1.0	483746.03	1330187.78
PS-1	SEE DETAIL PS-1 SHEET C-4.3	483856.55	1330176.64
SMH-2	WSSC STD. DET. S-1.0	483871.47	1330175.14
SMH-3	SEE DETAIL SMH-3 SHEET C-4.3	483918.21	1330313.91
OWS-1	SEE DETAIL OWS-1 SHEET C-4.3	483915.95	1330251.81

SEE SANITARY PROFILE FOR TOP OF RIM AND INVERT ELEVATIONS.

WATER STRUCTURE SCHEDULE

NO.	DESCRIPTION	NORTHING	EASTING
W-1	8" TAPPING SLEEVE, VALVE & VAULT WSSC STD, DET. B-1.3	483760.64	1330156.35
W-2	8"x6" TEE, VALVE & VAULT BUTTRESS WSSC STD. DET. B-1.3	483881.01	1330133.99
W-3	8"x6" TEE & BUTTRESS WSSC STD. DET. B-1.3	483906.02	1330129.18
W-4	6" 1/8 HORIZ. BEND & BUTTRESS WSSC STD. DET. B-1.0	483890.66	1330205.26
W-5	6" 1/8 HORIZ. BEND & BUTTRESS WSSC STD. DET. B-1.0	483896.75	1330210.44
W-6	6" FIRE HYDRANT WSSC STD. DET. W-8.1	483904.36	1330120.52

SEE WATER PROFILE FOR INVERT ELEVATIONS.

SEWAGE FLOW TABULATION

No. of Units	TYPE	FLOW FACTOR (GPD/unit)	SEWAGE FLOW (GPD)
6088 SF	OFFICE	0.093	564
4138 SF	MAINT BAY (BUS REPAIR)	0.014	58
FUT. 1790 SF	WASH BAY	4.9	8,771
12 BUSES @ 50 gal.	BUS SEPTAGE	-	600
	TOTAL SEWAGE FLOW =		9993 GPD

NOTE: BUS FACILITY OPERATES 24 hrs/day 7 DAYS A WEEK
FOR GRINDER PS DESIGN USE: 9993 GPD / 24 hrs x 60 min.
9993 GPD / 1440 MIN. = 6.9 GPM USE 7.0 GPM
USE PEAKING FACTOR 4.0 DESIGN FLOW = 28 GPM

PIPE SCHEDULE - WATER

SIZE	TYPE	LENGTH
6"	DIP, CL. 50	153 L.F.
8"	DIP, CL. 50	111 L.F.
8"x8"	TAPPING SLEEVE & VALVE	1 EA.
8"x6"	TEE (BLOCKED)	2 EA.
8"	⅛ VB (BLOCKED)	2 EA.
6"	⅛ HB (BLOCKED)	2 EA.
8"	CAP/PLUG	1 EA.
6"	TEMPORARY CAP/PLUG	1 EA.
6"	FIRE HYDRANT	1 EA.

PIPE SCHEDULE - SEWER

SIZE	TYPE	LENGTH
8"	PVC SCH. 40	206 L.F.
4"	PVC SCH. 40	20 L.F.
1½"	HDPE	111 L.F.
48" ID	MANHOLE	2 EA.
48" ID	SEPTAGE RECEIVING MANHOLE	1 EA.
48"IDx60"OD	GRINDER PUMPING STAION	1 EA.
2094 GAL.	OIL / WATER SEPARATOR	1 EA.

CONSTRUCTION NOTES:

KEY	DESCRIPTION	DETAIL NO.	SHEET NO.
N-1	NEW SLIDE LOOP LAYOUT	--	C-5.3
N-2	NEW GOOSENECK PEDESTAL-MOUNTED TELEPHONE LINK	--	C-5.3
N-3	NEW SLIDE GATE OPERATOR BOX	--	C-5.3
N-4	NEW FREE EXIT LOOP LAYOUT	--	C-5.3

BLOCKING NOTES:

1. FIRE HYDRANTS MARKED THUS (R) TO BE RESTRAINED PER WSSC STANDARD DETAIL B/2.1 & B/2.7. DO NOT BLOCK FH OR FH TEE.
2. BLOCK HORIZONTAL BENDS PER WSSC STANDARD DETAILS B/1.0 & B/1.3.
3. RESTRAINED JOINTS FROM PIPE STATION 0+00 TO STATION 1+52.90.

ENGINEER'S NOTE

Water Quality Testing – Provide one acceptable bacteriological test report at the locations shown on the drawing as (BT-1)

REFERENCE NOTE:

1. FOR WSSC STANDARD DETAILS NOTED, SEE SHEET C-4.4.
2. FOR HYDRAULIC INFORMATION SHEET (HIS), SEE SHEET C-4.4.
3. FOR GENERAL SITE UTILITY WATER & SEWER NOTES, SEE SHEET C-4.4

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30' ft.

SEDIMENT CONTROL NOTES

ALL UTILITY INSTALLATION MUST BE IN CONFORMANCE WITH THE CONDITIONS OF THE SOIL CONSERVATION DISTRICT/COUNTY/MDE APPROVED SEDIMENT CONTROL PLAN (MDE #10-SF-0002), APPROVAL DATE (XX/XX/XX), AND WITH ALL EROSION AND SEDIMENT CONTROL MEASURES CONTAINED WITHIN THIS PLAN. THE APPLICANT IS REQUIRED TO NOTIFY THE WSSC SEDIMENT CONTROL INSPECTOR OF ANY CHANGES AND MODIFICATIONS TO THE SCD/COUNTY/MDE APPROVED SEDIMENT CONTROL PLAN.

48 HOURS ADVANCED NOTICE IS REQUIRED PRIOR TO UTILITY CONSTRUCTION AT 301-206-8077.

ZONE

HHG =
LHG =

AVERAGE SEWAGE FLOW = 9993 GPD

WBCM ARCHITECTURE ENGINEERING CONSTRUCTION
WHITNEY BAILEY COX & MAGNANI, LLC
849 Fairmount Ave. Suite 100 Baltimore, MD 21286
MAIN 410.512.4500 FAX 410.324.4100
www.wbcm.com

UNIVERSITY OF MARYLAND COLLEGE PARK
COLLEGE PARK, MD 20742
WATER AND SEWER SERVICE CONNECTION

C-4.1
1 OF 4

10-27-10

SHEET NO. - OF

ONSITE WATER & SEWER PLAN

ONSITE #

OWNER/APPLICANT	ENGINEER
UNIVERSITY OF MARYLAND COLLEGE PARK SRVC BLDG. 0600 GREENHOUSE RD. COLLEGE PARK, MD 20742 PHONE NO. 301-405-7506 P.O.C. BRIAN STILL bstill@FM.UMD.EDU	WBCM, LLC 849 FAIRMOUNT AVE., SUITE 100 BALTIMORE, MD 21286 PHONE NO. 410-512-4500 P.O.C. PHILIP DER, PE PDER@WBCM.COM

MDE # 11-SF-0002

P:\2005\05009828\Drawings\07 Site\UTILITY.dwg Oct 27, 2010 - 1:38pm Plot By: hhwang

WBCM ARCHITECTURE ENGINEERING CONSTRUCTION
WHITNEY BAILEY COX & MAGNANI, LLC
849 Fairmount Ave. Suite 100 Baltimore, MD 21286
MAIN 410.512.4500 FAX 410.324.4100
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GRIMM + PARKER ARCHITECTS

1720 Belmille Drive Suite 600 Calverton, MD 20705
1355 Beverly Road Suite 105 McLean, VA 22101
Tel 301.595.1000 Fax 301.595.0089
Tel 703.903.9100 Fax 703.903.9755

GP# 21008

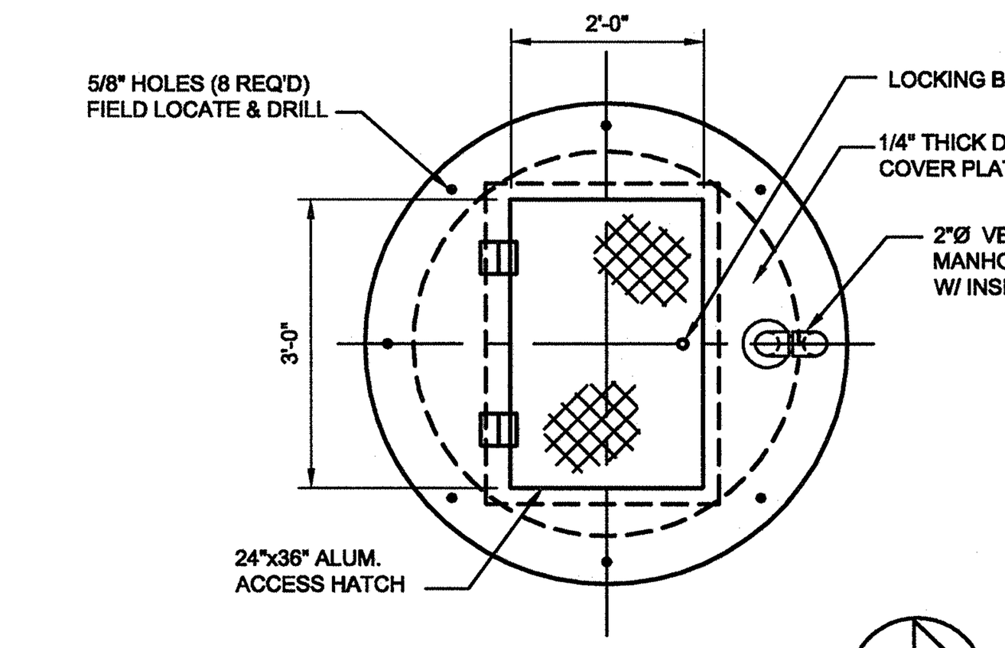
UTILITY PLAN
LOT 4: SHUTTLE FACILITY
UNIVERSITY OF MARYLAND COLLEGE PARK

DATE	DESCRIPTION
5/21/10	DD SUBMISSION
7/28/10	65% CD SUBMISSION
9/29/10	95% CD SUBMISSION

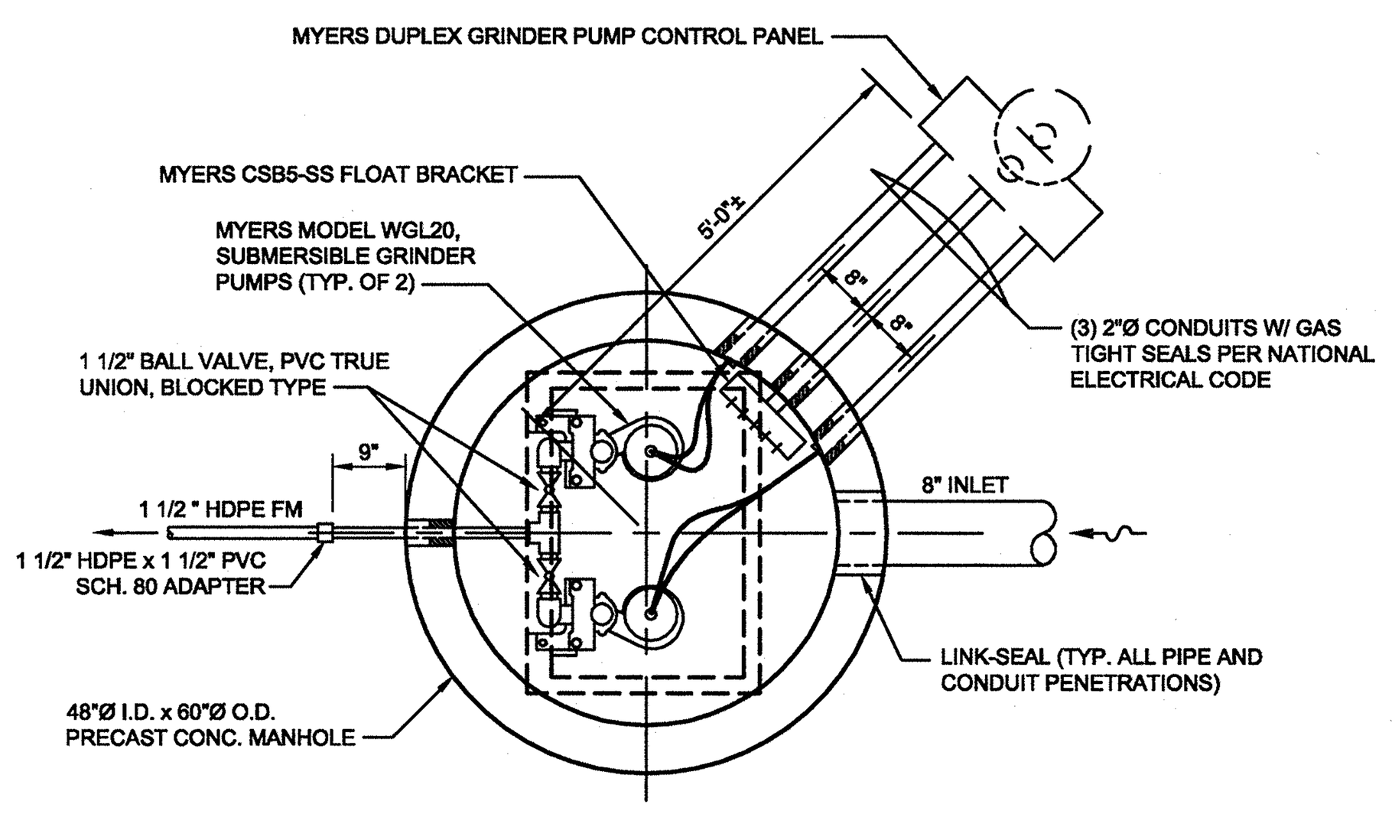
C-4.1

10/29/10
BID SET

Shuttle Bus Facility (#424)



PLAN - TOP COVER



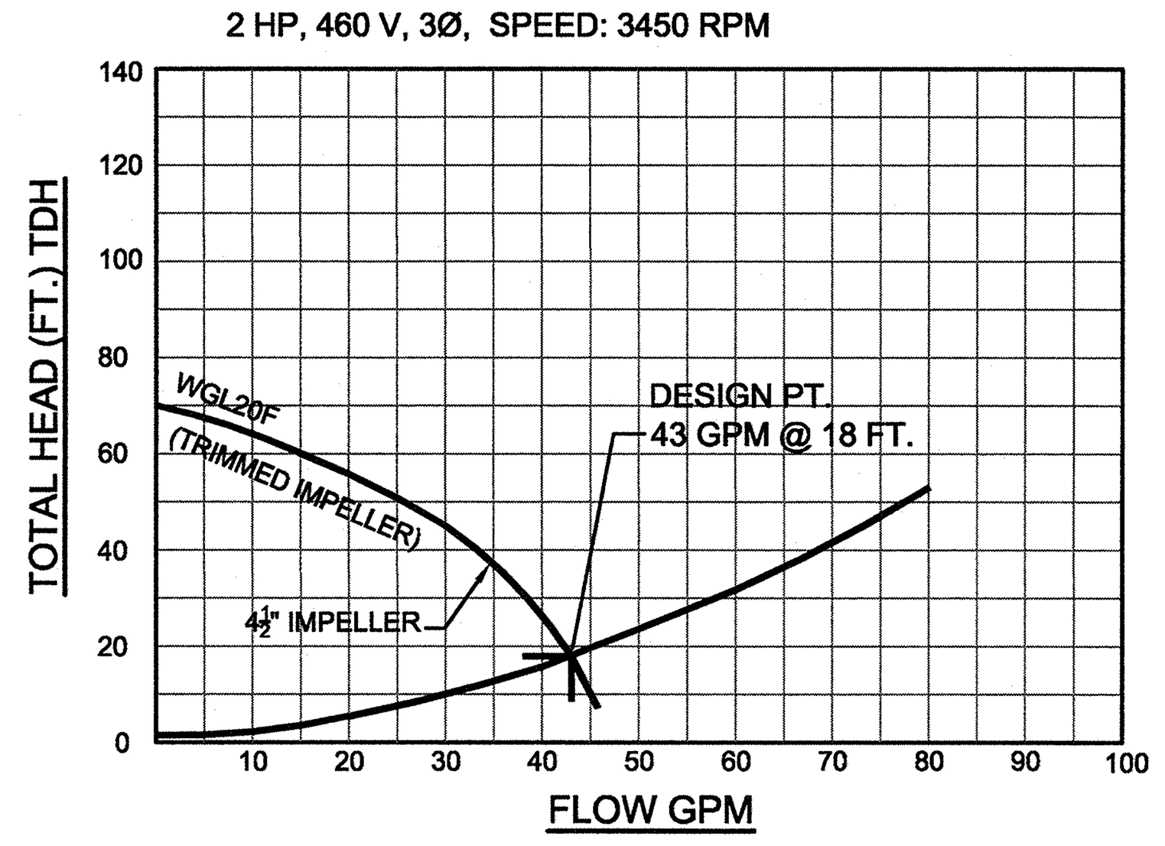
PLAN - INTERIOR

PUMP STATION DESIGN DATA

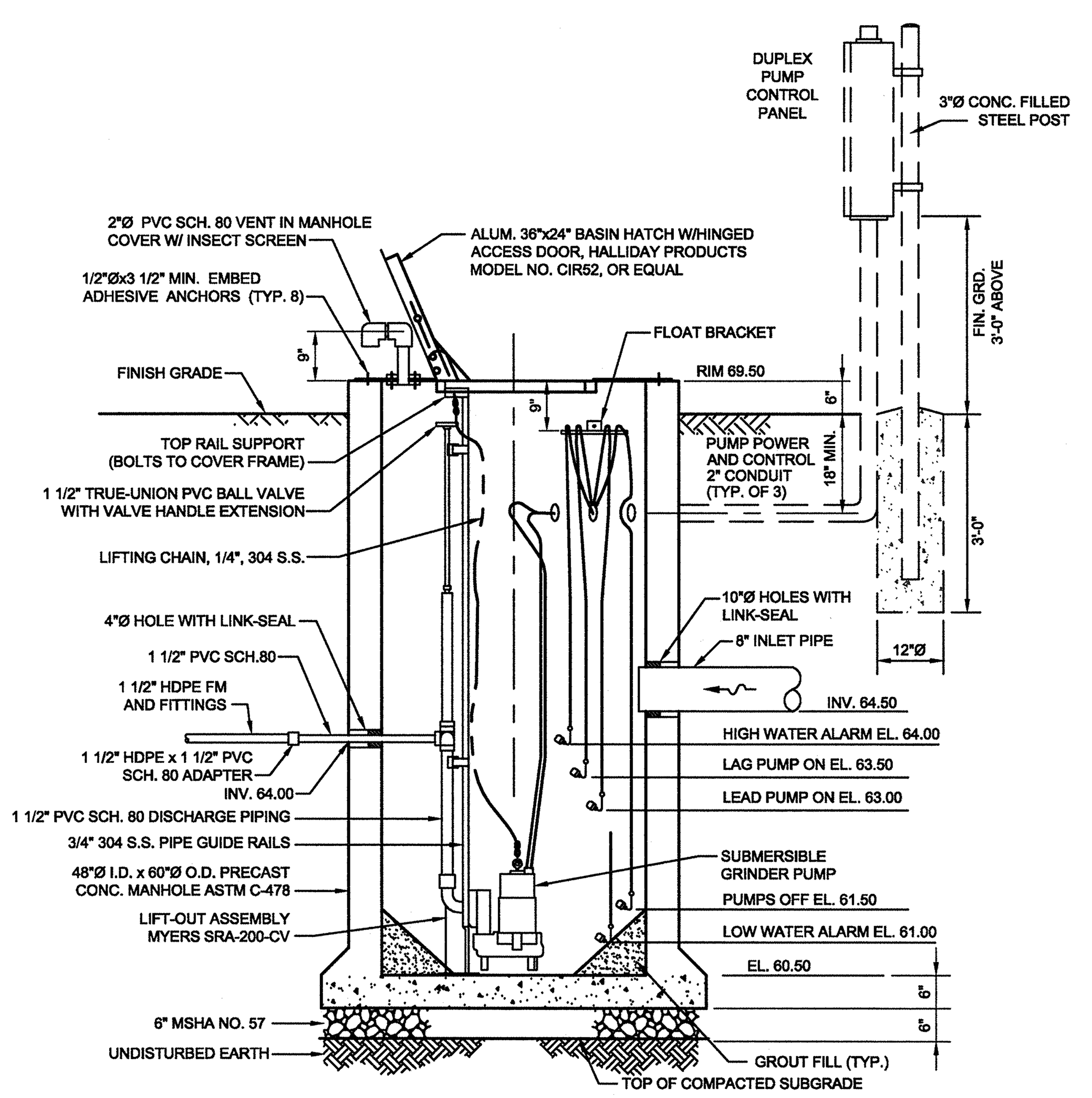
* 1. AVERAGE DAILY FLOW = 7.0 GPM
* 2. PEAK FLOW = 7.0 x 4 = 28 GPM
1. DESIGN FLOW = 43 GPM AT 18 FT.
2. WET WELL VOLUME REQ. = 75.3 GAL (V = TQ / 4 = 7.0x43 / 4)
3. WET WELL VOLUME PROVIDED = 94.0 GAL (94 GAL/FT x 1.0 OPER. RANGE)

* REFERENCE SEWAGE FLOW TABULATION

SUBMERSIBLE GRINDER PUMP
DESIGN FLOW 4800 GPD
2 HP, 460 V, 3Ø, SPEED: 3450 RPM



SYSTEM CURVE

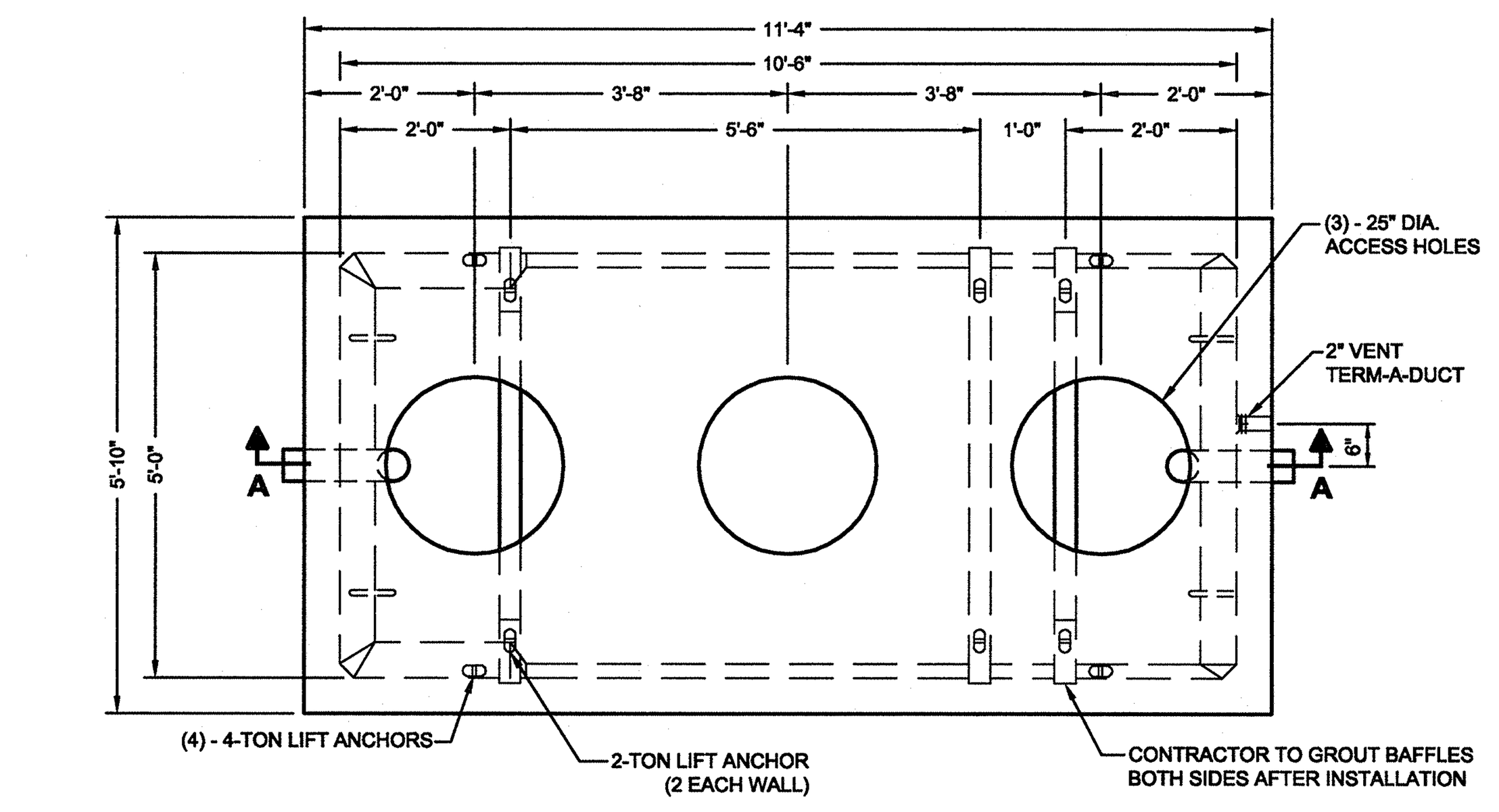


* DIMENSION OR ELEVATION TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR.
** DIMENSION TO BE CONFIRMED BY THE MANUFACTURER.

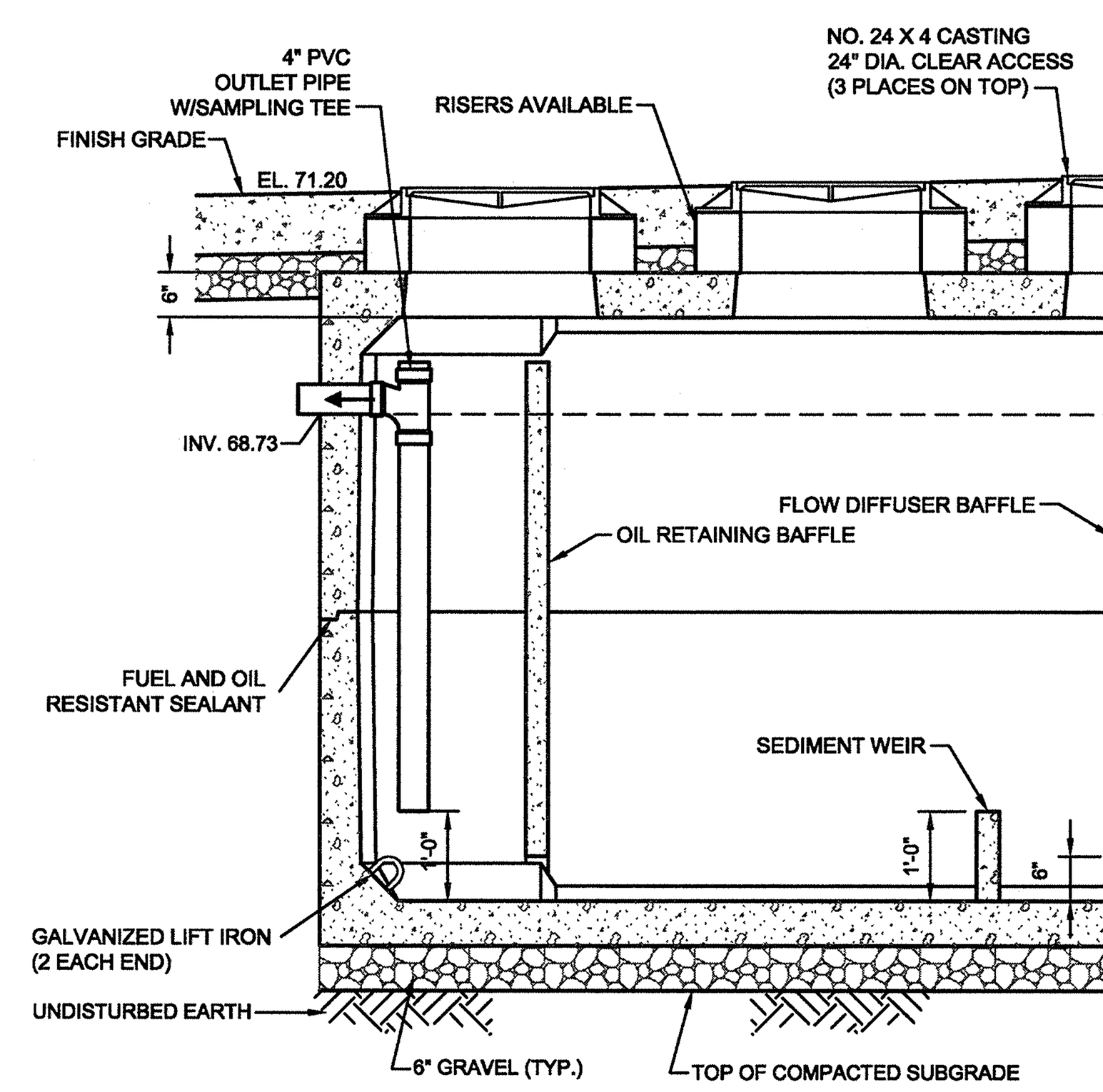
ELEVATION

PS 1 DUPLEX GRINDER PUMPING STATION

SCALE: 1/2" = 1'-0"



PLAN VIEW
CASTINGS NOT SHOWN



SECTION AA

NOTES:
1. BAFFLES AND WEIR TO BE PRECAST CONCRETE
2. CONTRACTOR TO:
SET & GROUT BAFFLES & WEIR WALLS.
FILL WITH CLEAN WATER AFTER BACKFILLING IS COMPLETE AND PRIOR TO "START-UP" OF SYSTEM.
FOR CUSTOM APPLICATIONS
THE FOLLOWING INFORMATION IS NEEDED:
- TOP OF SEPARATOR ELEVATION
- INLET AND OUTLET PIPE SIZES AND ELEVATIONS

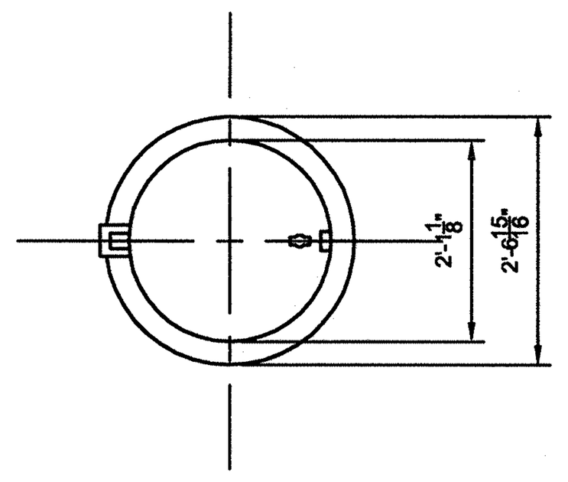
OWS 1 OIL / WATER SEPARATOR

SCALE: 1/2" = 1'-0"

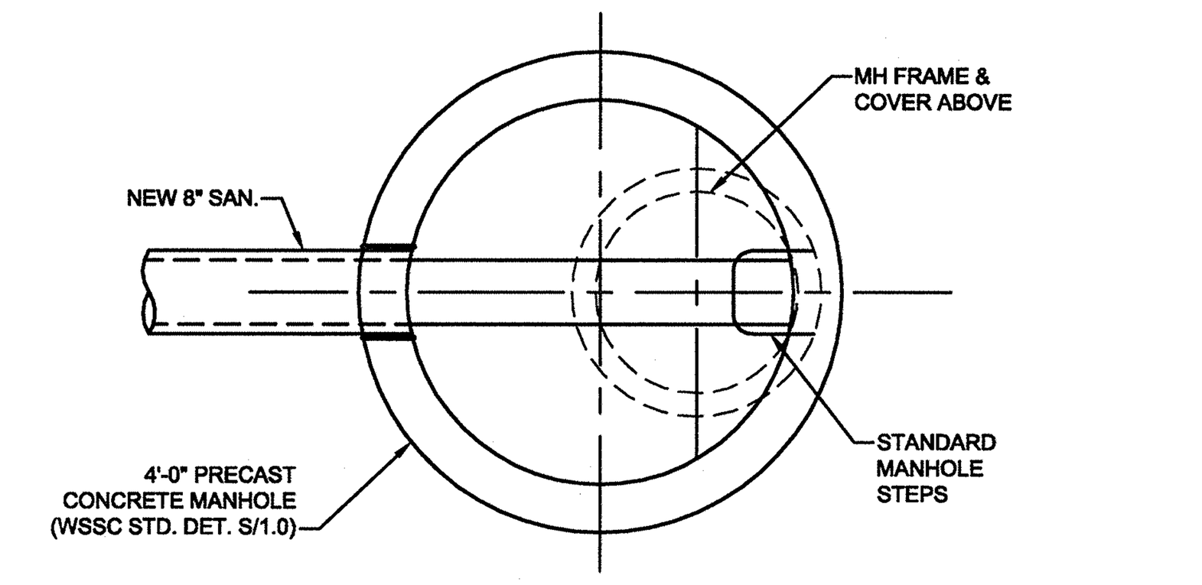
OIL / WATER SEPARATOR DESIGN DATA

1. NUMBER OF BAYS - 4
2. FUTURE BUS FACILITY - 1
3. SIZE OF O/W SEPARATOR - WSSC LARGE
4. VOLUME REQUIRED (1600 GAL.) - 216 CU.FT.
5. VOLUME PROVIDED (2094 GAL.) - 280 CU.FT.
6. STRUCTURAL LOADING REQUIRED - HS20
7. OIL / WATER SEPARATOR - 3 COMPARTMENT
OLDCASTLE PRECAST MODEL 5106-2-5A OR EQUAL
8. MANHOLE FRAMES & COVERS - MODEL 1204
WITH VENTED COVER - EAST JORDAN IRON WORKS

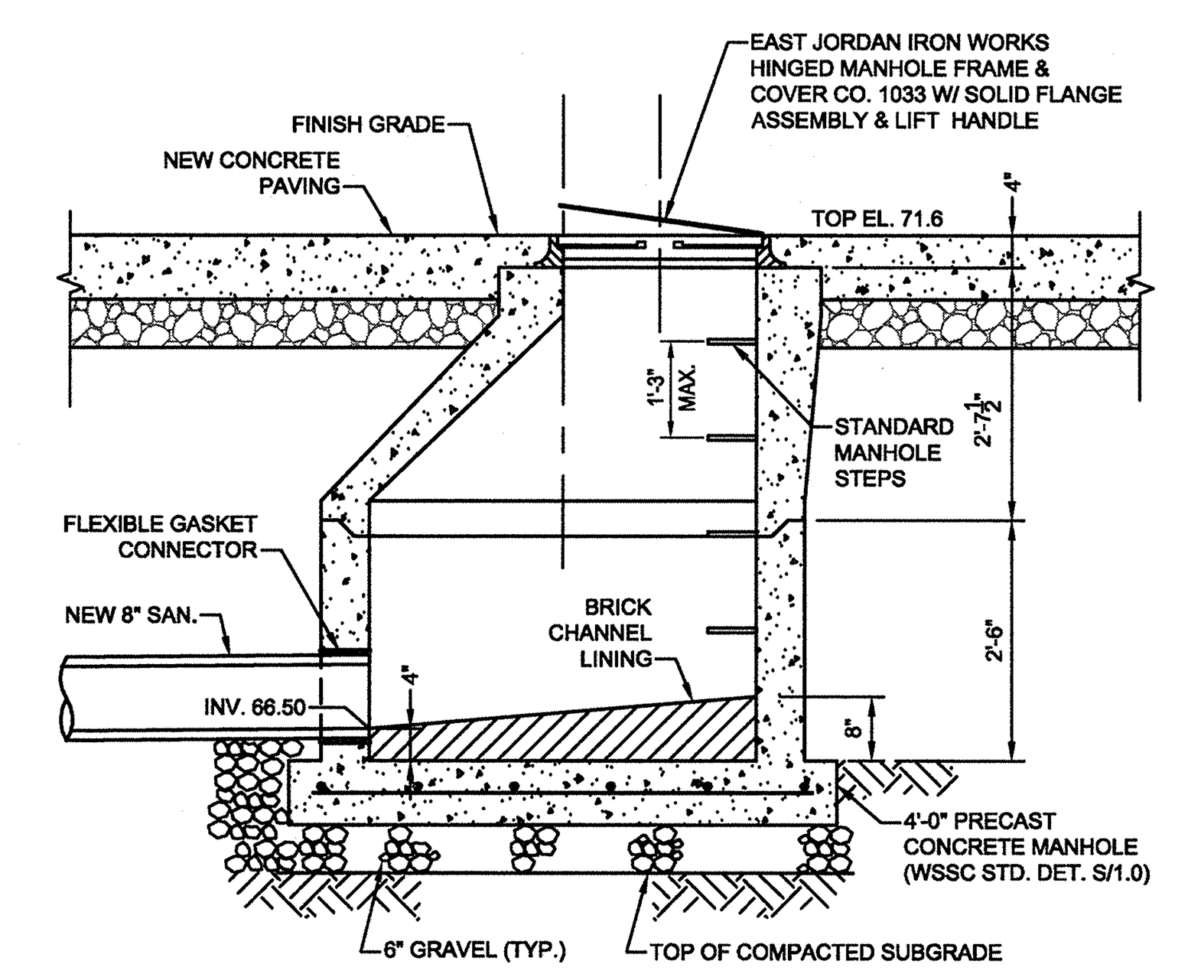
NOTE: MINIMUM SIZE INTERCEPTOR SHALL BE A MINIMUM 1600 GALLONS, 3 COMPARTMENT UNIT AS MANUFACTURED BY A WSSC APPROVED INTERCEPTOR PROVIDER.



PLAN - MH FRAME & COVER



PLAN - INTERIOR



ELEVATION

SMH 3 SEPTAGE RECEIVING MANHOLE

SCALE: 1/2" = 1'-0"

GP# 21008

SANITARY SYSTEM GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE WASHINGTON SUBURBAN SANITARY COMMISSION STANDARD DETAILS DATED JULY 01, 2005 AND STANDARD SPECIFICATIONS DATED APRIL 2009.

GRAPHIC SCALE
0 1 2 4 8
SCALE: 1/2"=1'-0"

ONSITE SANITARY DETAILS

ONSITE #

OWNER/APPLICANT	ENGINEER
UNIVERSITY OF MARYLAND COLLEGE PARK SRVC BLDG. 0600 GREENHOUSE RD. COLLEGE PARK, MD 20742 PHONE NO. 301-405-7506 P.O.C. BRIAN STILL bstill@FM.UMD.EDU	WBCM, LLC 849 FAIRMOUNT AVE., SUITE 100 BALTIMORE, MD 21286 PHONE NO. 410-512-4500 P.O.C. PHILIP DER, PE PDER@WBCM.COM

ZONE
HHG =
LHG =

AVERAGE SEWAGE FLOW = 9993 GPD

WBCM ARCHITECTURE ENGINEERING CONSTRUCTION

UNIVERSITY OF MARYLAND COLLEGE PARK
COLLEGE PARK, MD 20742
WATER AND SEWER SERVICE CONNECTION

C-4.3 | 3 OF 4 | 10-27-10 | SHEET NO. - OF

P:\2005\05009828\Drawings\07 Site\UTILITY.dwg Oct 27, 2010 - 1:48pm Plot By: hhwang

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849 Fairmount Ave. Suite 100 Baltimore, MD 21286
WBCM ARCHITECTURE ENGINEERING CONSTRUCTION

GRIMM + PARKER ARCHITECTS
11720 Beltsville Drive Suite 600 Calverton, MD 20705 Tel 301.595.1000 Fax 301.595.0089
1355 Beverly Road Suite 105 McLean, VA 22101 Tel 703.903.9100 Fax 703.903.9755

UTILITY DETAILS
LOT 4i SHUTTLE FACILITY
UNIVERSITY OF MARYLAND COLLEGE PARK

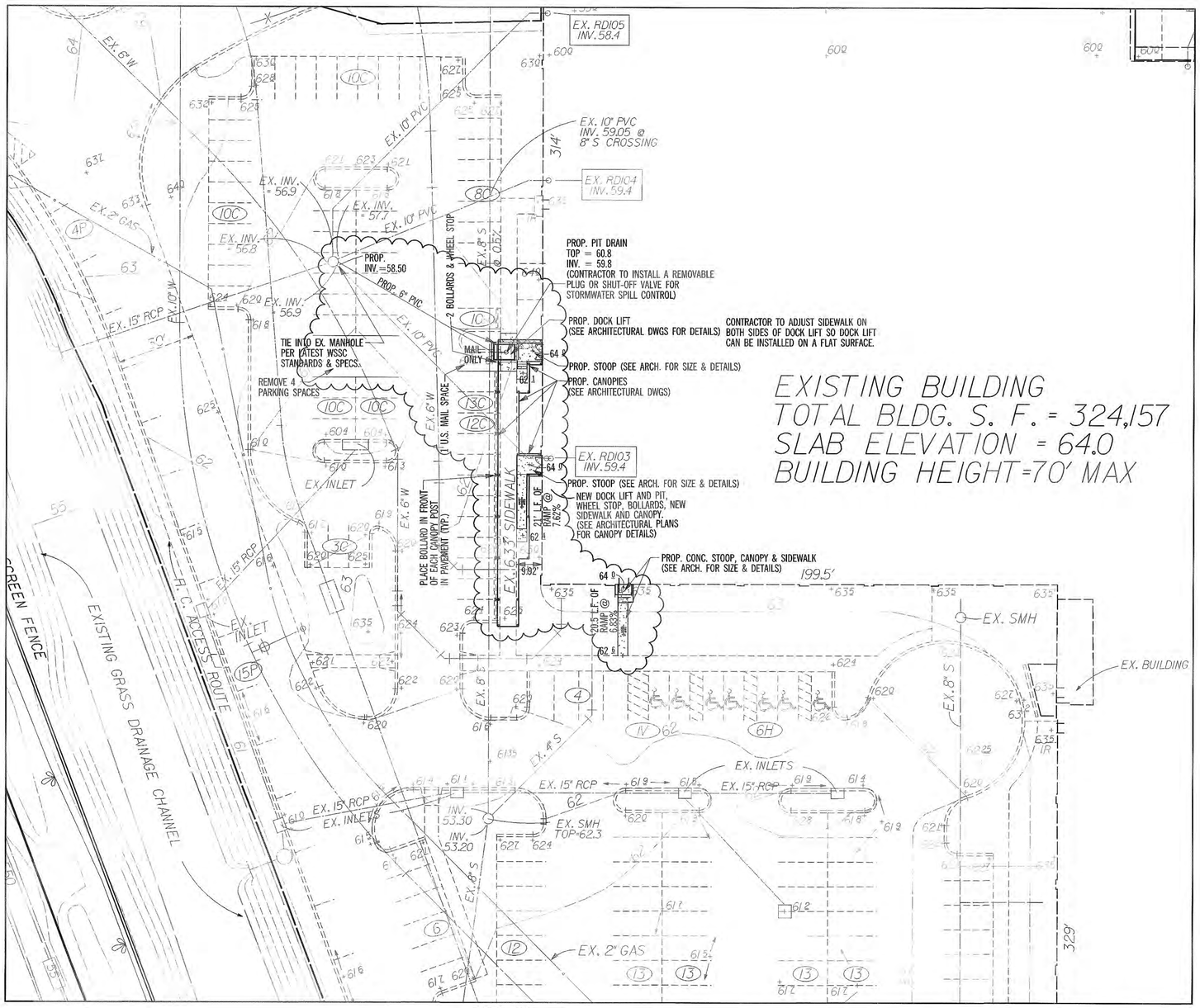
DATE	DESCRIPTION
5/21/10	DD SUBMISSION
7/28/10	65% CD SUBMISSION
9/28/10	95% CD SUBMISSION

MDE # 11-SF-0002

C-4.3

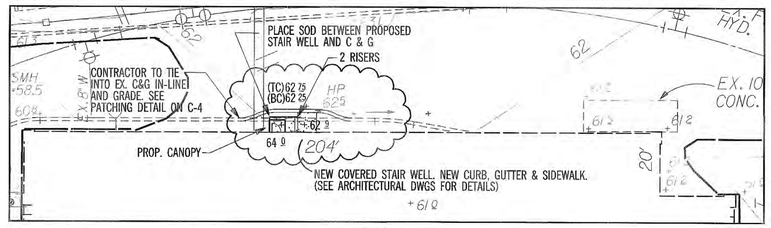
10/29/10
BID SET

Severn Building (#810)

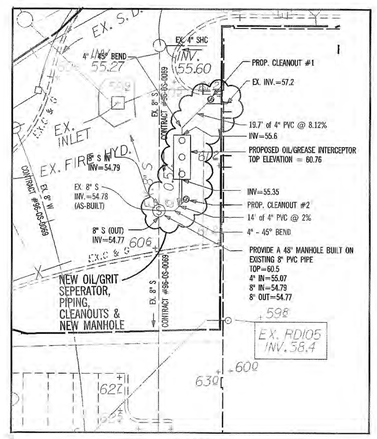


EXISTING BUILDING
TOTAL BLDG. S. F. = 324,157
SLAB ELEVATION = 64.0
BUILDING HEIGHT=70' MAX

AREA A-3



AREA A-1



AREA A-2

ENGINEER'S CERTIFICATE

I hereby certify that the grading shown hereon conforms with Subtitle Four, Division Three of the Prince George's County Code.

DATE _____ _____
Registered Engineer

I CERTIFY THAT I HAVE INSPECTED THIS SITE AND THAT DRAINAGE ONTO THIS SITE FROM OTHER UPGRADE PROPERTIES AND FROM THIS SITE ONTO OTHER DOWNGRADE PROPERTIES HAS BEEN ADDRESSED IN SUBSTANTIAL ACCORDANCE WITH APPLICABLE CODES.

NAME _____ DATE _____

CALL "MISS UTILITY"
TELEPHONE 1-800-257-7777
FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION

0 20 40 80 FEET
SCALE: 1"=20'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11391 EXPIRATION DATE: 3-25-2011

STATE OF MARYLAND · ALAN V. AMATO · REGISTERED PROFESSIONAL ENGINEER

11720 Beltsville Drive Suite 600 Calverton, MD 20705 Tel 301.595.1000 Fax 301.595.0089
1355 Beverly Road Suite 105 McLean, VA 22101 Tel 703.903.9100 Fax 703.903.9755
GRIMM + PARKER ARCHITECTS

GP# 21010

ENLARGED SITE PLAN AREAS

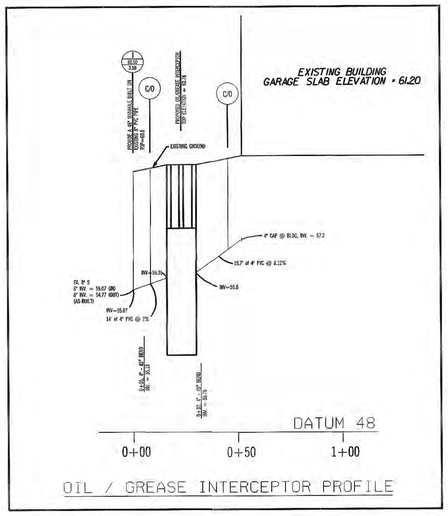
UM SEVERN BUILDING - PHASE 1 RENOVATION
UNIVERSITY OF MARYLAND COLLEGE PARK

DATE	DESCRIPTION
4/23/10	DD SUBMISSION
9/3/10	65% CD SUBMISSION
10/12/10	95% CD SUBMISSION

C-3

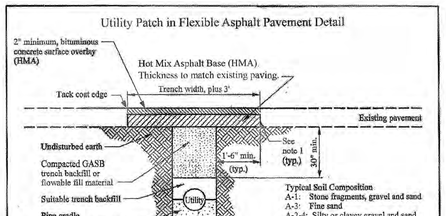
11/10/10
BID SET

Severn Building (#810)



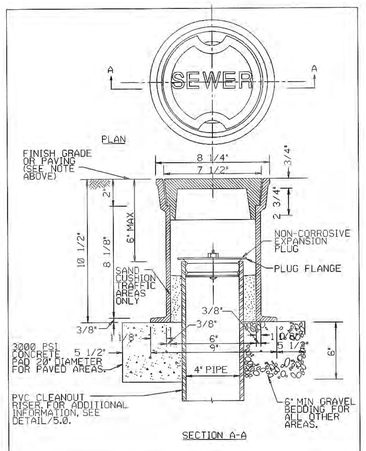
OIL / GREASE INTERCEPTOR PROFILE

Utility Patch in Flexible Asphalt Pavement Detail



Notes:

1. Existing pavement shall be milled or saw cut full depth where the limits of mill and overlay meet the existing pavement.
2. When the distance from the edge of the existing pavement to the edge of new asphalt base is 3 feet or less, the existing pavement shall be removed and replaced to the edge.
3. For transverse cuts, perimeter milling with a minimum width of 12" shall be required.
4. All milling shall be 2" minimum depth.
5. Hot Mix Asphalt (HMA) surface shall be placed to a depth equal to the depth of the existing surface or 2" minimum, whichever is greater. Hot Mix Asphalt (HMA) base shall be a depth equal to the depth of the existing base or 4", whichever is greater. All Hot Mix Asphalt (HMA) shall be compacted to an in-place density of 92 to 97 percent of the maximum specific gravity.
6. The top two-and-one-half (2 1/2) feet of all trench backfill beneath the pavement layer shall be compacted Graded Aggregate Subbase (GASB) to 95% of the maximum dry density per AASHTO Designation T-99. Prior to and during compaction, moisture of fill material shall be maintained within 2% of optimum. The fill shall be placed and compacted in horizontal layers not to exceed 8" in thickness (loose). GASB shall conform to the requirements of the latest edition MSHA Standard Specifications for Construction and Materials manual. Flowable fill material may also be used when approved by the Department.
7. Suitable trench backfill below the top two-and-one-half (2 1/2) feet down to five (5) feet deep shall be placed in horizontal layers not to exceed 8 inches (loose) and compacted to at least 92% of maximum dry density per AASHTO Designation T-99. Moisture content shall be maintained within 2% optimum.
8. Trench backfill below five (5) feet deep shall be placed and compacted in layers not to exceed 1 foot in thickness (loose).
9. All compaction work shall be performed using suitable equipment such as sheepsfoot rollers or pneumatic and/or vibratory plate type compaction equipment. Backfill material shall be placed evenly around the structure and shall be free of boulders, frozen lumps or foreign matter that could cause hard spots or decompose creating voids.
10. Where cave-in under existing asphalt pavement occur, the existing pavement shall be saw-cut 18 inches beyond the limit of the cave-in.
11. Use an independent testing lab to verify compaction.



SECTION A-A

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005	STANDARD DETAIL: CLEANOUT COVER ASSEMBLY FOR 4" CLEANOUTS	S 5.1

WSSCS51

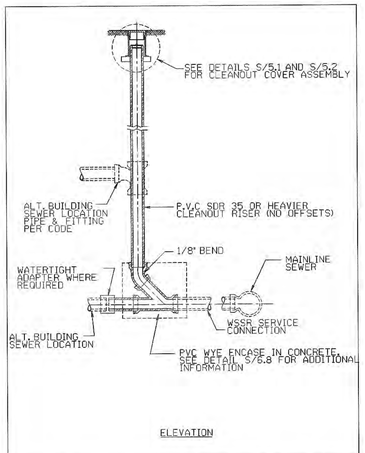
NOTE: IN VEHICULAR TRAFFIC AREAS NOT PAVED, PROVIDE 2'-2"x10 1/2"x10 1/2" (H) SQUARE CONCRETE ENCASEMENT (F'C=3000 PSI @ 28 DAYS) AROUND THE FRAME.

EXPANSION PLUG NOTES:

1. EXPANSION PLUG SHALL NOT INTERFERE WITH LID.
2. PLUG FLANGE SHALL BE LARGER THAN PIPE I.D.
3. THREADED COMPONENTS SHALL BE FLATTENED OR STAKED TO PREVENT DISASSEMBLY.

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005	STANDARD DETAIL: CLEANOUT COVER ASSEMBLY FOR 4" CLEANOUTS	S 5.1

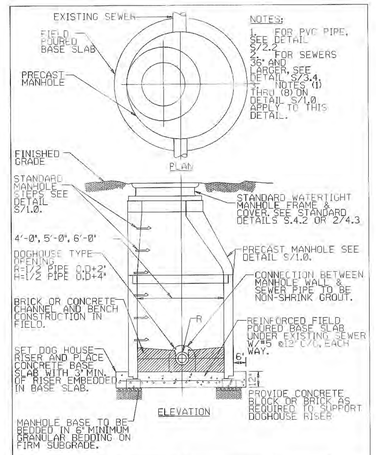
WSSCS51



ELEVATION

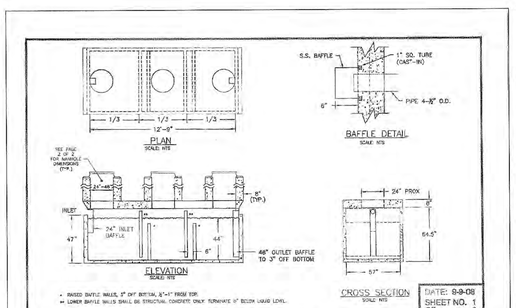
WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005	STANDARD DETAIL: STANDARD CLEANOUT INSTALLATION	S 5.0

WSSCS50



WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005	STANDARD DETAIL: PRECAST CONCRETE MANHOLE BUILT OVER EXISTING SEWER TYPE II	S 2.1

WSSCS21



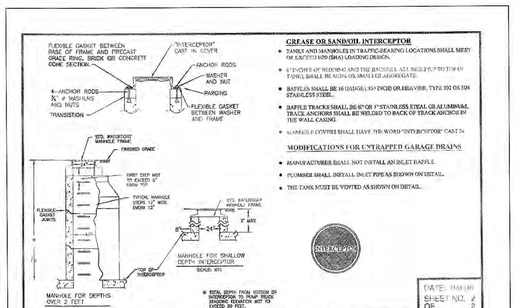
- RAISED BAFFLE WALLS, 3" OFF BOTTOM, 6"+/- FROM TOP.
- LOWER BAFFLE WALLS SHALL BE STRUCTURAL CONCRETE ONLY TERMINATE 6" BELOW LIQUID LEVEL.

DATE: 9-9-08
SHEET NO. 1 OF 2

1600 GALLON CONCRETE INTERCEPTOR
GREASE OR SAND/OIL

REGULATORY SERVICES GROUP
THESE DOCUMENTS CONTAIN PROPRIETARY AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REPRODUCED WITHOUT PRIOR WSSC APPROVAL

WASHINGTON SUBURBAN SANITARY COMMISSION



GREASE OR SAND/OIL INTERCEPTOR

- TANKS AND MANHOLES IN TRAFFIC OR PAVING LOCATIONS SHALL MEET OR EXCEED H-20 (AASHTO) LOADING DESIGN.
- 6" (INCHES) OF BEDDING AND TIE BACKFILL ALL SHALL BE 57 TO 67 STONE, SHALL BE NON-CALCAREOUS AGGREGATE.
- BAFFLES SHALL BE 16 GAUGE (.059 INCH) OR HEAVIER, TYPE 302 OR 304 STAINLESS STEEL.
- BAFFLE TRACKS SHALL BE 6" OR 1" STAINLESS STEAL OR ALUMINUM. TRACK ANCHORS SHALL BE WELDED TO BACK OF TRACK ANCHOR IN THE WALL CASING.
- MANHOLE COVERS SHALL HAVE THE WORD "INTERCEPTOR" CAST IN

MODIFICATIONS FOR UNTRAPPED GARAGE DRAINS

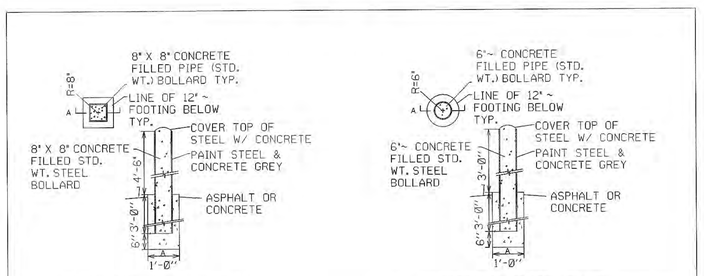
- MANUFACTURER SHALL NOT INSTALL AN INLET BAFFLE.
- PLUMBER SHALL INSTALL INLET PIPE AS SHOWN ON DETAIL.
- THE TANK MUST BE VENTED AS SHOWN ON DETAIL.

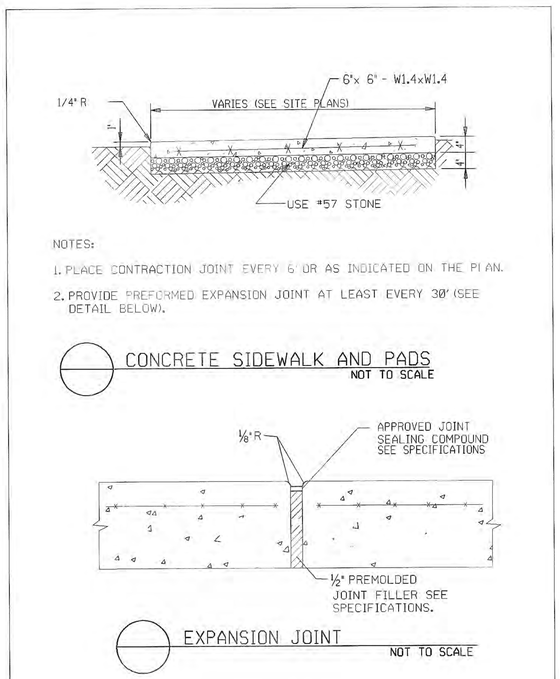
DATE: 9-9-08
SHEET NO. 2 OF 2

CONCRETE INTERCEPTOR
DETAILS AND SPECIFICATIONS

REGULATORY SERVICES GROUP
THESE DOCUMENTS CONTAIN PROPRIETARY AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REPRODUCED WITHOUT PRIOR WSSC APPROVAL

WASHINGTON SUBURBAN SANITARY COMMISSION





GRIMM + PARKER ARCHITECTS
11720 Beltsville Drive Suite 600 Calverton, MD 20705
Tel 301.595.1000 Fax 301.595.0089
1355 Beverly Road Suite 105 McLean, VA 22101
Tel 703.903.9100 Fax 703.903.9755

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 11391 EXPIRATION DATE: 3-25-2011

STATE OF MARYLAND — ALAN R. ARNOLD — REGISTERED PROFESSIONAL ENGINEER — 11391

GP# 21010

SITE DETAILS

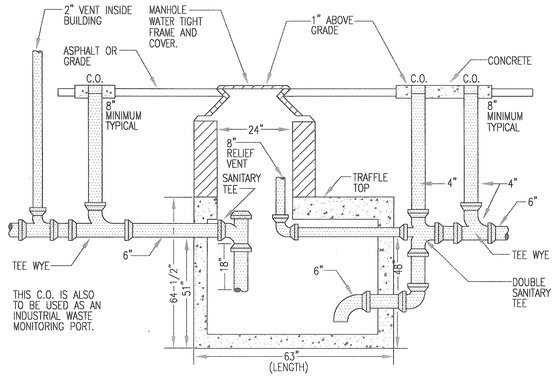
UM SEVERN BUILDING - PHASE 1 RENOVATION
UNIVERSITY OF MARYLAND COLLEGE PARK

DATE	DESCRIPTION
4/23/10	DD SUBMISSION
9/3/10	65% CD SUBMISSION
10/13/10	95% CD SUBMISSION

C-4

11/10/10
BID SET

Terrapin Trail Parking Garage (#403)



OIL AND SAND INTERCEPTOR DETAIL

SCALE: NONE

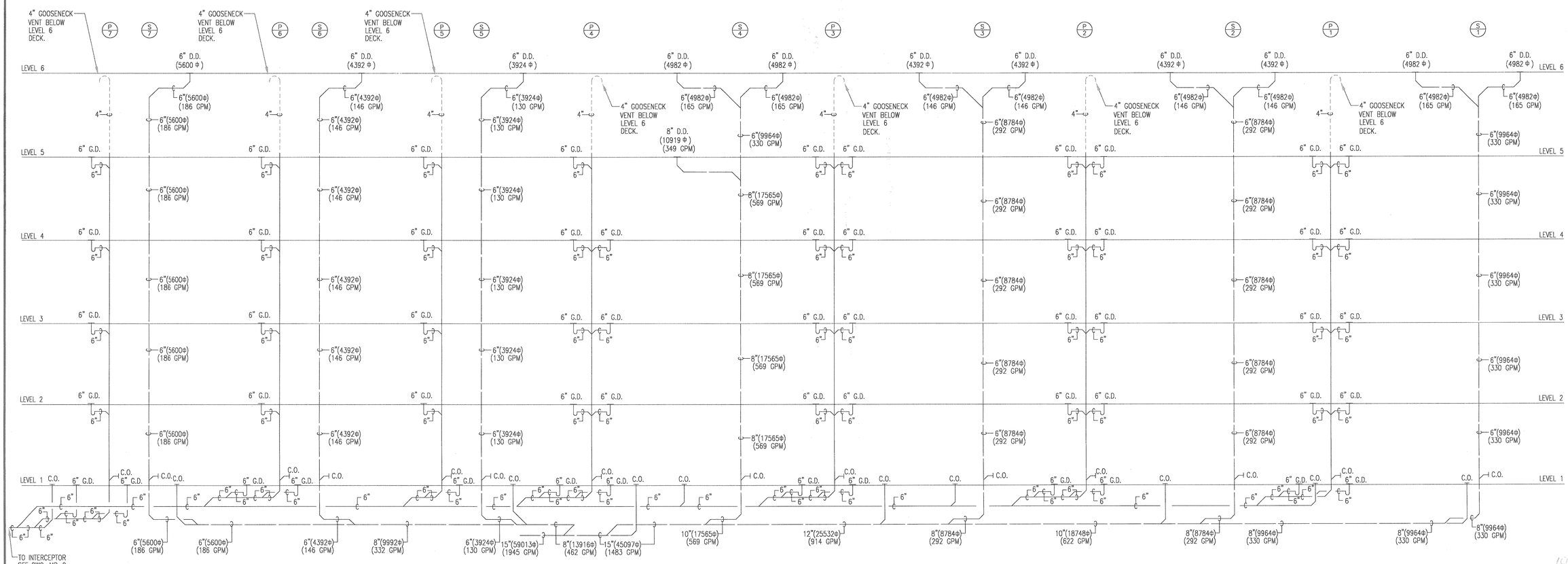
GENERAL NOTES

1. OBTAIN AND PAY FOR PERMITS, ARRANGE FOR INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION.
2. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL CODES AND PROJECT SPECIFICATIONS.
3. PLUMBING CONTRACTOR SHALL VERIFY ALL INVERTS PRIOR TO CONSTRUCTION. COORDINATE SANITARY AND STORM SEWER CONNECTIONS WITH APPROPRIATE AGENCY.
4. PLUMBING CONTRACTOR SHALL COORDINATE PIPING WITH ALL TRADES PRIOR TO CONSTRUCTION TO AVOID INTERFERENCE.
5. STORM PIPING SHALL BE INSTALLED AT 1/8" PER FOOT SLOPE.
6. STORM PIPING ABOVE GRADE SHALL BE SERVICE WEIGHT SCHEDULE 40 NO-HUB CAST IRON OR HUB AND SPIGOT CAST IRON OR P.V.C.
7. GARAGE DRAINS (G.D.-1) SHALL BE "ZURN" MODEL Z-534-C 12" DIAMETER PARKING DECK DRAIN WITH SUPPORT FLANGE. SEE DRAWINGS FOR SIZE. GARAGE DRAINS (G.D.-2) SHALL BE "ZURN" MODEL Z-521 FOR PAVING ON GRADE, CAST IRON BODY BOTTOM OUTLET WITH ADJUSTABLE EXTENSION FRAME. SEE DRAWINGS FOR SIZE.

SYMBOLS AND ABBREVIATIONS

——— ———	STORM SEWER PIPING	
——— ———	SANITARY PIPING	
———o	PIPE TURNING UP	
———⊖	CLEANOUT	C.O.
S/#	STORM RISER DESIGNATION	
P/#	SANITARY RISER DESIGNATION	
▤	GARAGE DRAIN – SANITARY	G.D.
▤	DECK DRAIN – STORM	D.D.
	RAINLEADER	R.L.
	GALLONS PER MINUTE	G.P.M.
——⋈——	CHECK VALVE	
——— ———	SANITARY PIPING	
——⋈——	OUTSIDE SCREW AND YOKE VALVE	O.S.&Y.
⊖—⊖	FIRE HOSE VALVE	F.H.V.

EF / 1	EQUIPMENT DESIGNATOR EF – EXHAUST FAN CU – CONDENSING UNIT UH – UNIT HEATER L – LOUVER SAC – SUPPLEMENTAL AIR CONDITIONING UNIT
M ———	MOTORIZED DAMPER
S.A.R.	SUPPLY AIR REGISTER
——RL——	REFRIGERANT LIQUID LINE
——RS——	REFRIGERANT SUCTION LINE
——D——	CONDENSATE DRAIN LINE
	DUCTWORK W/ 1" S.L.



SANITARY/STORM RISER DIAGRAM

SCALE: NONE

E. K. FOX & ASSOCIATES, LTD.
CONSULTING ENGINEERS
10304 Eaton Place, Suite 400
Fairfax, Virginia 22030
Tele.: (703) 273-1112
E-mail: ekfox@ekfox.com

DESMAN ASSOCIATES
8614 WESTWOOD CENTER DRIVE, SUITE 300
VIENNA, VIRGINIA 22182
Tel: (703) 448-1,100 Fax: (703) 883-0567
A DIVISION OF DESMAN, INC.
NEW YORK CHICAGO WASHINGTON, D.C. LOS ANGELES BOSTON CLEVELAND HARTFORD BALTIMORE

UNIVERSITY OF MARYLAND
PARKING GARAGE 4
COLLEGE PARK, MARYLAND

NO.	DATE	BY
REVISIONS		

NOTES & SYMBOLS PLAN

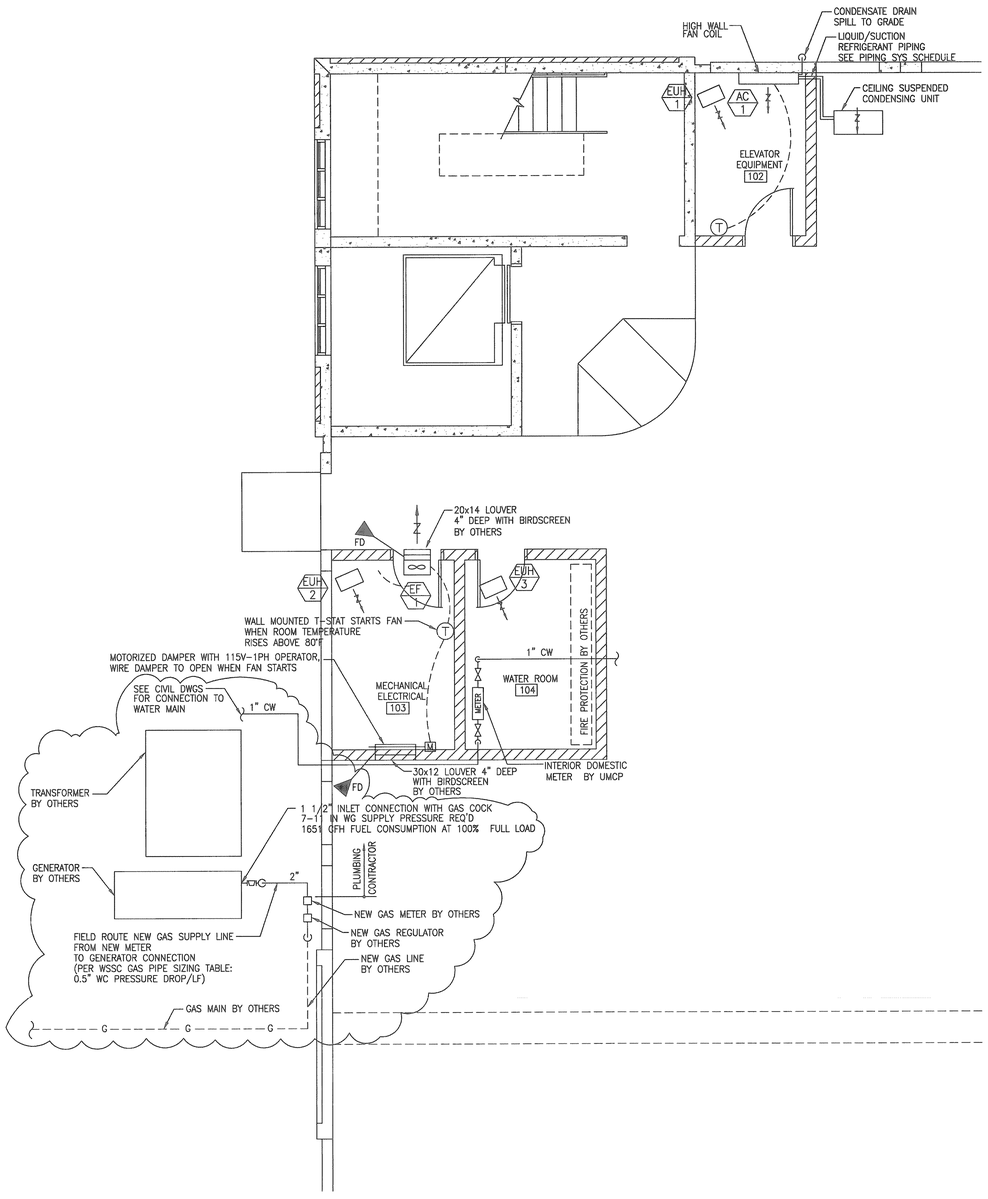
DRAWING NO. MP-1

SCALE:	AS NOTED
DATE:	8-25-2000
PROJECT NO.	J-588.1

DESIGN	DRAWN	CHKD
JKS	KAF	JKS

FOR CONSTRUCTION

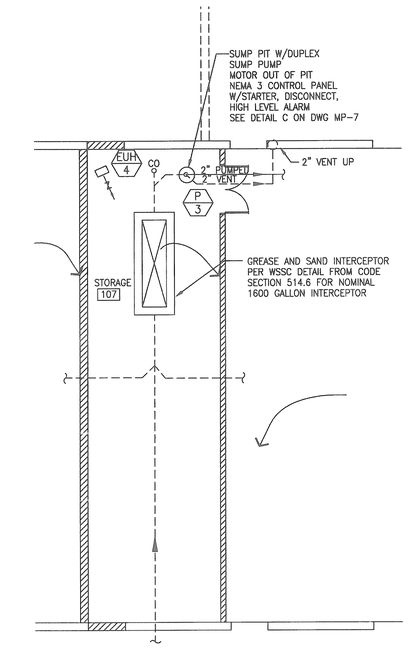
Mowatt Lane Parking Garage (#404)



North

ENLARGED PLAN A

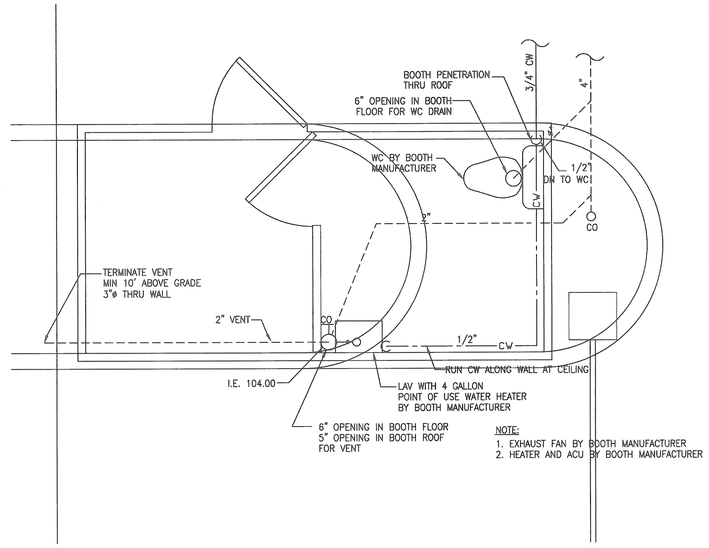
SCALE: 1/4" = 1'-0"



North

ENLARGED PLAN C

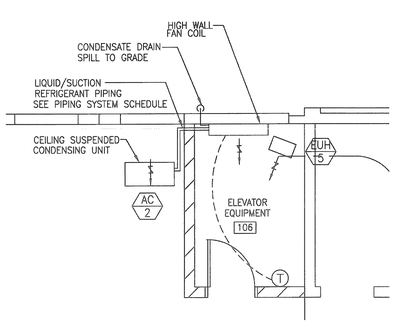
SCALE: 1/8" = 1'-0"



North

ENLARGED PLAN F
WEST GUARD BOOTH TOILET ROOM

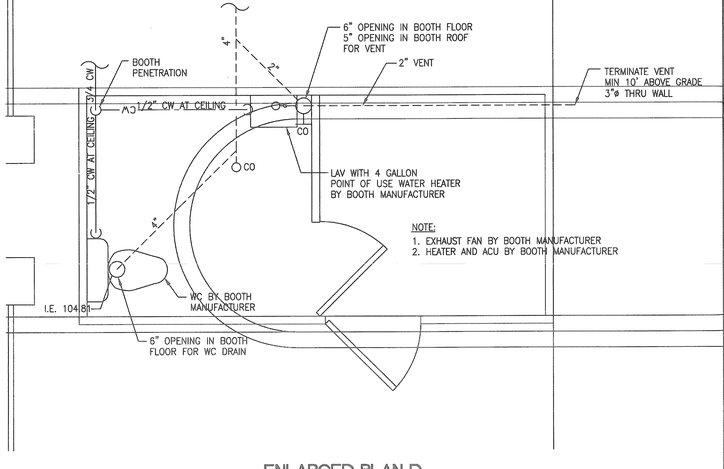
SCALE: 1/2" = 1'-0"



North

ENLARGED PLAN B

SCALE: 1/4" = 1'-0"



North

ENLARGED PLAN D
EAST GUARD BOOTH TOILET ROOM

SCALE: 1/2" = 1'-0"

ISSUED FOR AS-BUILT
ISSUE DATE: 08/28/03

ISSUED FOR PERMIT
ISSUE DATE: 07/30/02
REISSUE DATE: 10/09/02
REISSUE DATE: 03/03/03
REISSUE DATE: 07/18/03

6850 T.G. LEE BLVD, SUITE 120
ORLANDO, FLORIDA 32822
407-438-1500
FAX (407-438-1605
Mechanical Professional Services, Inc.

USING AGENCY APPROVAL — DATE — TITLE

DEPARTMENT OF GENERAL SERVICES APPROVAL — DATE — PROJECT MANAGER — DATE — CHIEF - PROJ. MGT. & DESIGN

REVISIONS

SHEET TITLE: LEVEL 1 ENLARGED PLANS

PROJECT FACILITY: PARKING GARAGE #5 — UNIVERSITY OF MARYLAND — COLLEGE PARK, MARYLAND

PROJECT NO. D-00034
DATE 07/30/02

MP-4

SHEET 5 OF 10

plot date:

Appendix I
Loading/Unloading Procedures and Checklist

DEPARTMENT OF
ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

Oil Loading and Unloading Procedures:

Bulk Transfer Procedures Precautions are taken to ensure both personnel safety and prevention of spills or accidental releases during routine handling of oil. Visual checks for leaks before, during, and after material transfers provide operating personnel with the opportunity to contain releases due to faulty equipment, and to implement proper repair measures. UMD employs delivery procedures designed to prevent accidental spills and releases during the bulk transfer of oils and other materials.

- **Bulk oil is delivered using the following procedures:**
  - Loading and unloading is only performed under the supervision of campus personnel responsible for ensuring that proper procedures are followed.
  - Oil absorbent and containment materials must be available and sufficient to prevent spills from reaching navigable waters.
  - Wheel chocks or a vehicle break interlock system must be employed to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines or hoses.
  - Bonding and grounding devices must be connected before loading or unloading flammable oils from vehicle.
  - Campus personnel and pump operator/driver must check all connections for tightness and that all fittings and hoses are in a safe and operable condition before beginning any pumping of oil.
  - Where connections are not located within a secondary containment structure, a drip pan must be placed below the connection during the filling process.
  - The operator of the pump shall not leave the pumping process unmanned for any reason during the filling process and shall remain within close proximity (five feet) of the shutoff valve at all times.
  - When a high-level alarm is not operational or available on the container being filled, an employee must gauge the container during filling operations and be in constant communication with the pump operator.
  - After pumping is complete, the pump operator must check that all shutoff valves are locked in the closed position and there is no leakage.
  - Prior to filling and departure of any tank car or tank truck, the lowermost drain and all outlets of such vehicles must be closely inspected for discharges, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge.
  - Connections of oil tank or campus piping must be securely capped, plugged, or sealed when not in service or when in standby service for an extended time.

- **Bulk Oil Collection/Pickup**
    - Used petroleum oils generated during maintenance activities transferred by UMD personnel to the used oil storage tanks. Collected used oil is periodically picked up via trucks that park adjacent the used oil tank. In general, the operator collects the used oils using a hand-held nozzle and flexible tubing from a vacuum tanker connected directly to the truck.

- **Container Loading/Unloading Procedures**
    - Portable containers (drums, totes) of oils and oil-based products are generally delivered at the Severn Building (#810), the Central Heating Plant (#001), and the Shuttle Bus Facility (#424). The drums are then taken directly to the point of use by hand cart or fork lift. The delivery locations are strategically located that in the event of a release, response equipment would be employed, and the release would be contained as close to the source as possible.

- **Portable containers are loaded and unloaded using the following procedures:**
    - All containers must be closed and sealed prior to moving.
    - No obstacles should block the unloading area or delivery paths.
    - Safe lifting techniques must be used.
    - Loads must not be stacked on the transport mechanism or vehicle in a manner that blocks the operator's vision.
    - Heavy objects should be loaded at the bottom of a forklift, hand truck, or pallet jack.
    - Bulky or awkward items should be secured while in transport.
    - Only trained and authorized personnel are allowed to operate a forklift or use other powered material-handling equipment.
    - Containerized materials are stacked and stored properly in a stable and secure manner.

- **Elevator Hydraulic Oil Tanks**:
    - Oil is rarely added to or removed from these small tanks. When required, addition of oil is performed manually using small containers by qualified elevator service technicians. Removal of oil would only be required in the event of tank repair or replacement. In this event, oil would be manually removed from the tank by portable pumps and placed in containers.

- **Electrical Transformers**
    - Typically, oil is neither added to nor removed from transformers except in the event of repairs. Addition or removal of oil from transformers is only performed by trained and qualified electricians.

UNLOADING CHECKLIST

BULK AND SMALL TRUCK DELIVERIES

Indicate Delivery Type:

Bulk Oil Delivery **[ ]**
Small Truck Delivery **[ ]**

Delivery Date: _____

SDS available? yes__ no__ Tank to be loaded: _____

Tank level before unloading	(A)_____	gallons
Tank level after unloading	(B)_____	gallons
Total unloaded [(C) = (B) – (A)]	(C)_____	gallons

1) Working radio readily available	yes____	no_____	
2) SDS on-hand during unloading	yes____	no_____	
3) Danger tape used to block off area	yes____	no_____	
4) Storage tanks and related piping inspected	yes____	no_____	
5) Drain blockage equipment deployed	yes____	no_____	
6) Wheels Chocked	yes____	no_____	
7) Grounded (flammable materials only)	yes____	no_____	N/A___
8) 5-gallon drip bucket under discharge hose	yes____	no_____	
9) Absorbent materials readily available	yes____	no_____	
10) Valves closed when unloading is complete	yes____	no_____	
11) Respirator nearby	yes____	no_____	
12) Any leaks or spills (if yes, provide details in comments)	yes____	no_____	

Comments: _____

_____

Signature Printed Name/Date

_____ _____

Acknowledgement of receipt of materials (UMD Employee)

Signature Printed Name/Date

_____ _____

Acknowledgement of transfer of materials (Product Delivery Representative)

Appendix J
Periodic Inspection Forms

Aboveground Storage Tank (AST) Monthly Inspection Checklist

Site: University of Maryland, College Park
Map Number: 5
Building: Severn-810
Containment: Double Wall

Notes: Near garage, fluid storage room
Tank ID: 79H
Insp. Freq: Monthly
Type: AST

Contents: Motor oil
Capacity: 280 gallons

Inspection Requirements									
Status			**Item to check**	**Comments**					
N/A	Good	Needs Attention		Rust	Staining	Spillage	Missing	Other	
Month 1 - Monthly Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Level gauge						
			Exterior Coating						
			Spill Kit						
			Interstitial monitoring						
Month 2 - Monthly Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Level gauge						
			Exterior Coating						
			Spill Kit						
			Interstitial monitoring						
Month 3 - Quarterly Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Level gauge						
			Exterior Coating						
			Spill Kit						
			Interstitial monitoring						
Month 4 - Monthly Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Level gauge						
			Exterior Coating						
			Spill Kit						
			Interstitial monitoring						
Month 5 - Monthly Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Level gauge						
			Exterior Coating						
			Spill Kit						
			Interstitial monitoring						

Notes:

-Under Tank Conditions: Identify any signs of leakage, rust, damage, or deterioration on the outside of the tank; Identify any signs of leakage, rust, damage, or deterioration on the bolts, rivets, and/or seams; Identify if vehicle protection is present; Identify if level/gauges are working properly; Identify if tank has proper signage;

-Under Secondary Containment: Identify if there is any water/product in interstice of double-walled tank Identify id there is any water/product/trash in secondary containment

Aboveground Storage Tank (AST) Monthly Inspection Checklist

Month 6 - Quarterly Inspection				**Inspector:**				**Date:**
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Spill Kit					
			Exterior Coating					
			Level gauge					
			Interstitial monitoring					
Month 7 - Monthly Inspection				**Inspector:**				**Date:**
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Level gauge					
			Exterior Coating					
			Spill Kit					
			Interstitial monitoring					
Month 8 - Monthly Inspection				**Inspector:**				**Date:** ____
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Level gauge					
			Exterior Coating					
			Spill Kit					
			Interstitial monitoring					
Month 9 - Quarterly Inspection				**Inspector:**				**Date:** ____
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Level gauge					
			Exterior Coating					
			Spill Kit					
			Interstitial monitoring					
Month 10 - Monthly Inspection				**Inspector:**				**Date:** ____
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Level gauge					
			Exterior Coating					
			Spill Kit					
			Interstitial monitoring					
Month 11 - Monthly Inspection				**Inspector:**				**Date:**
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Level gauge					
			Exterior Coating					
			Spill Kit					
			Interstitial monitoring					

Aboveground Storage Tank (AST) Monthly Inspection Checklist

Month 12 - Annual Inspection/Annual Photo			**Inspector:**					**Date:** ____
			Tank and foundation condition					
			Secondary containment					
			Pipe/hose connections					
			Signage-ID, Contents, NFPA					
			Spill Kit					
			Exterior Coating					
			Primary/emergency vents					
			Test Level Gauges					
			Electrical wiring and boxes					
			O-rings, and gaskets					
			Tank supports					
			Tank foundation					

Inspector: Date:

Additional Comments and/or Items needing to be addressed:

Aboveground Storage Tank (AST) Quarterly Inspection Checklist

Site: University of Maryland, College Park
Map Number:
Building: SCUB 1 0
Containment: Double Wall

Notes: AST is outside, generator is inside, key S1, next to Annapolis
Tank ID: 10
Insp. Freq: Quarterly
Type: AST for Generator

Contents: Diesel
Capacity: 250 gallons

Inspection Requirements									
Status			Item to check	Comments					
N/A	Good	Needs Attention		Rust	Staining	Spillage	Missing	Other	
Quarter 1 Inspection			**Inspector**:					**Date**:	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Spill Kit						
			Exterior Coating						
			Level gauge						
			Interstitial monitoring						
Quarter 2 Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Spill Kit						
			Exterior Coating						
			Level gauge						
			Interstitial monitoring						
Quarter 3 Inspection			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Spill Kit						
			Exterior Coating						
			Level gauge						
			Interstitial monitoring						
Annual Inspection/Annual Photo			**Inspector:**					**Date:**	
			Tank and foundation condition						
			Secondary containment						
			Pipe/hose connections						
			Signage-ID, Contents, NFPA						
			Spill Kit						
			Exterior Coating						
			Primary/emergency vents						
			Test Level Gauges						
			Electrical wiring and boxes						
			O-rings, and gaskets						
			Tank supports						
			Tank foundation						

Notes:

-Under Tank Conditions: Identify any signs of leakage, rust, damage, or deterioration on the outside of the tank; Identify any signs of leakage, rust, damage, or deterioration on the bolts, rivets, and/or seams; Identify if vehicle protection is present; Identify if level/gauges are working properly; Identify if tank has proper signage;

-Under Secondary Containment: Identify if there is any water/product in interstice of double-walled tank Identify id there is any water/product/trash in secondary containment

Aboveground Storage Tank (AST) Quarterly Inspection Checklist

Additional Comments and/or Items needing to be addressed:

Notes:

-Under Tank Conditions: Identify any signs of leakage, rust, damage, or deterioration on the outside of the tank; Identify any signs of leakage, rust, damage, or deterioration on the bolts, rivets, and/or seams; Identify if vehicle protection is present; Identify if level/gauges are working properly; Identify if tank has proper signage;

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Appendix K
Annual Inspection Photos

Appendix L
Training Materials

Environmental Safety, Sustainability & Risk

Spill Prevention, Control, and Countermeasures (SPCC)

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Overview

The Purpose of an SPCC is to <u>prevent</u> the discharge of oil into navigable waters of the United States or adjoining shorelines as opposed to response and cleanup after a spill occurs.

The Federal Law

Oil Pollution Prevention Rule

- **Became effective January 1974 (revised 2017).**
- **Authority – Section 311 (j) (1) (c) of the Clean Water Act**
- **Promulgated under Title 40, CFR, Part 112**

Oil Definitions

Oil means oil of any kind or in any form, including, but not limited to:

- fats, oils, or greases of animal, fish, or marine mammal origin
- vegetable oils, including oils from seeds, nuts, fruits, or kernels;
- other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Applicability: How Much Oil?

- SPCC rule applies to facilities with:
  - >42,000 gallons buried
  - >1,320 gallons aboveground
  - This is based on storage containers **≥ 55-gallons**
- Containers to include:
  - Bulk storage
  - Oil-filled equipment
  - Mobile/Portable Containers
- Containers not included in capacity:
  - Permanently Closed containers
  - UST Subject to 40 CFR 280 & 281

Spill Reporting

Facilities that discharge oil to navigable waters are subject to certain federal reporting requirements.

- 40 CFR 110, Discharge of Oil Regulation
- 40 CFR 112, Oil Pollution Prevention regulation
- State laws/regulations may differ or be more restrictive

SPCC Reporting Requirements

- Report to the EPA Regional Administrator (RA) when there is a discharge to navigable waters or adjoining shores of:
  - >1,000 Gal of oil in a single discharge
  - >42 Gal of oil in each of two discharges occurring within a 12 month period
- An owner / operator must report the discharge(s) to the EPA RA within 60 days
- All requirements found in CFR 40 112.4

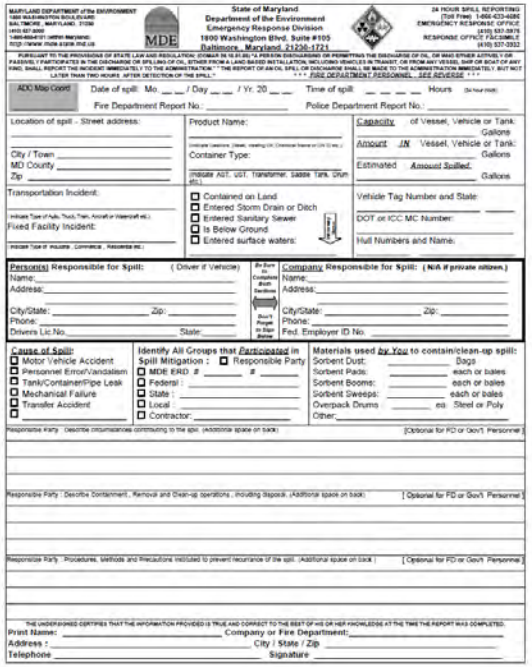
MDE Reporting Requirements

- Report to MDE Emergency Response Division (1-866-633-4686) if an oil spill or discharge of ***ANY QUANITY*** a verbal report must be made within **TWO HOURS**

  Verbal report must include:

  - Time and location of discharge
  - Type of facility involved
  - Type and quantity of oil spilled
  - Assistance required
  - Name, address, telephone number of person making report
  - Other pertinent info as requested by MDE

If spill is ***5 Gallons or greater*** *in quantity or if* ***ANY QUANITY reaches navigable*** waters, a written report of the discharge must be submitted to MDE within 5 business days



State of Maryland
Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore, Maryland 21230-1721

MDE

24 HOUR SPILL REPORTING
(Toll Free) 1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FAX
(410) 537-3332

ADC Map Coord:

Date of spill: Mo. ___ / Day ___ / Yr. 20 ___ Time of spill: ___ ___ ___ Hours

Fire Department Report No.: Police Department Report No.:

Location of spill - Street address:
City / Town:
MD County
Zip

Product Name:
Container Type:
Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank: Gallons
Amount IN Vessel, Vehicle or Tank: Gallons
Estimated Amount Spilled: Gallons

Transportation Incident:
Fixed Facility Incident:

Contained on Land
Entered Storm Drain or Ditch
Entered Sanitary Sewer
Is Below Ground
Entered surface waters:

Vehicle Tag Number and State:
DOT or ICC MC Number:
Hull Numbers and Name:

Person(s) Responsible for Spill: (Driver if Vehicle)
Name:
Address:
City/State: Zip:
Phone:
Drivers Lic.No. State:

Company Responsible for Spill: (N/A if private citizen)
Name:
Address:
City/State: Zip:
Phone:
Fed. Employer ID No.

Cause of Spill:
Motor Vehicle Accident
Personnel Error/Vandalism
Tank/Container/Pipe Leak
Mechanical Failure
Transfer Accident

Identify All Groups that Participated in Spill Mitigation : Responsible Party
MDE ERD # #
Federal :
State :
Local :
Contractor:

Materials used by You to contain/clean-up spill:
Sorbent Dust: Bags
Sorbent Pads: each or bales
Sorbent Booms: each or bales
Sorbent Sweeps: each or bales
Overpack Drums ea. Steel or Poly
Other:

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't. Personnel]

Responsible Party : Describe Containment , Removal and Clean-up operations , including Disposal. (Additional space on back) [Optional for FD or Gov't. Personnel]

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't. Personnel]

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: Company or Fire Department:
Address : City / State / Zip
Telephone Signature

National Response Center (NRC)

- The Discharge of Oil regulation provides the framework for determining whether an oil discharge to inland and coastal waters or adjoining shorelines should be reported to the National Response Center at 1-800-424-8802
- Any person in charge of a vessel, onshore or offshore facility must notify NRC once there is knowledge of a discharge
- NRC will relay discharge information to EPA or USCG

SPCC Plan Requirements

Each Plan Must Include:

1. Description of physical layout and a facility diagram.
2. Key personnel contact list and phone numbers for the facility response coordinator, cleanup contractors, all appropriate federal, state, local agencies to contact.
3. Prediction of direction, rate of flow, and total quantity of oil that COULD be discharged if the potential for equipment discharge exists.
4. Description of containment and/or diversionary structures to prevent discharge from reaching navigable waters.
5. Description of site-specific spill prevention and control measures in place.

Additional Requirements

- Plan must have MANAGEMENT APPROVAL (signature)
- Plan must be prepared under the direct supervision of a P.E. (stamped)
- Plan must be maintained on-site AVAILABLE AT ALL TIMES for review by EPA/MDE.
- Key Facility Personnel must be trained annually. *FOLLOW SOPs for any response actions!!!*
- Plan must include periodic INSPECTIONS.
- Plan must be revised/updated to reflect facility changes.
- Plan required to be reviewed/revised at least every 5 YEARS.

Select a section to review:

1. SPCC Rules Specific to Facilities Management and DOTS
2. SPCC Rules Specific to Dining Services
3. SPCC Rules Specific to Farms

SPCC Rules Specific to Facilities Management and DOTS

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UMD SPCC Details

- Over 85 tanks*
  - Generators, ASTs, Day Tanks, Lube Reservoirs
- Over 30 ≥ 55-gallon Drums*
  - Cooking oil, food grease, used oil, hydraulic fluid
- Over 110 Hydraulic Elevators
- Over 155 Transformers

*Current inventory fluctuates due to construction and need

Secondary Containment

- All areas and equipment with the potential for a discharge are subject to general secondary containment provision, 112.7(c).
  - Oil-filled operational equipment
  - Loading/unloading areas
  - Piping
  - Mobile refuelers/ non-transportation related tank trucks
- Purpose is to contain or divert to prevent discharge: dikes, berms, retaining walls, curbing, drip pans, sumps, culverting, gutters, weirs, booms, spill diversion ponds, retention ponds, sorbent

Secondary Containment

Active secondary containment is when an employee personally contains a spill,

- Deploying drain covers before a spill happens.
- Deploying drain covers after a spill has occurred, but before the spill reaches a drain
- Using a spill kit in the event of an oil discharge
- Closing a gate valve prior to a discharge

Passive secondary containment does not require deployment or the action of an employee or employees to contain a spill.

- Placing containment pallets or decks under drums and other containers
- Surrounding machines and containers with berms
- Erecting retaining walls around machines and containers
- Placing drip trays under leaky machines and containers

Specific (Sized) Provision

- To address the potential of oil discharges from areas of a facility where oil is stored or handled, containment specified by SPCC rule CFR 40 112.8, requirements are intended to address a major container failure
  - Bulk storage containers, loading/unloading rack, mobile/portable containers, production tank batteries, treatment, separation installations
- Minimum containment capacity
  - Largest single compartment
  - Sufficient freeboard

Portable Containers

- Drums placed on spill pallets
- Emergency generators; utilize drip pans
- Fuel trucks parked within bermed area

Oil – Filled Operational Equipment

- Equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device.
  - Does not include oil-filled manufacturing equipment (flow-through process)
- Piping is considered a component if it is solely used to facilitate operation of the equipment device.

Loading/Unloading Area Containment

- Dikes, berms, or retaining walls sufficiently impervious to contain oil;
- Curbing or drip pans;
- Sumps and collection systems;
- Culverting, gutters, or other drainage systems;
- Weirs, booms, or other barriers;
- Spill diversion ponds;
- Retention ponds; or
- Sorbent materials.

Inspection & Testing 112.8(c)(6)

- Prevent discharge of oil caused by leaks, corrosion, brittle fracture, overfill, other forms of container/equipment failure
- AST are tested or inspected in accordance with industry standards
  - Integrity tests include: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing.

Common visual inspection problems:

Spillage

Severely rusted and pitting occurring

Poor housekeeping, not in containment, exposed, rusting.

Visual Inspection:

Remember!

- **All actions (visual inspection or testing) must be documented & maintained**
  - Some standards require records to be maintained for over 3 years for comparison reasons
- **Know objective: the tank IS or IS NOT suitable for continued use**

Oil-Water Separators

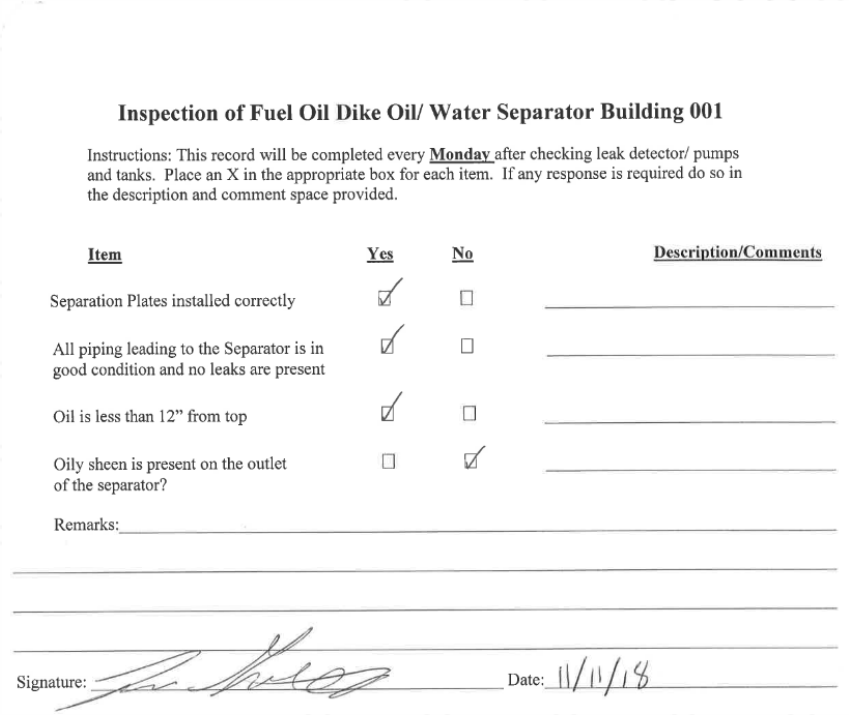
Oil/water separators (OWS) are structural devices intended to allow oils (and substances lighter than water) to be intercepted and be removed for disposal.

Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.

OWS Maintenance Requirements

- Two are located at the Shuttle Bus Facility
  - Adjacent to the 20,000-gallon fueling area
  - Outside the maintenance shop
- Do not drain petroleum, oil, or lubricants directly to an OWS. The structures are designed to manage these materials at low and medium concentrations in sanitary sewage, not as slug loads.
- Do not drain antifreeze, degreasers, detergents, fuels, alcohols, solvents, coolant, or paint to the OWS.
- Separator compartment covers should be tightly sealed to ensure drainage only enters the first compartment of the OWS.
- Drains should be kept free of debris and sediment to the maximum extent practicable.
- Spill cleanup materials should be maintained in the area served by the OWS.

Example of OWS Inspection Sheet



Inspection of Fuel Oil Dike Oil/ Water Separator Building 001

Instructions: This record will be completed every **Monday** after checking leak detector/ pumps and tanks. Place an X in the appropriate box for each item. If any response is required do so in the description and comment space provided.

Item	Yes	No	Description/Comments
Separation Plates installed correctly	☑	☐	
All piping leading to the Separator is in good condition and no leaks are present	☑	☐	
Oil is less than 12" from top	☑	☐	
Oily sheen is present on the outlet of the separator?	☐	☑	

Remarks:

Signature: Date: 11/11/18

- Inspection done regularly
- Measured oil level
- Inspects outlet to see if there is an oil sheen

Oil Containment: Examples

- A lightweight non-biodegradable absorbent made from 100% Canadian Sphagnum Peat Moss
- Absorbed oil passes the Toxicity Characteristic Leaching Procedure (TCLP)
- Affinity for hydrocarbons of all types
- Suppresses 90% of gasoline vapors which eliminates the danger of explosion

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ENVIRONMENTAL SAFETY,
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Thank you

Thank you for completing the SPCC Training for Facilities Management and DOTS. Please click here to visit the final page and conclude the training.

SPCC Rules Specific to Dining Services

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The Law-Vegetable Oils and Animal Fats

Animal fats and vegetable oils are regulated under 40 CFR 112, which has identical requirements for petroleum and non-petroleum oils. Petroleum oils, vegetable oils, and animal fats share common physical properties and produce similar environmental effects.

Like petroleum oils, vegetable oils and animal fats and their constituents can:

- Cause devastating physical effects, such as coating animals and plants with oil and suffocating them by oxygen depletion;
- Be toxic and form toxic products;
- Destroy future and existing food supplies, breeding animals, and habitats;
- Produce rancid odors;
- Foul shorelines, clog water treatment plants, and catch fire when ignition sources are present; and
- Form products that linger in the environment for many years.

Proper Disposal of Fats, Oils, and Grease (FOG)

- **Never** put any amount of grease or oil down the drain or into unlined trash containers.
  - When grease in liquid or solid form goes down the drain, it accumulates and sticks to pipes and causes blockages that result in raw sewage back-ups.
  - FOGs leaking from an unlined trash container can leak into stormwater drains and cause an SPCC and SWPPP violations.
- Always dispose of in the correct manner.
  - 55-gallon drums
  - Grease interceptor
- Failure to do so can result in hefty fines and regulatory repercussions.

Inspections

Drum Contents: Used Cooking Oil	No. of 55+gal drums: _____	Date/Time:		
Location/Bldg. No.:	Containment: Sec. Cont	Inspector:		
Ellicott Dining Hall / 257	Map No.: 14	Yes	No	N/A
Drum surfaces show signs or leakage or spillage				
Drum is damaged, rusted or deteriorated				
Drum is not located on spill pallet or in containment				
Pumps, hoses, or valves are leaking				
Drum signage is missing, illegible or inaccurate				
Spill response kit inventory is incomplete				
Containment signage missing/damage				
Describe noted problems:				

Why?

- Prevent discharge of oil caused by leaks, corrosion, brittle fracture, overfill, other forms of container/equipment failure

How?

- Visual inspection completed monthly.

What are you looking for?

- Good housekeeping
- Proper storage
- Proper clean up efforts when spills occur

Examples of Failing Inspections

Spillage and absorbent around tank, no signage.

Containment not closed, spillage, no spill kit, no signage.

Containments are stained and have grease on the exterior, they are located in close proximity to the grassy areas, no spill kits.

FOG and Stormwater

WSSC… “Sanitary sewers are designed and installed with sufficient diameter to carry the normal waste discharges from a residence or business. When cooking by-products -- fats, oils, and/or grease -- are discharged to the sewer, the FOG can cool and accumulate on the interior of the sewer pipes. Over time, this accumulation of FOGs restricts the flow and causes blockages in the sewer which can result in overflowing manholes or basement backups. Sanitary Sewer Overflows (SSOs) can discharge to storm drains and creeks, which will ultimately flow to the Chesapeake Bay.”

WSSC Inspections and Enforcement

- Inspections
  - All Food Service Establishments (FSE) are subject to annual routine inspections. In addition, FSE's may be inspected at any time in response to complaints or reports of sewer blockages. During an inspection, WSSC FOG Investigators will verify that all required fixtures are connected to a grease treatment device and that the grease treatment device is adequately sized and installed according to the WSSC Code. Investigators may also review maintenance records or other documents related to the operation of the grease treatment device.

- Enforcement
  - Failure to comply with any condition of an FSE permit will subject the permittee to penalties and other enforcement action as provided for in WSSC's Food Service Establishment Enforcement Response Plan (ERP). These enforcement actions may include Notices of Violation, Compliance Directives, Civil Citations (fines up to $1,000), or termination of water and sewer service.

BMPs for FOG

Best Management Practices (BMP's)

(1) Do not pour, scrape, or otherwise dispose of fats, oils, and grease into sinks or drains.

(2) Scrape pots and pans prior to washing them.

(3) Collect fryer oil and store in barrels for recycling.

(4) Dump mop water only to drains connected to your grease abatement system.

(5) Use absorbents to soak up spills containing fats, oils, and grease.

(6) Do not put food (including liquid food) including milk shake syrups, batters, and gravy down the drain.

(7) Use strainers on sinks and floor drains to prevent solid material from entering the sewer.

(8) Post "**NO GREASE**" signs near sinks and drains.

(9) Empty the collection pan on automatic grease recovery devices before it becomes full.

(10) Provide employees with the proper equipment for cleaning your grease trap or grease recovery device.

(11) Direct wastewater generated from duct/range filter cleaning through the grease abatement system.

(12) Train all kitchen staff in best management practices for grease disposal and the impacts of grease accumulation in the sewer.

(13) Provide regular refresher training/discussion for proper disposal of fats, oils, and grease for all employees.

(14) Inspect grease abatement devices/interceptors after pumping to ensure adequate cleaning.

Oil-Water Separators

Oil/water separators (OWS) are structural devices intended to allow oils (and substances lighter than water) to be intercepted and be removed for disposal.

Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.

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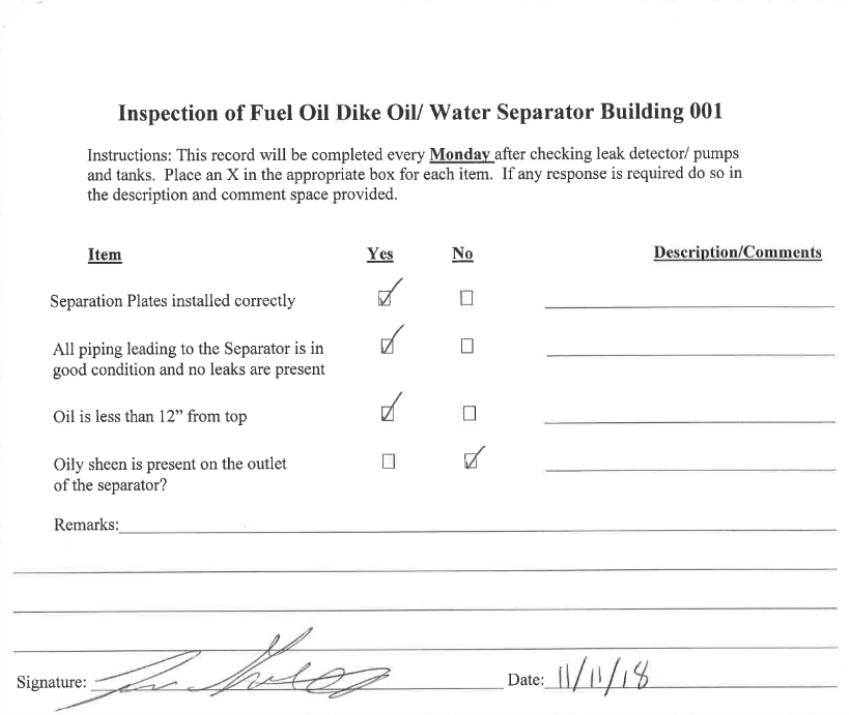

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Oil is less than 12" from top	☑	☐	
Oily sheen is present on the outlet of the separator?	☐	☑	

Remarks:

Signature: Date: 11/11/18

- Inspection done regularly
- Measured oil level
- Inspects outlet to see if there is an oil sheen

DEPARTMENT OF
ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Thank you

Thank you for completing the SPCC Training for Dining Services.
Please click here to visit the final page and conclude the training.

SPCC Rules Specific to UMD Research Farms

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Water Resources Reform and Development Act (WRRDA)

Became effective June 10, 2014.

Section 1049 of the Act changes certain applicability provisions of the SPCC rule for **farms**, and modifies the criteria under which a farmer may self-certify an SPCC Plan.

Under WRRDA:

- A farm is not required to have an SPCC Plan if it has:
  - An aggregate aboveground storage capacity less than 2,500 gallons OR
  - An aggregate aboveground storage capacity greater than 2,500 gallons and less than 6,000* gallons; and
  - No reportable discharge history.

- A farmer can self-certify the SPCC Plan if the farm has:
  - An aggregate aboveground storage capacity greater than 6,000* gallons but less than 20,000 gallons;
  - No individual tank with a capacity greater than 10,000 gallons; and
  - No reportable discharge history.

*This 6,000-gallon threshold may be adjusted by EPA, following a study to determine the appropriate exemption.

Definition of a Farm

The definition of a farm was promulgated in the December 2006 rule amendments because, at the time, EPA delayed the compliance date for farms until additional amendments to the rule were promulgated.

Additional amendments were promulgated in 2008 and farms now have the same compliance dates as other facilities.

Farm - A facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year.

Examples of Oil on a Farm

- Gasoline
- Off-road and on-road diesel fuel
- Hydraulic oil
- Lubrication oil
- Crop oil
- Vegetable oils from crops
- Adjuvant oil
- Milk*

* Milk and Milk product containers are now exempt from the SPCC capacity calculations and rule requirements

Pesticide Application Equipment

- Exempt equipment includes:
  - Ground boom applicators
  - Airblast sprayers
  - Specialty aircraft that apply measured amounts of pesticides to crops and/or soil
  - Related mix containers
- Exemption applies to all pesticide application equipment and related mix containers, regardless of ownership or where used

Motive Power Containers Exemption

- Defined as any onboard storage containers used primarily to power the movement of a motor vehicle

- Includes self-propelled agricultural, construction, and excavation vehicles; and self-propelled cranes

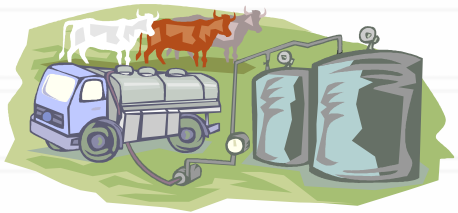
- Oil transfer activities occurring within an SPCC-regulated facility continue to be regulated

Milk and Milk Product Container Exemption

All milk and milk product containers, associated piping and appurtenances are exempt from the SPCC rule

- Excluded from facility oil storage capacity calculation when determining SPCC applicability
- Exemption also includes all milk handling and transfer activities
- Milk product examples include cheese, yogurt and ice cream

Does not impact the potential liability of milk spills



Immediately report milk and other oil spills to navigable waters or adjoining shorelines to the National Response Center (NRC) at 800-424-8802 or 202-426-2675

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ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Thank you

Thank you for completing the SPCC Training for UMD Research Farms.
Please click here to visit the final page and conclude the training.

Certificate of Completion

THIS IS TO CERTIFY THE SUCCESSFUL COMPLETION OF THE

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) ANNUAL TRAINING

DEPARTMENT OF
ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Date:

UNIVERSITY OF
MARYLAND

Website: www.essr.umd.edu

Phone: 301-405-3960

After Hours: 301-405-3555

Email: essr@umd.edu

Appendix M
Dike Drainage Instructions and Log

DEPARTMENT OF
ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

Secondary Containment Drainage Log

DEPARTMENT OF
ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

Do NOT remove the drain plug

unless draining uncontaminated stormwater (no fuel or oil).

Fill out Secondary Containment Drainage Log every time water is drained (located inside spill kit container).

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ENVIRONMENTAL SAFETY,
SUSTAINABILITY & RISK

Seneca Building
4716 Pontiac Street, Suite 0103
College Park, MD 20742
301.405.3960 TEL 301.314.9294 FAX

Instructions: The information required on this form should be recorded when water from secondary containment is drained into a storm drain or the environment. **Any fuel or oil must be cleaned up prior to discharging water.** Keep all records of drainage on file for at least 3 years.

Facility Location: _____

Date of Drainage	Time	Oil or Fuel Present? (if yes, record amount removed)	Name

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSSION AGREEMENT

APPENDIX M-2

List of Governmental Authorizations for Construction of the Phase I Capital Improvements

This list applies to construction activities only. It does not apply to Environmental Authorizations or other Governmental Authorizations, which will be governed by Section 10.1.4 and Article 11 of the Base Concession Agreement.

Construction Permits:

- Maryland General Permit for Stormwater Discharge Associated with Construction Activity (20CP0000)
- General Permit for Discharges from tanks, pipes and other liquid containment structures, dewatering activities, and groundwater remediation (General Discharge Permit No. 17HT)
- Possible air permits, depending on use of non-road engines (generators, etc.), surface coating and sand blasting
- Building permit

Construction Plans:

- Stormwater Pollution Prevention Plan
- Spill Prevention Control and Countermeasure – as required for on-site fuel storage that exceeds 1,320 gallons
    - Environmental Management Plan (for the project) including waste management plans and fugitive dust control plan
- Pollution Prevention Plan (PPP)-Required with Hydrostatic test permit

Notifications

- Maryland Asbestos Demolition Form - Notice of Intent to Demolish

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RESERVED FOR FUTURE USE

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

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APPENDIX N-2

UMD's Access to Concessionaire's Data Gathering System

Honeywell's Enterprise Buildings Integrator is Honeywell's front end Human Machine Interface for monitoring and managing the onsite Building Management Systems.

- Limited access (View Only) will be granted to a designated UMD representative operation and performance data in alignment with Project Agreement requirements. Anticipated scope to be for CEP systems.
- Honeywell will grant UMD View only access to EBI to designated individual to be discussed /negotiated during Financial close (i.e., due to license costs and to avoid any accidental changes to operational parameters or conditions.)
- Meetings will take place during Financial Close and operations to coordinate with UMD to identify specific data required. Specific data and timing to arrange access to be discussed discussed/negotiated during Financial Close
- Extract data to external file for analysis or other academic use. Can discuss format of summary information details to be discussed /negotiated during Financial Close
- Appropriate network cybersecurity details to be discussed /negotiated during Financial Close

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APPENDIX O-1

FORM OF ENERGY SERVICES TRANSITION AGREEMENT

UNIVERSITY OF MARYLAND, COLLEGE PARK
INTERIM ENERGY BRIDGING PROGRAM

ENERGY SYSTEMS TRANSITION AGREEMENT

This Energy Systems Transition Agreement ("Agreement") is entered into this ___ day of _____, 2024, by and between the UNIVERSITY OF MARYLAND, COLLEGE PARK ("UMD"), a constituent institution of the University System of Maryland ("System"), and the MARYLAND ECONOMIC DEVELOPMENT CORPORATION ("MEDCO"), a body corporate and politic and a public instrumentality of the State of Maryland, such parties being referred to in this Agreement individually as "Party" and together as "Parties."

PREAMBLE

1. On August 31, 1999, the System acting on behalf of UMD, entered into three agreements with MEDCO to implement UMD's 1999 Energy and Utility Infrastructure Program ("1999 Energy Program"): the Ground and Equipment Lease (as amended, the "Ground Lease"), the Easement Agreement (the "Easement"), and the Energy Services Agreement ("ESA").

2. To fulfill its obligations under the Ground Lease and the ESA, MEDCO entered into the Management, Operation, and Maintenance Agreement ("MOMA") with Trigen-Cinergy Solutions of College Park, LLC (predecessor in interest to College Park Energy, LLC ("Provider")).

3. The ESA and the MOMA expired on August 31, 2019, but the Ground Lease remains in effect until August 31, 2029. The Easement terminates in accordance with its terms simultaneously with the termination of the Ground Lease.

4. The Ground Lease authorizes MEDCO, following the ESA's expiration, to use and operate the Energy Systems to provide energy conversion and delivery services to UMD, and upon UMD's request, MEDCO has continued to do so. The Ground Lease further required MEDCO to maintain the Energy Systems in good order and condition, subject to the terms and conditions contained therein.

5. To establish the terms and conditions for providing conversion and delivery services for the period after the ESA and MOMA expired, UMD and MEDCO entered into the Interim Energy Systems Services Agreement ("IESSA") and MEDCO and Provider entered into the Interim Management, Operation, and Maintenance Agreement ("IMOMA"). Together, the IESSA and the IMOMA implement the UMD's Interim Energy Program. Both agreements expire on January 1, 2025.

6. In 2015, MEDCO, at the request of UMD, anticipating the expiration of the 1999 Energy Program, commissioned engineering studies to assess the condition of the Energy Systems. These studies led to the development of UMD's Next Generation Energy Program ("NextGen Program"), which seeks to advance long-term efficient, reliable, and sustainable energy production, delivery, and usage on UMD's College Park campus.

7. On November 21, 2021, UMD issued the NextGen Program's request for proposals to identify a private sector partner to design and construct capital improvements to the Energy Systems and to manage, operate, and maintain the Energy Systems for a term of up to 35 years. UMD received initial proposals in April 2022. In May 2022, it selected two finalists.

8. On October 6, 2022, in contemplation of UMD's selection of a private sector partner for the NextGen Program, and acting pursuant to Section 9.22(C) of the IMOMA, the coordinating committee for the Interim Energy Program, consisting of representatives of UMD, MEDCO, and Provider, approved a resolution establishing transition protocols ("Provider Protocols") to govern Provider's implementation of the IMOMA's provisions governing the transition of the Energy Systems from Provider to another operator at the end of the Transition Period.

9. On **[month] [day]**, 2024, the State of Maryland's Board of Public Works awarded the NextGen Program to the Maryland Energy Impact Partners LLC, a limited liability company organized under the laws of the State of Delaware ("Concessionaire"). On **[month] [day]**, 2024, UMD and Concessionaire entered into the Energy Services Concession Agreement ("Concession Agreement"), which became effective immediately upon execution by both parties.

9. The Concession Agreement commits UMD to cause MEDCO to enter into an agreement with UMD to terminate the IMOMA effective as of 11:59:59 p.m. on December 31, 2024, and execute certain certifications and other documents and deliver them to UMD as contemplated by the IESSA and IMOMA, and as conditions precedent to the Initial Financial Closing.

10. MEDCO has agreed to enter into such agreement to clarify MEDCO's role during the Transition Period with respect to the termination of the Interim Energy Program and as set forth in the IESSA, the IMOMA and the Provider Protocols, without increasing MEDCO's obligations with respect thereto, and to thereby facilitate the transition from the Interim Energy Program to the Next-Gen Program.

NOW THEREFORE, in consideration of the mutual promises and covenants of each Party to the other and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree as follows:

ARTICLE 1
PRELIMINARY MATTERS

1.1 **DEFINITIONS**. Capitalized terms utilized in this Agreement have the meanings set forth in this section.

"1999 Energy Program" has the meaning set forth in the Preamble.

"Actual Knowledge" means the actual, current knowledge of a Party's official on any date that a relevant representation or warranty is made, with the duty to inquire of his, her, or their direct reports within 5 Business Days prior to the date of such representation or warranty regarding the relevant matter, but without any other duty of inquiry or investigation. For the purposes of this definition, a direct report to a MEDCO official shall not include anyone employed by, or acting on behalf of, UMD or Provider.

"Available Funds" means the revenues, receipts, and other funds paid to MEDCO by UMD or another person or entity for the specific purpose of enabling MEDCO to pay or perform its obligations under the Ground Lease, the IMOMA, the IESSA, and this Agreement.

"Business Day" means any day that is not (a) Saturday, Sunday, or holiday for the Department of Facilities Management's administrative staff, or (b) a day upon which UMD is closed due to severe weather or the occurrence of an event of force majeure. For the purposes of payment obligations, any day designated as a holiday for banks that are members of the U.S. Federal Reserve Banking System is not a Business Day.

"Commencement" means 12:00:00 midnight on January 1, 2025 or such other date on which Concessionaire assumes responsibility for managing, operating, and maintaining the Energy Systems, as set pursuant to the Concession Agreement.

"Concessionaire" has the meaning set forth in the Preamble.

"Concessionaire-Directed Restoration" means the process, set forth in Section 5.2.2 of this Agreement, in which repairing and rebuilding the portions of the Energy Systems affected by a condemnation or the occurrence of a casualty loss is begun by Provider prior to Commencement, but is completed by Concessionaire after Commencement.

"Effective Date" means the date on which this Agreement becomes effective, which is the date on which it was executed by both Parties.

"Emergency Repairs" means a repair pursuant to IMOMA Section 11.2B that must be made to restore the safe operation of an Energy System or any portion thereof following an emergency.

"Energy Systems" means the systems providing steam, electric, and chilled water services to UMD's buildings and facilities that are identified as "MEDCO Systems" in Consolidated Appendix A of the IESSA.

"Equipment" means all apparatus, machinery, devices, fixtures, and other appurtenant equipment and personal property (other than any Records or personal property of Concessionaire or its employees) that is located on or within any portion of the Energy Systems and necessary for the proper operation and maintenance of the Energy Systems. Equipment shall include any and all engines, turbines, pumps, dynamos, motors, electrical wiring and equipment, switchgears, pipes, wires, flow and other meters, instrumentation, controls and similar items; all boilers; heating, plumbing, and ventilating apparatus; gas, electric and steam fixtures; chutes, ducts, and tanks; air cooling and air conditioning equipment; tools, building supplies, spare parts, and non-system equipment such as desks, chairs, any software and licenses relating to the use thereof, and all additions and replacements thereto.

"Full Requirements Energy Services" means Energy Services that meet all requirements by UMD Buildings for steam, heating and domestic hot water, electricity, and chilled water (as applicable) continuously, in accordance with the IMOMA.

"**Ground Lease"** has the meaning set forth in the Preamble.

"IESSA" has the meaning set forth in the Preamble.

"IMOMA" has the meaning set forth in the Preamble.

"Initial Financial Closing" means the execution of the financing documents for the NextGen Program's Phase I Capital Improvements and the fulfillment of all conditions precedent necessary to permit the advance of funds to pay for the design, engineering, construction, installation, and testing of such improvements.

"Interconnection Agreement" means the Standard Agreement for Interconnection and Parallel Operation of Generation Facilities by and between MEDCO and Pepco dated July 30, 2003, and the First Amendment thereto dated May 19, 2009.

"Interim Energy Program" means UMD's energy and utility infrastructure program that began on September 1, 2019, and continues until Commencement.

"MEDCO-Directed Restoration" means the process, set forth in Section 5.2.1 of this Agreement, in which MEDCO is required by UMD to direct Provider to repair and rebuild the portions of the Energy Systems following condemnation or the occurrence of a casualty loss in accordance with Article 14 of the IMOMA and Section 9.6 of the IESSA.

"MTA" means the Maryland Transit Administration.

"NextGen Program" has the meaning set forth in the Preamble.

"Pepco" means the Potomac Electric Power Company, the local electric distribution utility serving UMD's campus.

"Provider" has the meaning set forth in the Preamble.

"Provider Protocols" means the resolution adopted by the Interim Energy Program's coordinating committee on October 6, 2022, by representatives of UMD, MEDCO, and Provider to establish procedures and deadlines for closing out the IMOMA and transferring responsibility for managing, operating, and maintaining the Energy Systems to a successor operator. A copy of the Provider Protocols is contained in Appendix A hereto.

"Purple Line Agreement" means the Baseline Utility Owner Agreement (Relocation and Interface of MEDCO's Energy Systems and MTA's Purple Line at the University of Maryland, College Park) by and between MEDCO and the Maryland Transit Administration dated June 7, 2018.

"Records" means all information and data, whether stored on computer, electronic media, audio tape, video tape, paper, cloud-based or other storage device, or other form, including, but not limited to, financial and accounting records and all ledgers, banks statements, journals, requests for proposals or bids and responses (for both successful and unsuccessful subcontractors and suppliers), insurance policies, written policies and procedures, Subcontractor agreements and invoices, payroll documents, timesheets, books, documents, minutes, and correspondence, instructions, manuals, schedules, receipts, memoranda, as-built documents, operations plans and the components thereof, standard operating procedures, and operating manuals, reports, test results, construction schedules, documentation of claims and claim costs asserted by or against UMD, MEDCO, or Provider, back charge logs, daily job logs and diaries, time cards, records, reports, and data required to be prepared and maintained by law, and, other information and data in any matter relating to performance of the IESSA or the IMOMA and the services provided thereunder.

"Scheduled Capacity Test" means a performance test to determine the capacity of a steam production unit, an electric power production unit, or a chilled water production unit that is conducted at times specified in the IMOMA and the Provider Protocols.

"Transition Period" means the period beginning on the effective date of the Concession Agreement and ending at Commencement.

"Transition Training Charge" means Provider's charge for training Concessionaire's personnel to assume the management, operation, and maintenance of the Energy Systems pursuant to Section 9.22D of the IMOMA and Section 4.4.2 of this Agreement.

"Workforce" means those individuals performing management, operation, and maintenance activities and related services pursuant to the IMOMA, either as employees or contract workers.

1.2 TERM. This Agreement shall become effective on the Effective Date and shall continue in effect through Commencement or such other time set by the Parties and memorialized in writing. UMD promptly shall notify MEDCO of the effective date of the Concession Agreement and the scheduled date of Commencement, together with any adjustments thereto.

1.3 CONDITION OF ENERGY SYSTEMS AT COMMENCEMENT. Upon written request by UMD, MEDCO shall notify Provider to perform Provider's obligations under the IMOMA and the Provider Protocols. Upon and in accordance with UMD's direction and UMD's provision of Available Funds, MEDCO shall take such actions as directed to enforce such obligations; provided, however, MEDCO shall have no liability for the results of any such enforcement actions. MEDCO shall deliver the Energy Systems to UMD at Commencement in their current condition at that time and shall assign to UMD, without representation or warranty, any ongoing work relating thereto.

1.4 FINAL TRANSITION PLAN. MEDCO shall promptly deliver to Concessionaire the final transition plan prepared by Provider and submitted by Provider to MEDCO in accordance with Section 9.0 of the Provider Protocols.

1.5 LIMITATION ON MEDCO'S OBLIGATIONS AND LIABILITIES. MEDCO's obligations and liabilities under this Agreement are limited; in no event shall MEDCO have personal pecuniary liability for any obligation or liability to pay any sums of money to UMD, Concessionaire, Provider or any other person or to perform any obligation that cannot be performed without the payment of money, except to the extent of Available Funds. MEDCO's obligation to take any action under this Agreement, the IMOMA, the IESSA and the Provider Protocols shall be limited to providing notice and demands to Provider, responding to requests from UMD for information, and instituting legal proceedings against Provider under the IMOMA and Provider Protocols, all at UMD's request and expense, to the extent of Available Funds, and MEDCO shall be fully reimbursed by UMD for any cost or expense incurred by MEDCO in connection therewith, it being recognized by UMD that MEDCO's ability to enforce the IMOMA against Provider are limited to the terms of the IMOMA. Furthermore, no member, officer, director, employee, agent, or representative of MEDCO shall have any personal or individual liability for any obligation, liability, or other matter hereunder because of their execution hereof or any actions hereunder or in furtherance hereof. This Section shall be a limitation on all MEDCO's payment and performance obligations set forth in this Agreement, shall be deemed to be

incorporated into each section of this Agreement that provides for MEDCO to make a payment of any type or carry out any obligation, and shall supersede any provision to the contrary set forth herein and shall be in addition to and not in limitation of any limitations set forth in the IMOMA and IESSA. Nothing in this Agreement, unless expressly provided herein as to notwithstanding anything to the contrary in the IMOMA or IESSA, as applicable, shall modify MEDCO's obligations under the IMOMA or IESSA. In making the certifications herein, MEDCO is doing so in reliance on the limitations of MEDCO's liability set forth in Section 1.4 of the IESSA and UMD's continuing obligation under the IESSA to reimburse MEDCO for all MEDCO Reimbursable Costs. Any costs or damages incurred by MEDCO in connection with MEDCO's certifications and obligations under this Agreement shall constitute MEDCO Reimbursable Costs. The provisions of this Section shall survive termination or expiration of this Agreement.

1.6 Transition Cost Reimbursement. MEDCO's expenses for performance of its obligations under this Agreement, including facilitating communication and deliveries to Concessionaire; accounting and reporting of the transition activities; and facilitating and documenting insurance claims, shall be considered to be MEDCO Reimbursable Costs under IESSA Section 10.3B.

ARTICLE 2
INTERIM ENERGY PROGRAM TERMINATION

2.1 GROUND LEASE TERMINATION. In accordance with Ground Lease Section 2.1.1, the Parties hereby agree that the Ground Lease shall terminate at 11:59:59 p.m. on December 31, 2024 unless UMD has notified MEDCO of another date pursuant to Section 1.2 hereof. No later than 14 days following such termination, MEDCO shall record in the land records of Prince Georges County, Maryland a termination memorandum in the form contained in Appendix B hereto, which shall reference the termination of both the Ground Lease and the Easement.

2.2 IMOMA TERMINATION. Promptly following the Concession Agreement's effective date, UMD shall notify MEDCO, and MEDCO shall notify Provider, to confirm termination of the IESSA and the IMOMA on December 31, 2024.

2.3 ASSIGNMENT OF THIRD-PARTY AGREEMENTS.

2.3.1 *INTERCONNECTION AGREEMENT*. Promptly upon receipt of the notice given by UMD pursuant to Section 2.2, MEDCO shall notify Pepco of the termination of the Interim Energy Program, the transfer of MEDCO's ownership rights in the Energy Systems' electric generation, distribution, and interconnection Equipment to UMD, the termination of MEDCO's rights under the Ground Lease, and the replacement of the Provider by Concessionaire, all of which shall be effective at Commencement. MEDCO shall request Pepco's consent to MEDCO's assignment of all its right, title, and interest in the Interconnection Agreement to UMD

pursuant to Section 9.5 of the Interconnection Agreement. Upon receipt of Pepco's written consent and at UMD's expense, MEDCO shall execute all documents and take all actions necessary to complete such assignment and shall promptly provide Pepco and UMD copies thereof. MEDCO shall be deemed to have satisfied its obligations hereunder by sending the notice to Pepco and executing and delivering any assignment document that may be reasonably required, as long as such assignment does not provide for any liability of MEDCO remaining thereunder except to the extent of claims covered by insurance held by MEDCO thereunder and still in force and effect, which claims shall be assigned to UMD to the extent practicable.

2.3.2 *PURPLE LINE AGREEMENT*. Promptly upon receipt of the notice given by UMD pursuant to Section 2.2, MEDCO shall notify the MTA of the termination of the Interim Energy Program, the transfer of MEDCO's ownership in the Energy Systems to UMD, the termination of MEDCO's rights under the Ground Lease, the replacement of the Provider by Concessionaire, and the assignment of MEDCO's right, title, and interest in the Purple Line Agreement to UMD, all of which shall be effective at Commencement. MEDCO shall be deemed to have satisfied its obligations hereunder by sending the notice to MTA and executing and delivering any assignment document that may be reasonably required, as long as such assignment does not provide for any liability of MEDCO remaining thereunder except to the extent of claims covered by insurance held by MEDCO thereunder and still in force and effect, which shall be assigned to UMD to the extent practicable.

2.3.3 *OTHER AGREEMENTS.* Pursuant to IESSA Section 9.22B(6), and upon notice from UMD, MEDCO shall notify and request Provider to assign to Concessionaire all contracts with vendors, subcontractors, or others relating to the management, operation, and maintenance of the Energy Systems, and any warranties of such vendors, subcontractors, and others, to the extent such contracts and warranties are assignable and all requisite consents have been obtained.

ARTICLE 3
RECORDS; INSPECTIONS

3.1 **ACCESS TO RECORDS.** In accordance with Section 9.22 of the IMOMA and Section 4.3 of the Provider Protocols, upon UMD's request, MEDCO shall notify and request Provider to furnish Concessionaire and its representatives with such financial and operating data and other Records as such parties may from time-to-time reasonably request and as instructed by UMD. Neither UMD nor MEDCO shall be obligated to permit Concessionaire or its representatives access to Records that Provider has designated and marked as confidential proprietary information in accordance with the Article 8 of the IMOMA. MEDCO shall have no liability to UMD for Provider's failure to furnish such Records.

3.2 **DELIVERY OF RECORDS.** In accordance with Sections 4.1 and 4.3 of the Provider Protocols, UMD shall notify MEDCO which Records, databases, and computer programs must be delivered or transferred to Concessionaire, and the deadline for, and manner of, such delivery. Upon receipt of UMD's notice, MEDCO shall notify and request Provider to deliver such Records and transfer such databases and programs to Concessionaire in accordance with Section 4.3 of the Provider Protocols. If requested or permitted by Concessionaire, MEDCO may direct Provider to provide Concessionaire with electronic versions of the Records in lieu of physical delivery in accordance with Section 4.3(b) of the Provider Protocols.

3.3 **INSPECTION OF THE ENERGY SYSTEMS.**

3.3.1 *ACCESS TO THE ENERGY SYSTEMS.* In accordance with Section 8.2 of the IMOMA and Section 3.4 of the Provider Protocols, at the request of UMD, MEDCO shall notify Provider to provide Concessionaire and any Person designated by Concessionaire reasonable access, during normal business hours and on reasonable prior notice, to inspect the Energy Systems provided that such parties comply with the policies and regulations of UMD and Provider regarding safety and security. Prior to obtaining access, UMD shall request Concessionaire to provide MEDCO and Provider certificates of then-current liability insurance applicable to its representatives' inspection in coverage amounts not less than $2,000,000 per occurrence and in aggregate, coverage shall include MEDCO, UMD, and Provider as additional insured parties thereunder and shall waive subrogation in favor of MEDCO, UMD, and Provider. Such inspections shall not interfere with Provider's performance of its obligations under the IMOMA. MEDCO shall have no obligation hereunder except to notify Provider and request such access.

3.3.2 *REVIEW OF RECORDS DURING INSPECTION.* During any inspection, Concessionaire or its designees may reasonably request to review operating and maintenance Records. Upon UMD's request, MEDCO shall notify and request Provider to facilitate such review in accordance with the IMOMA and Provider Protocols, provided that Provider shall not be obligated to permit review of confidential and proprietary information that Provider has marked as confidential and proprietary in accordance with the IMOMA. MEDCO shall have no obligation hereunder except to notify Provider and request such review.

ARTICLE 4
CONTINUITY OF OPERATION

4.1 **PROVIDER PREPARATION FOR COMMENCEMENT.** If UMD notifies MEDCO that Provider is not complying with its obligations under the IMOMA or the Provider Protocols regarding the transfer of the Energy Systems' operation to a successor operator, MEDCO shall notify and request Provider, at Provider's sole cost and expense, to perform all of its obligations set forth in IMOMA Section 9.22 to deliver the MEDCO Systems to Concessionaire.

4.2 **PERFORMANCE TESTS.** Upon request by UMD, MEDCO shall notify and request Provider to allow Concessionaire to witness all Scheduled Capacity Tests conducted throughout the Transition Period pursuant to the requirements of the IMOMA, including tests and inspections identified in the Final Transition Plan that are required to be conducted by Provider. MEDCO shall provide UMD with the test results, any report analyzing such results, and any list of recommended repairs and replacements identified by such report, to the extent received by MEDCO from Provider. Prior to attending any tests and inspections, any party attending shall provide to MEDCO and Provider certificates of liability insurance (unless such certificates have been previously provided within the prior 30 days) and shall agree in advance to follow all Provider and UMD safety protocols during any such tests and inspections.

4.3 **INVENTORIES.** Upon the request of UMD, MEDCO shall notify and request Provider to perform the following responsibilities pursuant to Section 5.0 of the Provider Protocols, which include: (a) to prepare and deliver inventory lists to Concessionaire; (b) to participate in an inspection of the Energy Systems and Provider's storage areas to confirm the accuracy of such lists; (c) to procure any spare parts necessary to transfer a complete and intact spare parts inventory to Concessionaire no later than Commencement; and (d) to complete such transfer along with any passwords, training, licensing, title transfers, or credentialing associated therewith. MEDCO shall have no liability to UMD or Concessionaire if it has delivered the request as described herein.

4.4 **WORKFORCE.** Upon the request of UMD, MEDCO shall notify and request Provider to perform the following responsibilities pursuant to Section 6.0 of the Provider Protocols, which include (a) delivering Workforce member information specified in Section 6.1 and 6.2 thereof; (b) permitting Workforce members to interview for employment with the successor operator during normal work hours pursuant to Section 6.3 of the Provider Protocols; and, (c) if requested by UMD, providing training and orientation of the successor operator's personnel in accordance with Section 6.4 of the Provider Protocols and Section 9.22D of the IMOMA.

4.5 **INSURANCE.** MEDCO shall continue in effect throughout the Transition Period all insurance coverages currently maintained by MEDCO (it being acknowledged by UMD that the coverages required under the IESSA and IMOMA are not all generally available at commercially reasonable rates for reasons that include the claims history of the Energy Systems). MEDCO shall terminate, and shall notify Provider to terminate, all such policies effective at Commencement. MEDCO shall have no liability to UMD for failing to obtain any such required coverages, and MEDCO shall be deemed to have satisfied its obligations to insure in full so long as it has attempted to obtain such coverages. At Commencement, MEDCO shall notify UMD of the status of any outstanding claims, and UMD shall take an assignment of such claims, and shall obtain any waivers of subrogation against MEDCO and release MEDCO of any liability or obligation with respect to such claims.

ARTICLE 5
MATERIAL IMPAIRMENT; CASUALTY LOSS

5.1 **MATERIAL IMPAIRMENT OF PERFORMANCE.** During the Transition Period, MEDCO shall direct Provider to notify UMD promptly of any change in the Energy Systems that materially impairs the performance of Equipment or materially reduces the capacity of the MEDCO Systems (including, but not limited to, damages by casualty or condemnation). The Parties acknowledge and agree that any notice provided in the weekly collaboration meetings among the Coordinating Committee's members shall be deemed to satisfy the requirement to notify UMD.

5.2 **CASUALTY LOSS.** During the Transition Period, upon the occurrence of a casualty loss or condemnation of all or a portion of the Energy Systems, the terms of Article 14 of the IMOMA shall control, and MEDCO shall provide only such instructions to Provider as requested in writing by UMD. If UMD notifies MEDCO that it has decided to permit the Concessionaire to conduct any restoration activities related to a casualty loss event, MEDCO shall:

(a) Notify and authorize Provider to make only such Emergency Repairs as directed by UMD to restore deliveries of Full Requirements Energy Services to the UMD Buildings on a temporary basis and pay Provider for such work in accordance with the IMOMA; and

(b) At Commencement, assign to UMD all insurance, condemnation, and other proceeds (if any) payable by third-party insurers or other third parties (less the cost of Provider's Emergency Repairs and any MEDCO Reimbursable Expenses). Following Commencement, MEDCO shall cooperate with UMD to enforce all of its rights, remedies, and privileges under any applicable insurance policies.

ARTICLE 6
FACILITATION OF INITIAL FINANCIAL CLOSING

6.1 **NOTIFICATION OF INITIAL FINANCIAL CLOSING.** No later than 5 Business Days following the Concession Agreement's effective date, UMD shall notify MEDCO of the date of the Initial Financial Closing. UMD shall notify MEDCO promptly of any acceleration or postponement of that date.

6.2 **DELIVERY OF CERTIFICATIONS.** No later than 5 Business Days prior to the Initial Financial Closing, MEDCO shall deliver to UMD a fully executed certificate substantially in the form contained in Appendix C.

6.3 **LIMITATION OF MEDCO'S OBLIGATIONS.** MEDCO shall not be required to take any action, give any consent, or execute any document inconsistent with the IESSA or this Agreement or incur any obligations or liabilities that are not satisfied or indemnified by UMD.

ARTICLE 7
MISCELLANEOUS PROVISIONS

7.1 **NOTICES.** Any notice required to be given pursuant to this Agreement shall be given to the persons, by the means, and according to the procedures set forth in IESSA Section 16.3.

7.2 **SEVERABILITY.** The provisions of this Agreement are severable. If any paragraph, section, subdivision, sentence, clause, or phrase of this Agreement is for any reason held to be invalid, illegal, or unenforceable in any respect, such decision shall not affect, or render void, the remaining portions of this Agreement. In such event, the Parties shall negotiate in good faith and agree to such amendments, modifications, or supplements as shall be necessary to give maximum effect under the circumstances to the Parties' intent in this Agreement.

7.3 **EXECUTION OF DOCUMENTS.** This Agreement may be executed in any number of duplicate originals, any of which shall be regarded for all purposes as an original and all of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the Parties have executed this Agreement as of the date and year first above written.

UNIVERSITY OF MARYLAND, COLLEGE PARK

/s/ _____ Witness

By: _____
Kimberly Watson Date
Assistant Vice President of Procurement and Business Services

MARYLAND ECONOMIC DEVELOPMENT CORPORATION

/s/ _____ Witness

By: _____
J. Thomas Sadowski Date
Executive Director

Approved as to form and legal sufficiency this ____ day of _____, 2024

By: /s/ _____

Daniel Leland Kaiser
Associate General Counsel

UNIVERSITY OF MARYLAND, COLLEGE PARK
INTERIM ENERGY BRIDGING PROGRAM

ENERGY SYSTEMS TRANSITION AGREEMENT
APPENDIX A

PROVIDER PROTOCOLS

UNIVERSITY OF MARYLAND, COLLEGE PARK

INTERIM ENERGY BRIDGING PROGRAM

RESOLUTION OF THE PROGRAM COORDINATING COMMITTEE

October 6, 2022

On October 6, 2022, the Coordinating Committee for the University of Maryland, College Park Interim Energy Bridging Program (the "**Committee**"), consisting of representatives of the University of Maryland, College Park ("**UMD**"), the Maryland Economic Development Corporation ("**MEDCO**"), and College Park Energy, LLC (the "**Provider**"), convened by video conference and adopted the following resolution regarding Provider's performance of its obligations under Section 9.22 of the Interim Management, Operation, and Maintenance Agreement between MEDCO and the Provider dated May 3, 2019, as amended (the "**IMOMA**"), and the Committee's fulfillment of its responsibility under IMOMA Section 5.1A(7) for coordinating the transfer of the responsibility for managing, operating, and maintaining the MEDCO Systems (as defined in the IMOMA) to a successor provider/operator ("**Successor")** (if such transfer is required).

This Resolution fulfills the obligation of MEDCO and Provider under IMOMA Section 9.22C to enter a Memorandum of Understanding that establishes protocols and deadlines for closing out the IMOMA and transferring the MEDCO Systems to a Successor.

RESOLUTION

WHEREAS, IMOMA Section 9.22C sets forth the obligation for MEDCO and Provider to enter into a memorandum of understanding that establishes the protocols for closing out the IMOMA; and,

WHEREAS, IMOMA Section 5.1A(7) confers on the Coordinating Committee the obligation to coordinate the transition of the management, operation, and maintenance of the MEDCO Systems to a Successor at the end of the Term; and,

WHEREAS, fulfilling this obligation requires development of a transition plan that includes the information set forth in Section 9.22C and specifies a process for completing the tasks set forth in Sections 9.22A, 9.22B, and 9.22D (the "**Transition Plan**"); and,

WHEREAS, development of such Transition Plan will involve the compilation of required information, the identification of specific tasks and deadlines by which such tasks must be completed, the assignment of responsibility for such tasks to individuals or positions, and the development of a schedule for the transition,

NOW THEREFORE BE IT RESOLVED that the Committee adopts the following Transition Protocols:

1.0 Definitions. Unless otherwise noted, capitalized terms in these Transition Protocols are defined in IMOMA Consolidated Appendix A.

2.0 Performance Tests and Inspections.

2.1 Required Performance Tests and Inspections. The list of Performance Tests and inspections that must be conducted prior to end of the Term are listed in Exhibit A along with Provider's current schedule for conducting such tests and inspections. Provider will perform such Performance tests and inspections in accordance with this schedule (as it may be modified by the Parties pursuant to Section 2.2 below).

2.2 Updated Performance Tests and Inspections Schedule. No later than 30 days following its receipt of the Notice of Termination ('**Notice Date**"), Provider will update and deliver to MEDCO and UMD an updated Exhibit A that lists dates for the completion of any required Scheduled Capacity Tests and other required inspections along with any necessary repairs or replacements identified by the results of such tests and inspections (normal wear and tear excepted), prior to the end of the Term.

3.0 MEDCO Systems Condition.

3.1 Good Working Order. Provider shall manage, operate, and maintain the MEDCO Systems in accordance with the IMOMA so that at the end of the Term, Provider delivers the MEDCO Systems to MEDCO or MEDCO's designee in good working order (normal wear and tear excepted) in accordance with Generally Accepted District Energy System Practices and in compliance with the Laws, Governmental Authorizations, and the IMOMA.

3.2 Mandatory Repairs/Emergency Repairs.

(a) No later than November 1, 2022, Provider will deliver to MEDCO and UMD for review and comment the following information:

(1) A proposed list of Mandatory Repairs that must be completed for the MEDCO Systems to be in good working order (normal wear and tear excepted) as required by IMOMA Section 9.22A; and,

(2) A proposed schedule for completing each Mandatory Repair before the end of the Term.

(b) No later than 30 days following the Notice Date, Provider will deliver to MEDCO and UMD updated versions of this list and schedule and, upon receiving their approval of these documents (to the extent such approval is required under the IMOMA), will complete the listed repairs no later than 30 days prior to the end of the Term.

(c) During the 30-day period immediately before the end of the Term, Provider shall undertake only those Emergency Repairs necessary to restore

uninterrupted heating, cooling, or electric service to UMD on a temporary basis unless otherwise directed by MEDCO.

3.3 Notice of Material Impairment. Provider shall notify UMD promptly of any change in the Energy Systems that materially impairs the performance of Equipment or materially reduces the capacity of the MEDCO Systems (including, but not limited to, damages by casualty or condemnation), provided that nothing in this Section shall affect in any way the deadlines for Provider's response to Service Calls.

3.4 Inspections. Provider shall provide Successor and any Person designated by Successor reasonable access, during normal business hours and on reasonable advance notice, to inspect the MEDCO Systems, provided that UMD causes the Successor to comply with the policies and regulations of UMD and Provider regarding safety and security.

4.0 Electronic Records and Computer Programs.

4.1 List of Records and Programs. No later than November 1, 2022, Provider will deliver to MEDCO and UMD:

(a) In accordance with IMOMA Section 9.22C(3), a list of Records, databases, and computer programs currently maintained by Provider that will be transferred or assigned to the Successor; and,

(b) A list of all Records created or maintained by Provider that will be delivered to MEDCO or MEDCO's designee pursuant to IMOMA Section 9.22B(5).

4.2 Updated List. No later than 30 days following the Notice Date, Provider will deliver to MEDCO and UMD an updated version of the information required by Section 4.1 above.

4.3 Delivery of Records.

(a) In accordance with IMOMA Section 9.22B(5) and upon its receipt of written notice by MEDCO, Provider will deliver to MEDCO (or another person or entity designated by MEDCO) all Records created or maintained by Provider and required for MEDCO to assume the management, operation, and maintenance of the MEDCO Systems, including the database for the CMMS, provided that Provider will not be obligated to deliver Records containing information protected from disclosure pursuant to IMOMA Section 8.2A. MEDCO will protect the Provider's confidential and proprietary information in accordance with IMOMA Section 8.4A. provided that Provider has marked such information in accordance with that Section.

(b) Provider may provide MEDCO or MEDCO's designee electronic versions of the Records subject to Section 4.3(a) in lieu of physical delivery.

4.4 Real-Time Operating Data. UMD may provide Successor electronic access to the MEDCO Systems' real-time operating data. Provider shall not take any action to restrict or prevent Successor's access to such data.

5.0 Maintenance, Repair, and Operating Inventory; Equipment and Vehicles.

5.1 Required Inventories and Lists.

(a) No later than November 1, 2022, Provider will deliver to MEDCO and UMD:

(1) An updated inventory of the tools, chemicals, vehicles, keys, access cards, and other equipment and supplies necessary for the management, operation, and maintenance of the MEDCO Systems; and,

(2) A list of the type and number of spare parts Provider stores on or near the Premises to fulfill its obligation under IMOMA Section 9.8A to document, purchase, and maintain a spare parts inventory that is sufficient to meet the day-to-day requirements and reasonably foreseeable breakages or failures of the MEDCO Systems throughout the Term.

(3) An inventory of the spare parts on hand as of September 15, 2022.

(b) No later than 30 days following the Notice Date, Provider shall deliver to MEDCO, UMD, and the Successor an updated version of the documents identified in Section 5.1(a) reflecting information and spare parts levels on hand as of the delivery date.

(c) No later than two months prior to end of the Term, Provider will deliver to MEDCO, UMD, and the Successor a version of the documents required in Section 5.1(a) reflecting information and spare parts levels on hand as of that date.

5.2 Transfer to Successor.

(a) No later than 30 days before the end of the Term, Provider and the Successor will inspect the Energy Systems and Provider's storage areas to confirm that the tools, chemicals, vehicles, keys, access cards, equipment, supplies, and spare parts listed on the documents identified in Section 5.1(a) are present on the Premises in the stated quantities. If the quantity of any spare parts is less than the quantity identified pursuant to Section 5.1(b), Provider will procure such spare parts as necessary to fulfill its obligation under IMOMA

Section 9.8A to transfer a complete and intact spare parts inventory to the Successor no later than Commencement.

(b) At the end of the Term, Provider will transfer all property listed in the documents identified in Section 5.1(a) to the Successor along with any password, training, licensing, title transfers, or credentialing, associated therewith.

6.0 Workforce.

6.1 Workforce Headcount and Position List. No later than November 1, 2022, Provider will deliver to MEDCO and UMD a list of the then-current headcount, any open positions, and the job titles or descriptions held by its workforce members who manage, operate, and maintain the MEDCO Systems.

6.2 Workforce Member Information. No later than 30 days following the Notice Date, Provider will deliver to MEDCO and UMD updated information regarding then-current headcount, any open positions, and the job titles or position descriptions for each member of Provider's workforce.

6.3 Workforce Transfer. If requested by a Provider employee, Provider shall permit such employee to interview for employment with the Successor Operator during Normal Work Hours, so long as such interview does not unreasonably interfere with Provider's operations or its ability to meet its obligations under the IMOMA.

6.4 Training. Upon MEDCO's reasonable request, Provider will provide such training and orientation of the Successor's personnel as reasonably necessary to allow the Successor to fully understand and assume the complete management, operation, and maintenance of the MEDCO Systems. Attached hereto as Exhibit B is a preliminary list of options and related costs for such training. ("**Training Options**"). No later than 30 days following the Notice Date, Provider will update and deliver to MEDCO and UMD a list of final Training Options and related costs. Upon receipt of a written notice by MEDCO approving the updated plan and estimated costs and advising Provider of the existence of adequate Available Funds to pay Provider the Transition Training Charge, Provider will implement the Training Option selected by the Successor to the extent required under, and otherwise in accordance with, IMOMA Section 9.22(D).

7.0 Transition Schedule.

7.1 Preliminary Schedule. No later than November 1, 2022, Provider will deliver to MEDCO and UMD a list of the specific individual tasks necessary for Provider to successfully transfer the management, operation, and maintenance of the MEDCO Systems to a Successor pursuant to the IMOMA, including those required tasks not specifically addressed by these Transition Protocols. For each task, Provider will identify the member(s) of its workforce (by position or job title) responsible for the task's completion and deadline for such completion. For the purposes of this list,

Provider will designate the Notice Date as Day 1 and set dates with reference to the number of days following the Notice Date (*e.g.*, Day 10, Day 42, etc.).

7.2 Final Schedule. No later than 30 days following the Notice Date, Provider, in cooperation with MEDCO, UMD, and the Successor, will revise the list prepared pursuant to Section 7.1 above to reflect specific dates and responsible persons and will implement it as approved by the Coordinating Committee.

8.0 Transition Coordination Conferences. The Committee recognizes that transfer of the responsibility for managing, operating, and maintaining the MEDCO Systems will require close coordination with the Successor. Upon designation of a Successor, MEDCO will convene the Coordinating Committee at least monthly to coordinate the transition of the management, operation, and maintenance of the MEDCO Systems to a Successor pursuant to IMOMA Section 5.1A(7). MEDCO will invite one or more representatives of the Successor to attend each such meeting.

9.0 Final Transition Plan. Provider will compile all final documents due 30 days after the Notice Date into a single document entitled "Final Transition Plan" for delivery to MEDCO and UMD.

10.0 Continued Review. The Committee will take such other actions as the members may unanimously agree are necessary, to prepare the MEDCO Systems for a transfer to a Successor as required pursuant to the IMOMA and to add and/or update exhibits to this MOU, including the adoption of additional or revised protocols.

11.0 Relationship to the IMOMA. The Committee intends these protocols to implement the IMOMA's provisions governing the transfer of responsibility for the MEDCO Systems. The protocols do not supplant or amend any provision of the IMOMA and Provider shall perform all of its obligations thereunder. The IMOMA prevails in the event of a conflict between these protocols and its provisions.

ADOPTED THIS 6th of October, 2022, by the Coordinating Committee for the University of Maryland, College Park's Interim Energy Bridging Program.

By_____

Name:

MEDCO Representative

By_____

Name:

UMD Representative

By_____

Name:

Provider Representative

UNIVERSITY OF MARYLAND, COLLEGE PARK
INTERIM ENERGY BRIDGING PROGRAM

ENERGY SYSTEMS TRANSITION AGREEMENT
APPENDIX B

FORM OF MEMORANDUM OF GROUND LEASE TERMINATION

Prepared by, recording requested by, and
return to:

Kimberly J. Min
Whiteford, Taylor & Preston, LLP
7 St. Paul Street
Suite 1900
Baltimore, Maryland 21202

Phone: 410-347-8751

MEMORANDUM AND NOTICE OF LEASE AND EASEMENT TERMINATION

THIS NOTICE is entered into and provided by the State of Maryland to the use of the University System of Maryland, on behalf of the University of Maryland, College Park, as Lessor, and the Maryland Economic Development Corporation, as Lessee, of the termination of (i) that certain Ground and Equipment Lease dated the 31st day of August, 1999 ("Ground Lease") under which Lessor leased to Lessee certain real property owned by Lessor and located in Prince George's County, Maryland, which real property is described in Exhibit A attached hereto; and (ii) that certain Easement Agreement dated the 31st date of August, 1999, by and between Lessor and Lessee ("Easement") under which Lessor granted an easement to Lessee for the construction and installation of certain improvements, recorded in the Land Records of Prince George's County at Liber ___, folio ___.

This MEMORANDUM OF LEASE AND EASEMENT TERMINATION is prepared and recorded for the sole purpose of imparting notice of the termination of the Ground Lease and the Easement by agreement of the parties on the ___ day of _____, 202__.

IN WITNESS WHEREOF, on this ___ day of _____, 202__.

UNIVERSITY SYSTEM OF MARYLAND

_____
[name]
Date: [Month] [Day], 202__

MARYLAND ECONOMIC DEVELOPMENT CORPORATION

By:_____
J. Thomas Sadowski
Executive Director

Date: [Month] [Day], 202__

Attorney's Certification

This Lease was reviewed and approved by an attorney licensed to practice law in the State of Maryland.

_____
Daniel Leland Kaiser

Approved as to form and legal sufficiency this _____ day of _____. 202___.

_____
Jeffrey Palkovitz, Assistant Attorney General

STATE OF MARYLAND
COUNTY OF PRINCE GEORGE'S TO WIT:

On this __ day of _____, 20__, before me the undersigned officer, personally appeared _____, known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged _____to be the _____, and, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the University System of Maryland, in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

STATE OF MARYLAND
COUNTY OF BALTIMORE TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared J. Thomas Sadowski known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Executive Director of the Maryland Economic Development Corporation and being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the Maryland Economic Development Corporation by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

UNIVERSITY OF MARYLAND, COLLEGE PARK
INTERIM ENERGY BRIDGING PROGRAM

ENERGY SYSTEMS TRANSITION AGREEMENT
APPENDIX C

FORM OF CERTIFICATE OF THE
MARYLAND ECONOMIC DEVELOPMENT CORPORATION

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM
INITIAL FINANCIAL CLOSING

FORM OF CERTIFICATE OF THE
MARYLAND ECONOMIC DEVELOPMENT CORPORATION

This Certificate is being executed and delivered by the undersigned Executive Director of the Maryland Economic Development Corporation ("MEDCO"), a body corporate and politic and a public instrumentality of the State of Maryland, in connection with the Initial Financial Closing for the NextGen Energy Program of the University of Maryland, College Park ("UMD"). Unless the context hereof clearly dictates a contrary meaning, all capitalized terms used herein are defined in the Energy Systems Transition Agreement dated [date], 2024 by and between MEDCO and UMD ("Transition Agreement).

1.0 GENERAL

1.1 ***Executive Director.*** I am MEDCO's duly appointed, qualified, and acting Executive Director and the signature set forth in the space indicated for my signature below is my true and genuine signature.

1.2 ***MEDCO***. MEDCO is a body politic and corporate, and a public instrumentality of the State of Maryland created pursuant to the Annotated Code of Maryland, Economic Development Article, §§10-101 – 10-133 that has the power and authority to conduct its business as it is being conducted.

1.3 ***UMD's Energy Programs*****.**

(a) On August 31, 1999, the State of Maryland (to the use of the University System of Maryland on behalf of the UMD) as Landlord and MEDCO as Named Tenant, entered into two agreements to implement UMD's 1999 Energy and Utility Infrastructure Program ("1999 Program"): the Ground and Equipment Lease (the "Ground Lease') and the Easement Agreement (the "Easement"). Concurrently, UMD and MEDCO entered into the Energy Services Agreement ("ESA").

(b) The Ground Lease leases certain then-existing energy production facilities and distribution systems ("Energy Systems") located on UMD's campus to MEDCO. Under the ESA, MEDCO was obligated to cause certain energy services to be delivered to UMD. Completion of capital improvements was

necessary to provide those service throughout the 1999 Program's term. MEDCO was obligated to finance and own all such capital improvements.

(c) To fulfill its obligations under the Ground Lease and the ESA, MEDCO entered into the Management, Operation, and Maintenance Agreement ("MOMA") and the Design and Construction Agreement ("DCA") with Trigen-Cinergy Solutions of College Park, LLC. (predecessor in interest to College Park Energy, LLC) ("Provider").

(d) To finance its obligation under the DCA to make capital improvements to UMD's energy systems, on June 14, 2001, MEDCO issued Utility Infrastructure Revenue Bonds (University of Maryland, College Park Project) 2001 Series ("Bonds"). MEDCO refinanced the Bonds in 2011.

(e) The Bonds, as refunded, reached maturity and were repaid fully on July 1, 2019. The ESA and the MOMA expired on August 31, 2019. The Ground Lease and the Easement, however, remained in effect. Unless terminated by agreement of MEDCO and the University System, the Ground Lease will expire on June 30, 2029. The Easement terminates or expires concurrently with the Ground Lease.

(f) The Ground Lease required MEDCO to continue to provide energy services to UMD after the end of the 1999 Energy Program. To establish the terms and conditions for such continuation, UMD and MEDCO entered into the Interim Energy Systems Services Agreement ("IESSA") and MEDCO and Provider entered into the Interim Management, Operation, and Maintenance Agreement ("IMOMA"). Together, the IESSA and the IMOMA implement UMD's Interim Energy Bridging Program ("Interim Program"). Both agreements expire on June 30, 2024.

2.0 SPECIFIC CERTIFICATIONS. In making the following certifications, MEDCO is not making any representation or warranty relating to the performance of Provider or relating to the condition, operation and maintenance of the Energy Systems. MEDCO is not assuming any obligation to inquire of Provider with respect to any of the certifications made hereunder, it being acknowledged by UMD that UMD has had direct communications with Provider regarding the condition, operation and maintenance of the Energy Systems, and UMD has provided Concessionaire with all material information and communications provided by MEDCO regarding such condition, operation, and maintenance to UMD.

2.1 ***No Outstanding Bonds.*** There are no outstanding Bonds that are encumbered by, or are otherwise secured by, the revenues or other assets of any portion of the Energy Systems.

2.2 ***Transition Agreement*.** MEDCO has executed the Transition Agreement, a copy of which is attached hereto as Exhibit 1. The Transition Agreement became effective upon its execution by UMD on [Month] [Day], 2024.

2.3 ***Termination of the IMOMA*.** On [Month] [Day], 2024, MEDCO notified Provider to confirm that the IMOMA will expire on December 31, 2024.

2.4 ***Assignment of Third-Party Agreements.*** On [Month] [Day], 2024, following UMD's securing of MEDCO's counterparty's consent, MEDCO assigned the Purple Line Agreement and the Interconnection Agreement to UMD, effective at Commencement.

2.5 ***No Restoration Plan*.** As of the date of this certification, none of the Central Energy Plant Building, DTP-4, the Mowatt Substation, or any other portion of the Energy Systems managed, operated, or maintained by Provider is subject to a Restoration Plan for the reconstruction of the Energy Systems pursuant to Section 14.2C of the IMOMA.

2.6 ***Title to Post-1999 Energy Systems Equipment and Facilities*.** Except as otherwise requested by UMD, MEDCO has not executed a recorded or unrecorded agreement, contract, option, commitment, encumbrance, right, privilege, or other right of another binding upon MEDCO to sell, transfer, convey, subject to lien or charge, grant a security interest in, or in any other way dispose of or materially encumber, the Energy Systems Equipment and facilities.

2.7 ***Compliance with Law.*** To MEDCO's Actual Knowledge, MEDCO has not received written notice of a violation of any Law from any Governmental Authorization, the enforcement of which would have a material adverse effect on the termination or expiration of the Interim Energy Program (including the termination or expiration of the Ground Lease, the Easement, the IESSA, and the IMOMA).

2.8 ***Litigation.*** To MEDCO's Actual Knowledge, MEDCO has not received service of process naming MEDCO as a party of a claim, litigation, investigation, or proceeding pending or threatened against, or affecting, MEDCO that would reasonably be expected to have a material adverse effect on the termination or expiration of the Interim Energy Program (including the termination of the Ground Lease, the IESSA, and the IMOMA).

IN WITNESS WHEREOF, the undersigned Executive Director has executed this Certificate and affixed MEDCO's seal this ___ day of _____, 202__.

_____
J. Thomas Sadowski, Executive Director

STATE OF MARYLAND
COUNTY OF BALTIMORE TO WIT:

On this ____ day of _____, 20__, before me the undersigned officer, personally appeared J. Thomas Sadowski known to me or satisfactorily proven to me to be the person set forth herein, who acknowledged himself to be the Executive Director of the Maryland Economic Development Corporation and being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the Maryland Economic Development Corporation by himself in the foregoing capacity.

AS WITNESS my hand and Notarial Seal.

_____
Notary Public
My Commission Expires: _____

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM
INITIAL FINANCIAL CLOSING

CERTIFICATE OF THE
MARYLAND ECONOMIC DEVELOPMENT CORPORATION

EXHIBIT 1
ENERGY SYSTEMS TRANSITION AGREEMENT

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX O-1A

CONCESSIONAIRE'S TRANSITION PLAN

2.1.1 TRANSITION PLAN

Provide a plan and schedule for assuming management, operation, and maintenance responsibility for the Energy Systems during a 6-month period between Initial Financial Closing and Commencement so that Energy Services can be delivered beginning at Commencement without any transition-related interruption. Such plan should include (but not be limited to) the following information:

- **Proposer's specific expectations for resources from, and involvement of, UMD and the existing operator throughout the Transition Period and other necessary inspections, data, and other required information.**
- **A description of how Proposer would manage the risk of transition-related interruptions of Energy Services and what expectations UMD should communicate to its faculty, staff, and students regarding service reliability during the weeks after Commencement.**
- **A description of how current Energy Systems employees will be recruited and/or how Proposer would hire and train additional employees (as necessary) and establish working relationships with members of UMD's administration and staff.**
- **A schedule for the Transition Period, with the Initial Financial Closing as Day 1.**

The Transition plan is critical to the success of the Concession Agreement and offers the opportunity to complete the following activities prior to Commencement:

- MEIP Team to gain a hands-on operational perspective of existing equipment
- Inspect equipment to assist in understanding the condition and remaining operational life of existing assets in detail
- Risk assessment for areas that may lead to system downtime and resulting redundancy opportunities
- Refine design, and procure equipment, systems and critical spares needed to operate the Energy Systems with a high level of resiliency
- Acquire and install the temporary systems required to provide redundancy and facilitate the removal of existing systems that are to be replaced

- Continue to document a baseline energy consumption of both the CEP and the building systems that are supplied by the CEP
- Begin to optimize energy savings with the temporary systems while establishing a suitable maintenance routine by becoming familiar with temporary equipment and the operation of the campus in terms of demand/operations
- Implement the framework for the long-term operations through the development of plans, set up of tools such as the computerized maintenance management system ("CMMS") and configure the controls and technology that will drive the long-term monitoring, management and coordination of the Energy System through initial operations and into the Post Substantial Completion phase to optimize the changes made to the CEP to the long-term requirements of the systems
- Transfer of knowledge from Interim Operator staff
- Seek input from UMD and hold interviews with existing staff who are interested in continuing to support the Energy Systems operations through transition and Initial Capital Improvement work
- Train and provide orientation for Energy Systems facility management personnel to be familiar with the Energy Systems and the goals and path forward for implementation of the UMD NextGen Program.
- Develop and submit the Operational Plan, Quality Control Plan, Minority Business Enterprise and Women-Owned Business Plans
- Establish meeting and reporting regimens to ensure effective communication and management of the system for the long-term

TRANSITION PLAN GOALS

To accomplish the activities described above, the MEIP Team will leverage its 30+ years of experience operating utility infrastructure projects, and our unmatched knowledge of assuming the management and control of such facilities to the full benefit of UMD. Based on our key member's collective experience, we have developed the following three key transition-period goals:

1. Develop Relationships and Effective, Open Communication

For a successful transition of operations, it is important for the MEIP Team to build rapport with UMD that is conducive to an open and trusting relationship. Our team will continue to build on the collaborative relationship we have begun to develop with UMD throughout the Initial Proposal period and through the BAFO stage. We value UMD's experts' opinions and ideas and will be receptive to UMD's concerns. Our team will work hard to collaboratively avoid and resolve any potential challenges that may arise in the early stages of transition and operations. The MEIP Team's Operations Manager will be UMD's primary point of contact present on-campus to create continuity of communication with UMD and to provide frequent updates regarding schedule milestones and ample notice of upcoming tasks to minimize disruptions.

2. Select a "Top Talent" Team

MEIP team members bring world-class asset management expertise earned from operating and maintaining a wide range of infrastructure projects locally and internationally. MEIP Team member Honeywell will lead the development and refinement of the operations and maintenance approach, using its depth of experience and corporate knowledge. Our approach to building the future operations team is to attract talented individuals from the incumbent workforce who are interested in remaining on the Project and supplement their capabilities by integrating specialists from Honeywell's broad corporate workforce. The MEIP Team places value on the current utility employees and the institutional knowledge they can bring with them as an operator. We are prepared to make all efforts in the hiring process to work with UMD in interviewing the existing workforce that are suitable candidates for continued roles. Overall, MEIP aims to provide an operational team with a diverse skillset and experience in delivering operation and maintenance services, with a blend of individuals with local knowledge and experts from our corporate resources.

3. Thorough Asset Inspections and Preparation

In preparation for an effective operating and maintenance period, our team will carefully inspect each component of all relevant equipment and systems for up-to-date information, and will run any tests that could further enhance our operational understanding of equipment. Additionally, any tools and equipment required for the delivery of services will be procured to ensure readiness for operational handover. Our O&M plan, incorporating standard operating procedures ("SOPs"), maintenance operating procedures ("MOPs"), emergency operating procedures ("EOPs") and safety plans, will build upon the Operations Plan for the UMD Energy Systems which will be submitted to UMD 90-days before Commencement pursuant to Project requirements.

TRANSITION PLAN STEPS

As shown in **Figure 2.1-1**, we have identified four key steps for the Transition Period that will prepare the operations team to assume management and control of the Energy Systems. Each phase is described in detail throughout the following section.

Phase 1: **Assess** the Conditions of the Site and take **Early Action** for Long Lead Items

The assessment phase will commence immediately upon the start of the Transition Period and will include the following activities:

Immediate Engagement and Communication

Kickoff Meeting

The MEIP Team will schedule a kick-off meeting that will include UMD representatives and MEIP team members. The goal of this meeting will be to establish and align team purpose and visions for the Project, as expressed to the MEIP Team by UMD as well as to set guiding principles between UMD and MEIP so the approach achieves these goals.

Transition Meetings

Following the Kickoff meeting, we will coordinate with the University to develop a Transition Steering Committee to include all relevant UMD and MEIP representatives. These weekly meetings will begin early in the Transition Period to establish a regular communications channel directly with the University. The primary objective of the meetings is to provide direction and to track progress regularly against stated goals. Discussions will be led by relevant technical staff including topics over the Transition Period such as:

- Database of key personnel and contact lists
- Review of technical documentation, specifications and standards
- Coordinate technical inspections and identify any issues
- Review the facility space and Demarcation Points
- Data migration to Concessionaire systems
- Conduct training
- Transfer of access to the facilities, codes, keys and authorizations

During these meetings, the group will develop a process to review and submit reports to UMD. These will contain noteworthy information regarding expectations for reliability and efficiency of the energy services, performance indicators, degree of user satisfaction, availability and quality of services and facilities, and overall progress toward readiness for handover at Commencement.

Additionally, we will work with UMD to plan "Town Hall" meetings inclusive of all Energy Systems staff and UMD representatives.

Schedule Planning

In collaboration with UMD, we will identify an appropriate assessment schedule that is cognizant of, and does not conflict with major events such as home football games and other sporting events, alumni banquets, or campus tours. Several substations throughout the campus are

Figure 2.1-1: Transition Plan Phase Workflow

responsible for supplying power to the UMD buildings. At the distribution level, there is some ability to isolate buildings as needed without interrupting service to other areas. The MEIP Team will provide various solutions and in partnership, a plan forward can be devised to give flexibility for near-term needs.

Logistics Start-Up

Onsite Administrative Space Start-Up

MEIP will work with UMD to identify and use vacant space around the Energy Systems for use during the Transition Period, from where all the activities governed by the contract will be organized and managed. The team may elect to pursue additional commercial space to supplement according to Section 10.8 of the RFP, and will give prior notice to UMD.

Tools and Equipment

The MEIP Team understands that the University owns the tools currently being used by the Interim Operator and that some will be transferred at Commencement. The team's priority is assessing any gaps in the tools or equipment included in the handover that may lead to an inability to deliver operations and maintenance. Where tools and equipment may not be available for transfer and are critical to the Energy Systems, the operations team will procure them immediately.

Condition Assessments

Leverage Existing Information

MEIP Team Members will review information gathered during the three site visits to the UMD campus during the Initial Proposal period and any other visits conducted during the BAFO stage, along with the data provided to it by UMD. Our team will develop a list of questions and focus areas of continued assessment in preparation for the start of the Transition Period. This review of existing information prior to the Transition Period will ensure that the MEIP Team is highly prepared on day one and ready to dive into its continued diligence and hands-on assessment of equipment.

Hands-On Assessment of Equipment

During the first two months of the Transition Period, MEIP will continue investigations into:

- Current operating systems and controls
- State of recent repairs
- Overall footprint of the site and current access/storage conditions
- Review the opportunity to automate current systems employed
- Critical equipment to order immediately upon Financial Close
- Site images to assist with the development of an asset list

The assessment of Existing Equipment and Systems will focus on:

- Major equipment
- Utility distribution systems
- Infrastructure within the Central Energy Plant and throughout the UMD campus
- Clarify and understand the flow of supply and return lines for steam and power as well as interconnectivity of the systems as currently configured.
- Based on the identified system flows, identify any flexibility in the existing configuration to be able to adjust to incidents and unplanned events or to planned maintenance that may affect system supply capacity.

Baseline Systems Review

The MEIP operations team will prioritize the completion of a detailed review of the UMD utility usage (i.e. electricity, natural gas, and water) over recent years, supported by data already provided to MEIP as part of the proposal process. As part of this strategy, a baseline will be established for both the CEP and downstream buildings supplied, to benchmark utility consumption of these facilities before starting the Initial Capital Improvements.

Phase 2: **Identify** the Specific Needs of the Site and Its Users, Including the Operations Team

After the initial assessment of equipment and after taking action on long-lead time items, MEIP will carry out the following activities as part of the "Identify" stage, which includes clearly identifying specific operating system needs and the operating team.

Meetings with Interim Operator

We will conduct interviews with existing onsite staff to understand nuanced aspects of the system and bolster an asset maintenance history. We will also interview UMD representatives regarding past issues that may not be resolved so that root causes and solutions can be established prior to Commencement.

Distill Assessment Conclusions

Based on MEIP's review of the data room files, hands-on assessment of the Energy Systems, testing, and discussions with UMD and the Interim Operator, the MEIP Team will begin to summarize its conclusions and recommended adjustments to the operations and maintenance plan to ensure the highest level of service for UMD.

Employee Recruiting and Onboarding

The effective evaluation, recruitment and onboarding of employees is critical to a successful transition. MEIP recognizes the value that existing employees bring in terms of experience and familiarity with the UMD Energy Systems. We will work closely with UMD during the review process of the workforce as well as for the pre-approval of all Key Managers in accordance with Section 10.5.2 of the RFP.

MEIP will provide a preliminary staffing plan for the transition (refer to **Section 2.2**). There is added benefit that existing operators will have the local knowledge and history of working at the UMD facility that will facilitate a smooth transition. The operations team members originating from Honeywell bring expertise and a fresh perspective that will be advantageous in tackling the demands of operating and maintaining the energy systems throughout the concession. Both groups will bring their innate skillsets and allow for the assimilation of best practices to be used at UMD. We anticipate the existing workforce to have a strong working knowledge of general housekeeping and niche operating routines for the site given their exposure. The Honeywell team will bring prior experience using plant control software and alternative site experience.

MEIP understands that existing staff will need assurance regarding decisions that have an impact on their future employment. To address this issue, the HR Manager will promptly complete the recruitment process for all transferring employees and inform other employees of their long-term employment status. This will be critical to the upkeep of staff morale and employee productivity during transition.

Working closely with UMD, during, and prior to (as appropriate) the Transition Period, the HR Manager will start the formal staff induction process. These meetings will develop a transitional overview for staff transfers and other new hires including developing position descriptions, service delivery concepts, organizational structures and work safety obligations . Notwithstanding our desire to attract talented operators and maintainers from the existing workforce and preserve their institutional experience, Honeywell possesses all personnel and corporate support necessary to provide O&M, ensuring the uninterrupted provision of service regardless of the number of incumbent staff who ultimately accept positions on our team.

EMPLOYEE RECRUITING - EXISTING STAFF

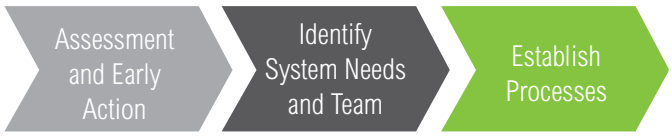
All existing staff will be given an opportunity to apply for positions under the new organization under our traditional process of evaluation, recruitment, and onboarding. We welcome the opportunity of a blended workforce that is the summation of all the skill sets and experiences that both existing employees onsite and our corporate experts bring to the Project.

Additional details regarding the employee recruitment and onboarding program are found in **Section 2.2**, Organization/Staffing.

Workspace Preparation

Throughout the Transition Period the team will progressively look to make improvements to space utilizations that are beneficial to overall workflow. This includes organizing the work site to improve inventory management and overall safety. MEIP wishes to identify space utilization improvements in the CEP specifically, that will be progressively completed leading up to and following Commencement.

Phase 3: **Establish** Nominal Operational Process



One of the primary goals of this Transition plan is to establish clear and consistent procedures for communication and operating interfaces across all levels of UMD personnel and within the MEIP Team. At this stage, the operating staff will begin establishing procedures and plans of communication to prepare for the transition of operations. To accomplish this goal, the following activities will be accomplished during this phase:

Integration with UMD

During the "Establish" stage of the Transition, we will continue regular meetings with UMD's Operations Team, Program Manager, Building Managers, Engineers, and the Interim Operator to continue to advance our understanding of UMD's SOPs and build trust with UMD. We will facilitate collaborative opportunities with UMD representatives from the Facilities Management Department, Emergency Management Council, and the Incident Response Team.

Communication and Emergency Protocols

We will work with the University to develop communications protocols, which will identify key points of contact, meeting and reporting regimens. In any Emergency, it is critical for the operations team and UMD to have distinct lines of communication established with contingencies. We will integrate with the University's existing emergency response teams and designate a representative to attend their meetings. MEIP understands the importance of maintaining the operability of energy systems during an Emergency and commits to adhering to the established protocols under such an event.

General Training and Development

Orientation training will be provided to all employees, subcontractors, workers, consultants, inspectors, and visitors. Training will provide instructions on the Project safety requirements, permits and approvals, work methodologies and associated best practices. MEIP will incorporate this into the training and development of the workforce outlined in the Energy System Staffing Plan and Section 2.6.12 of Appendix M-2 of the RFP. We recognize UMD's vision for academic collaboration and developing experiential learning in the energy industry. The ongoing training and development that begins in this phase will be coordinated with the Academic Collaboration Task Force to ensure that we capitalize on opportunities for students to engage with and learn from the process.

New Employee Training and Onboarding

Every new employee that joins the MEIP Team will undergo a structured onboarding and orientation process scheduled to accommodate work responsibilities. MEIP has found that these sessions have proven extremely useful in establishing a climate of trust between current transition employees and the operations team. Transitioning employees will receive an information package containing an overview of the company, benefits, and other critical information. During the Transition Period the operations team will conduct two levels of onboarding:

1. ***Honeywell General Training***

- **General Orientation**: Transitioning employees will be provided with an overview of the operations team's management approaches, business conduct policies, general information, benefits, and training opportunities.
- **Health, Safety and Environment ("HSE") training**: Honeywell's HSE training is mandatory for all new Honeywell employees who will be engaged in maintenance. HSE training must be completed prior to Commencement and is available on-line (Breeze courses).
- **Quality Management:** A session on Quality Assurance will be provided to all team members.

- **Customer Service:** During the transition and onwards, we will conduct customer service training with an emphasis on responsiveness and initiative.

2. *Site Specific Training*

- **Project Agreement Orientation:** Senior staff will offer a training session for employees on the approach to a performance-based contract, our commitments to the University and the student base, and expectations for the operations team. This will include an overview of the operations and maintenance obligations throughout the Transition Phase, and pre-and-post Substantial Completion of the Initial Capital Improvements. Key Performance Indications ("KPIs") will be an important component of the training and will ensure that all employees are extremely familiar with the KPIs and have the tools necessary to monitor these and provide a high level of service to UMD.
- **Change Management and Additional Capital Improvements Training:** Managers and supervisors will learn how to address and effectively carry out review and implementation of proposed change orders. We will emphasize communication, quality assurance, and the promotion of a strong customer service approach. Additionally, employees will be guided through the Additional Capital Improvements framework and will learn about our processes for identifying potential improvements that can provide savings or efficiencies to UMD.
- **Building Systems and Equipment:** All operations manuals will be provided for reference and training to all employees and employees will receive training on the equipment for which they will be operating and maintaining. Training will be collaborative, and MEIP recognizes that new employees who are currently working on site have valuable knowledge to share with Honeywell's existing staff on UMD's Energy Systems.
- **Transition Training:** Participants in the transition activities will be given specific training on the procedural standards used on site. For example, before collecting data, all participants will be trained on where information is stored and documentation shorthand. This will ensure a consistent approach is followed by the bended team of Interim Operator and Honeywell employees.
- **Technical Training on Critical Systems:** The transition technical team will review and conduct any necessary training on the operations of critical systems to ensure they remain fully operational.
- **Site Policies and Procedures:** All employees will receive training on site policies and procedures including:
  - Site communications protocols
  - Performance monitoring
  - Emergency procedures
  - Procedures and practices relative to environmental sustainability
  - Facility systems -overview of design and parameters

Establish Working Relationships

During the Transition Phase, there will be a blending of Interim Operator staff and Honeywell staff and rearrangement of responsibilities at the facility. MEIP plans to use this time during training and onboarding to encourage teams to meet with their UMD counterparts informally. A positive working relationship with UMD staff will be crucial to the success of our strategy because of our use of teamwork and communication throughout the Transition Period and post-Substantial Completion. MEIP has elected to begin all correspondence with UMD through Transition meetings, and site interviews, early in the Transition Period to provide as much time as possible to establish initial relationships. We recognize this is not a facet that can be forced but hope to promote a positive and open-minded environment.

CMMS Startup

The site CMMS database will be developed and data related to the equipment and maintenance information will be incorporated into the system. Although UMD will have provided much of the records and documentation required to operate and maintain the Energy Systems, we will work with the University to gather any remaining information that may be relevant for inclusion in the CMMS system. The Honeywell CMMS will leverage the industry leading QFM Software platform ("QFM"). QFM is a world-renown P3 software tool and was developed to maximize operational efficiency in technically complex facility management environments to provide reliable performance reporting. QFM incorporates one of the only fully

integrated deduction calculators for service failures and will be the central tool used in the scheduling, monitoring and management support for delivery of the Project.

The CMMS is a real-time database, that is capable of providing customizable scheduled and ad hoc reports of virtually any relevant task, including auditing results, complaints registry, and service failures. The configured schedule gives a framework which can have some flexibility to accommodate University activities and miscellaneous scheduling. The CMMS open work orders can be monitored and are color coded to highlight if they are at risk of being overdue. The CMMS will have asset data and a maintenance schedule configured during the Transition Period based on manufacturer's recommendations and MEIP experience. The information entered into the CMMS is used to develop and monitor the maintenance plan and the regular preventive maintenance schedule ("PM Plan"). MEIP will collaborate with UMD to ensure that UMD is satisfied with the PM Plan and to incorporate any of the University's feedback into the plan.

Submission of Relevant Plans

The MEIP Team will work to develop and submit to UMD the Operations Plan with the required protocols and procedures outlined in Section 2.6 of Appendix M-2 of the RFP, the Operational Plan, MBE/WBE Business Plan, and Quality Control Plans in accordance with the contract.

Phase 4: **Optimize** Reliability of Existing Equipment

MEIP has established a schedule for the Initial Capital Improvements and understands how the schedule will affect existing equipment. During the "Optimize" phase of the Transition Period, and if acceptable to UMD, existing equipment will be taken off-line for minor repairs or identified for replacement at a later date. Additionally, we will continually seek ways to optimize the reliability of the existing equipment while keeping the UMD campus operating as intended. The following will be investigated:

System Optimization

In an effort to lay the groundwork to operate and maintain the UMD Energy Systems most efficiently and cost-effectively, the operations team will conduct a thorough review all of the operating plans and procedures developed in the previous stage and confirm its approach or make adjustments required to optimize those plans. The operations team will review the following:

- Verify the alignment of the maintenance program with current demand and operational hours of equipment.
- Analyze areas where we can improve reliability and resiliency of existing systems by evaluating existing options for operational flexibility (e.g., options for bypass, re-routing during an adverse event, any flexibility for maintenance/repair isolation of equipment to minimize the impact on operations and utility supply).
- Continue to study the effectiveness of any historical repairs or improvements with regards to current system demands.
- Establish the priority repairs/maintenance work for equipment in the context of systems that are targeted for Initial Capital Improvements and system reliability for the short term.
- Prolong the serviceable life of all equipment through the implementation of good practice preventive maintenance and cost-effective repairs.

Continuous Improvement

MEIP acknowledges the University's expectation for the continual advancement of operations and maintenance practices on the Campus. During the Transition Period, we will establish a program that proactively seeks ways to enhance the reliability, resiliency, efficiency, sustainability, and cost-effectiveness of the Energy Systems from Commencement. This will be developed and managed in the Five-Year Performance Improvement Plan.

Preparing for Transition Close-Out

At this stage, the MEIP Team will have developed in coordination with UMD the management framework to provide effective administration of the site, carefully assessed each component of the Energy Systems, established the operations center, onboarded the workforce, instituted operations and maintenance regimens, developed relationships with UMD stakeholders, setup the CMMS, and secured all tools and equipment required for the provision of services. The MEIP Team will be well prepared for a smooth transition upon Commencement.

INVOLVEMENT OF UMD AND THE EXISTING OPERATOR IN THE TRANSITION PERIOD

Much of the success of the Concession Agreement over its 30-year life will rest upon successful relationships established, maintained, and enhanced over time with UMD. Through experience, establishing a rapport early in Transition will assist in communicating specific resources and questions between key stakeholders. MEIP anticipates being proactive during the Transition Period, developing these interfaces with UMD staff by meeting with representatives frequently and establishing a climate of mutual respect and trust. We see this relationship translating into many opportunities in the future to collaborate with UMD such as facilitating experiential learning for its student base.

MEIP would like to note that all resourcing expectations suggested are estimated figures and we would like to work with UMD throughout the BAFO stage and Transition Period to address how this may increase or decrease.

Site Interviews, Inspections, and Testing

Staff Support Required: 1 Staff Member

Average Time Allocation: 5 hours per week for 6 months

Specialty: Technical

During the Transition Period, the operations team will need to gain an understanding of the existing conditions of the equipment. MEIP will work with the University to develop a schedule for inspecting and testing of systems and equipment. These assessments will inform our robust preventive maintenance program. We will communicate in advance for UMD's assistance in gaining access to areas of the CEP as needed. Additionally, we will conduct interviews with UMD's existing operator regarding past experiences with building equipment and systems. As a first step, the team plans to conduct an equipment assessment according to **Table 2.1-1**.

Town Hall Meetings with Employees and UMD Representatives

Staff Support Required: 2 Staff

Average Time Allocation: 3 hour per week for 6 months

Specialty: UMD Representative and/or Technical Operator

As part of the Transition Period, we will organize and conduct a recurring town hall meeting with existing employees and University Representatives to discuss:

- MEIP and UMD's goals and activities during the transition and necessary coordination
- Introduction to the operations team
- Short, medium, and long-term goals for the Energy Systems
- Specific needs from the existing operator or UMD staff
- Outline transition schedule
- Provide an open forum for Q&A with the Authority and MEIP

MEIP acknowledges potential challenges in accommodating attendance for personnel affected by conflicting shifts and operational needs and will collaborate with the University to develop a schedule that addresses everyone's needs. The purpose of these sessions is to keep all stakeholders informed, address concerns, and cultivate engagement throughout the process.

Recruitment Process

Staff Support Required: 2 Staff

Average Time Allocation: 2 hours per week for 5 months

Specialty: UMD Admin (1) and Technical Operator (1)

During our recruitment of potential employees, we will require administrative assistance to coordinate interviews with staff who will still be involved in daily operations during Transition. We will also request the following confidential employee records not available during the RFP stage as part of a recruitment outreach to existing staff:

- Education
- Job record and titles
- Skills & responsibilities
- Experience
- Performance history

Table 2.1-1: Equipment Assessment Approach

LOCATION	EQUIPMENT	DESCRIPTION OF WORK	UMD ACTIONS
Central Energy Plant	High Voltage Switchgear	• Inspect and test to ensure equipment is in good operating condition. • Record operating measurements for pressure, temperature, current and voltage.	• Coordinate access to the areas in the facility.
	Electrical Distribution System	• Inspect and test energy systems to manage the risk of transition related interruptions of services. • Reviewal of compliance requirements for Pepco Interconnection Agreement for operating Mowatt Substation.	• Identify employees with existing operator that may provide insights on operating standards and processes. • Coordinate access to the areas in the facility.
	Gas Compressors	• Collect safety records and maintenance history to confirm compliance with regulatory standards and expiry dates.	• Review relevant databases for copies of safety inspections.
Steam Distribution	Post-1990 Steam Distribution System Components	• Inspect for signs of deterioration in the heat exchangers. • Plan for expected critical spare parts.	• Provide maintenance and repair history for steam distribution system. • Communicate current stock of critical spares for system. • Coordinate access to the areas in the facility.
District Thermal Plant	Chillers – Marie Mount, Tawes, CSS and Edward St. John	• Verify condition and begin testing and operating to understand functional life of asset.	• Coordinate access to the areas in the facility.

To gauge interest, concerns or questions, a confidential employee survey will be circulated prior to requesting this information.

Following the submittal of employee applications, we will interview applicants individually and once candidates are selected, our Human Resources department will complete reference and background screening. Our approach to interviewing involves multiple stages and interviewers. The process includes objective skills assessment and mapping, multiple touch points with our hiring managers through a structured process. The MEIP staff bring years of experience that includes extensive training to ensure an unbiased interview as well as a process that complies with our interview policy which helps to ensure an equitable and amicable candidate experience.

Following the conclusion of the interviews, the team will meet with UMD representatives to share the results and discuss any concerns or recommendations and receive feedback. The purpose of this review is to share conclusions and insights about employees that the University may have from prior experience working with an individual.

After a comprehensive review of all available information, interviews with all existing employees, and reviews with management, we will provide written notice for the intent to hire each suitable candidate. This will include the salary and benefits package. Following official offers and employment letters, each employee will be invited to a personal meeting, off-site if necessary, with the HR department to clarify the terms of the job offer and address any questions. The purpose of these meetings is to provide further clarification to new hires and ensure they are comfortable and excited about their decision to join the MEIP Team.

Operations Plan

Staff Support Required: 1 Staff

Average Time Allocation: 3 hour per week for 1 month

Specialty: UMD Representative

The purpose of developing an Operations Plan is to standardize the management, operation, and maintenance of the Energy Systems at varying times of Concession. This plan is prepared annually and will reflect changes made in the operating procedure such as insights received from good industry practice, change in law and others. A group will be made comprising of equal representation UMD staff, and MEIP representatives that coordinate the day-to-day operation and maintenance of the UMD Energy Systems.

MEIP will require some collaboration with UMD representatives in developing the Operations Plan for feedback and in scheduling the Initial Planned Outages Plan. The team will submit a preliminary schedule to be reviewed by the University and we will facilitate any further meetings with staff, or faculty to address potential downtimes to buildings.

Quality Control Plan

Staff Support Required: 1 Staff

Average Time Allocation: 2 hours per week for 1 month

Specialty: UMD Representative

In general, MEIP will take a proactive approach to monitor and notify UMD of systems or equipment that are deteriorating in performance and may lead to service interruption. For the Initial Quality Control Plan, we value the University's feedback and approval of the approaches we plan to use to identify and correct service deficiencies. We anticipate increased interaction with UMD representatives as we are developing this plan so that the University's priorities are well captured.

Our strategy for monitoring and identifying performance issues will be orchestrated through Quality Control Inspections used on a routine and annual basis. Routine inspections will be tailored to Energy Systems on a monthly schedule at minimum. Annual inspections will be completed by two qualified engineers and will provide UMD a report on the findings and proposed actions to repair relevant deficiencies. MEIP has considerable experience in completing these inspections as part of a quality control regimen on all our projects and will bring that knowledge-base during the Transition Period.

APPROACH TO RISK MANAGEMENT DURING TRANSITION

During the Transition Period, the MEIP Team wishes to be proactive in risk management by anticipating and understanding likely sources of failure and planning mitigation strategies accordingly. As we complete inspections and review the service history of existing equipment, a list of risk items will be built-up and reviewed during recurring internal meetings.

MEIP uses Six Sigma Principles and the Failure Mode and Effect Analysis ("FMEA") table for risk assessment and planning. The principles endorsed in the Six Sigma program will be used to drive the risk assessment process and to identify a risk mitigation strategy.

Six Sigma Failure Mode and Effect Analysis Process Summaries

The strategic Six Sigma tool FMEA model identifies how a potential project or situation could possibly fail, and then provides mitigation or rectification strategies based on the following classification process:

1. **Identify Failure Modes, Effects, Causes, and Controls**

- Risk Category – What are the risk categories?
- Potential Failure Mode – What ways could the program, product, or process not proceed as planned?
- Potential Failure Effects – What would be the impact of failure mode on program performance or meeting UMD requirements?

- Potential Causes – What program, product, or process weakness could cause the failure mode to occur?
- Controls – What methods, tools, or measures will discover the cause before it occurs?

2. Assess Risk

- The Risk Priority Number ("RPN") is used to prioritize Failure Modes and Causes.
- It is calculated as the product of three quantitative ratings related to the effects, causes and controls.
- RPN = Severity (Effects) x Occurrence (Causes) x Detection (Controls)
- Severity – Impact of effect on performance, ranked 1 (lease severe) to 10 (most severe)
- Occurrence – Probability that cause will occur, ranked 1 (least likely to occur) to 10 (most likely to occur)
- Detection – Difficulty of detecting cause, likelihood of escape, ranked 1 (lease difficult) to 10 (most difficult)

3. Build Contingency and Corrective Action Plans

- Calculate the risk for the failure modes ("RPN")
- Develop contingency plan for high priority failure modes
- Develop performance management scorecard (performance and financial measures)
- Continuous improvement while sustaining benefits
- Communication of plan to all stakeholders

Once these three strategies have been identified, the operations team will adhere to the following procedure to develop a FMEA table as shown in **Table 2.1-2**.

The operations team will use the Six Sigma methodology to analyze the different modes of failure, and to help assess the relative scale of impact of each, so a list of priorities and countermeasures can be developed to mitigate or eliminate the threat. From this list, the team can recommend specific actions to qualified personnel, while also prioritizing the high risk items to mitigate potential impact to the Energy Systems and UMD. Based on the action plan, the operations team will plan for certain resources for implementing and maintaining the risk mitigation strategy.

Table 2.1-3 on the following page shows a sample FMEA table to demonstrate the output of this risk management strategy.

Table 2.1-2: Procedures to develop a FMEA Table

ITEM	PROCEDURE
1	Establish a rating weight for severity, occurrence, and detection.
2	List the first item in the process under investigation
3	List the potential failure modes for this item. An item may have several modes of failure and all should be explored within reason.
4	List the potential failure effect(s) for each mode.
5	List the causes of each failure mode.
6	List existing control mechanisms for the specific step under investigation.
7	Select a severity level for each failure effect, rating how often the cause or failure mode occurs. Also score the degree the control mechanism can detect the cause or failure mode.
8	Calculate the Risk priority number.
9	Repeat steps 1-8 for each item the process.
10	Prioritize the items based on the risk priority number.

Communications to Faculty, Staff and Students

The MEIP Team recognizes that the safety of UMD faculty, staff, students, visitors, as well as our operations team is paramount. Our goal is to minimize all potential disruptions to the Energy Systems and if there are disruptions to communicate them efficiently and effectively with a priority on safety.

Plenary has experience with managing and operating complex facilities while also successfully balancing academic priorities. UC Merced, named the Best Social Infrastructure Project in 2017 by P3 Bulletin, delivers a critical addition to the student experience, providing on-campus housing, academic facilities and faculty offices. The project overcame obstacles of flooding, wildfires and pandemic, and was able to accomplish its purpose of building an institution of higher learning that would benefit the residents of Central Valley and further the futures of young people.

Table 2.1-3: Sample FMEA Table

	AREA		
	Water treatment installation and servicing	Boiler Servicing	Standby generator maintenance
IDENTIFY FAILURES AND IMPACTS			
Potential Failure Mode: *In what ways does the process step go wrong? What is the reverse of the process step?*	Do not provide water treatment or service	Do not provide Boiler Service	Do not provide Generator maintenance
Potential Failure Effects: *What is the impact on the customer or internal requirements?*	Bacterial growth, biofilm, odors buildup of minerals	Component failure, reliability issues, shorten equipment lifecycle	Component failure, reliability issues, shorten equipment lifecycle
SEV: *How severe is the effect to the customer?*	10	10	10
ASSESS INPUTS AND PRIORITIZE			
Potential Causes: *What causes the failure mode? What are the opposite of the inputs of the step under investigation?*	Exposure to bacteria and sludge; Electrocution; Exposure to water treatment chemicals; Storage of water treatment chemicals	Possible boiler explosion; Hot surfaces; Toxic fumes	Electrocution; Noise; Handling of diesel fuel and exposure to fumes
OCC: *How often does cause occur?*	4	3	7
Current Controls: *What are the existing controls and procedures (inspection and test) that prevent the cause? Should include an SOP number.*	Waste Treatment EHS-MSP-068; Air Pollution and Odours EHS-MSP-072; Communicable Diseases EHS-MSP-063; Material Safety Data Sheets EHS-MSP-025; Electrical Safety EHS-SWP-219	High Pressure Equipment EHS-SWP-218; Hot Work EHS-SWP-206; Hot Working Conditions EHS-SWP-222; Areas with Flammable Gases and Dusts EHS-MSP-060	Electrical Isolation EHS-SWP-203; High Voltage Work EHS-SWP-209; Electrical Safety EHS-SWP-219; Hazardous Substances and Dangerous Goods EHS-SWP-200; Control of Workplace Noise EHS-MSP-056
DET: *How well does the control detect the cause?*	1	3	3
RPN *(SEV x OCC x DET)*	40	90	210
Filter: *250 RPN*	Low Priority	Low Priority	Low Priority
BUILD CONTINGENCY AND CORRECTIVE ACTION PLANS			
Actions Recommended	Provide regular scheduled water treatment. Process Controls (SOP) in place. Use appropriate PPE and safety handling procedures.	Perform regular scheduled maintenance. Process controls (SOP) in place. Use appropriate PPE and safety handling procedures.	Perform regularly scheduled maintenance. Process controls in place (SOP) Use appropriate PPE and safety handling procedures.
Responsible Party	Plant Maintenance	Plant Maintenance	Plant Maintenance

Planning for emergencies and business continuity is a standard best practice for critical infrastructure such the CEP and UMD stakeholders should be reassured that MEIP will be prepared for a variety of events that may occur during the Transition Period. Our team will design a response strategy that mitigates and minimizes disruption to operations and subsequent impact on UMD activities.

The Continuity Management Plan and Building Emergency Action Plan will establish procedures and protocols for continuing and restoring the Energy Systems following an emergency. MEIP always considers safety a priority, and in an emergency risk becomes heightened. As part of the Continuity Management Plan, evacuation routines and emergency response actions will be developed to protect life and the property (including propriety research) of the University.

TRANSITION PERIOD SCHEDULE

Table 2.1-4 outlines MEIP's expected schedule for the Transition Period.

Table 2.1-4: MEIP's expected Transition Period Schedule

ASSESSMENT AND EARLY ACTION	IDENTIFY SYSTEM NEEDS AND TEAM	ESTABLISH PROCESSES	OPTIMIZE
30 Days	**40 Days**	**90 Days**	**30+ Days**
• Kickoff Meeting • Transition Meetings • Schedule Planning • Logistics Startup • Condition Assessments - Existing Equipment and Systems - Hands-On Assessment of Equipment - Baseline Utilities Review	• Meetings with Interim Operator • Distill Assessment Conclusions • Employee Recruiting and Onboarding • Workspace Preparation	• Integration with UMD • Communication Protocols established • Training and Development • Onboarding Employees • Grow working relationships • CMMS Startup • Operations Plan • MBE/WBE Business Plan • Quality Control Plan	• System Optimization • Continuous Improvement • Preparing for Transition Close-out • Achieve Steady-State Operations and Maintenance for Commencement

2.1.2 INITIAL OPERATING STRATEGY

Describe Proposer's strategy for managing, operating, and maintaining UMD's existing Energy Systems from Commencement through Substantial Completion of all Initial Capital Improvements. Such plan should include (but not be limited to) the following information:

MEIP supports UMD's vision of an institution unmatched in its capacity to attract talent, to create and contribute to knowledge that will address the most important issues of our time, and to produce the leaders of tomorrow. In pursuit of UMD's 'world class' status, our team recognizes the importance of leading by example and providing an energy system that can support this education, research, and service. MEIP is prepared to tackle UMD's immediate needs in a resilient and efficient energy system that will showcase the innovation and excellence of the institution.

INITIAL OPERATIONAL PLAN

Initial Operational Goals

MEIP's strategy for managing, operating and maintaining UMD's energy systems from Commencement to Substantial Completion of the Initial Capital Improvements seeks to create a balance of high-quality, safe, reliable and efficient service. We will demonstrate our team's capabilities and experience throughout the process with effective interfacing with ongoing construction.

While providing high-quality energy services at UMD will not be without challenges, MEIP wishes to set ambitious goals for the operations and maintenance team over the Project term. Our operational strategy seeks to solve the systematic issues of reliability with multiple creative and comprehensive solutions over the long term, to deliver UMD with a value-add capital investment. Our key initial goals are:

1. Maximize service reliability, efficiency and sustainability, by fostering an environment and implementing processes that streamline operations and maintenance of the Energy Systems.
2. Seek a proactive and multi-layered approach to obtaining energy service resilience using innovative strategies in the operations and maintenance regimen.
3. Provide UMD with maximum value for money using a whole-life approach.

Operational Strategy

The operations strategy for the Initial Operations phase is to balance construction work with the operations, maintenance and optimization/stabilization of the utility supply systems while coordinating the integration of the new systems with the existing. This includes adaptation to any changes while maintaining reliability of the utility supply generation systems and meeting the utility demands of the UMD buildings.

The mix of existing, temporary and new systems that come online in the CEP will ramp up and down output to meet needs of buildings. With the changing balance of new and existing systems online, MEIP can start the process of improving and optimizing the utility supply equipment to improve the energy efficiency and cost savings: this process will prepare the groundwork for Post-Substantial Completion operations period.

Operations Plan

At Commencement of the Project, we will have completed the transition of management and operational control of the Energy Systems from the incumbent operators. MEIP team members' experience managing long-term, fixed price P3 projects have culminated in proprietary strategies that extend the useful life of major equipment and reduce the overall cost of ownership to the ultimate benefit of UMD.

A Maintenance Management Program will be produced that is tailored to the specific needs of UMD's facilities and emphasizes preventive and predictive maintenance protocols, maintenance plans including work prioritization based on equipment criticality, planned outages, continuous improvement cycles and records management.

The Operations team will use its proven Computerized Maintenance Management System ("CMMS") to support successful asset and equipment maintenance at UMD. The CMMS allows for an in-depth review of all process structures and equipment master data to create the most accurate representations of plant operations. The CMMS contains detailed profiles of major equipment used in the systems, including planned maintenance activities, historical repairs, and manufacturing details, resulting in a timeline of servicing for insights to prevent future failure.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX O-2

MANAGEMENT, OPERATION, AND MAINTENANCE REQUIREMENTS

ENERGY SYSTEMS MANAGEMENT, OPERATION, AND MAINTENANCE REQUIREMENTS

TABLE OF CONTENTS

NEXTGEN ENERGY PROGRAM
UMD ENERGY SYSTEM MANAGEMENT, OPERATION,
AND MAINTENANCE REQUIREMENTS

PART 1: GENERAL PROVISIONS

1.1 INTRODUCTION. These Management, Operation, and Maintenance Requirements ("Operating Requirements") implement Article 9 and other relevant sections of the Base Concession Agreement. The Parties intend the Operating Requirements to accomplish the following purposes:

- To identify required practices and procedures for managing, operating, and maintaining the Energy Systems;
- To specify required contents for the annual Operations Plan;
- To define an operational and maintenance framework that requires Concessionaire to optimize the Energy System's operating life and minimize interruptions of Heating Service, Chilled Water Service, Electric Service, and Domestic Hot Water Service;
- To require Concessionaire to optimize its dispatch of the Steam Production Units, the Electric Power Production Units, and the Chilled Water Production Units so that thermal energy, chilled water, and onsite-generated electricity are produced at the lowest reasonable cost;
- To require Concessionaire to implement a program of continuous improvement of operating practices and procedures and Capital Improvements; and,
- To ensure that the Energy Systems are operated and maintained in accordance with Prudent District Energy Practices.

1.2 THE ENERGY SYSTEM. The Energy Systems are comprised of the Central Energy Plant, the Thermal System, the Electric Distribution System, and the Chilled Water Systems.

1.3 OPERATING REQUIREMENTS IMPLEMENTATION AND INTERPRETATION.

1.3.1 *Application.* These Operating Requirements supplement all of Concessionaire's obligations under the Base Concession Agreement and its Appendices for which it

remains fully responsible. The text of the Base Concession Agreement shall govern if any of its provisions conflict with any Operating Requirement.

1.3.2 *Approvals and Consents.* Any approvals or consent required under these Operating Requirements shall be governed by Section 1.4 of the Base Concession Agreement.

1.3.3 *Amendments.* Unless otherwise stated herein, any modification or change to these Operating Requirements shall be governed by Section 9.2 of the Base Concession Agreement.

1.3.4 *Successors.* Any references to a governmental entity, industry standard organization, or UMD department shall include any successor to such entity, organization, or department.

1.3.5 *Degrees.* Any reference to "degrees" shall, unless otherwise specified herein, mean "degrees Fahrenheit" unless otherwise noted.

1.3.6 *Definitions.* Capitalized terms not defined in these Operating Requirements are defined in Appendix A to the Base Concession Agreement.

1.4 GENERAL OBLIGATIONS.

1.4.1 Concessionaire shall perform all duties, tasks, and other responsibilities required by these Operating Requirements in an efficient, timely, and effective manner in accordance with the Concession Agreement and Prudent District Energy Practices.

1.4.2 Concessionaire shall maintain the Energy Systems in Good Working Order throughout the Operating Term.

1.4.3 Concessionaire shall manage, operate, and maintain the Energy Systems in a manner that demonstrates high degrees of skill, care, efficiency, knowledge, and diligence to ensure continuous safety for the Workforce, UMD's faculty, staff, and students, and the general public and to sustain the Energy Systems' value as an asset.

1.4.4 Assessments, inspections, and Performance Tests of the Energy Systems or any portion thereof shall follow Prudent District Energy Practices and applicable national standards, provided that Performance Tests shall not be required more than once each Contract Year unless required by OEM procedures. If UMD elects to perform, or cause a Qualified Engineer to perform, any such assessment, inspection, or Performance Test and the results thereof demonstrate

Concessionaire's failure to operate, repair, or maintain all or part of the Energy Systems in accordance with the Concession Agreement and these Operating Requirements, Concessionaire shall pay all costs associated with the assessment, inspection, or Performance Test. Concessionaire shall cooperate with UMD and the Qualified Engineer in performing all assessments, inspections, and Performance Tests.

1.4.5 If Concessionaire fails to meet these Operating Requirements, it shall be subject to the procedures in the Base Concession Agreement for addressing such failures and shall correct such failure as soon as reasonably possible. If deficiencies or situations adversely affecting the Energy Systems and their capability of providing Full Requirements Energy Services to UMD develop that are not specifically noted in these Operating Requirements and do not constitute a Relief Event, Concessionaire shall correct the deficiencies and manage such situations at its sole cost and expense so that the Energy Systems comply with these Operating Requirements.

1.5 OPERATIONS MANAGEMENT TEAM.

1.5.1 *Purpose.* The Operations Management Team shall coordinate the interconnected operation of the Energy Systems and the UMD Building Systems so that these systems operate in a reliable, safe, efficient, and sustainable manner and information is shared to promote effective and efficient implementation and administration of the NextGen Program.

1.5.2 *Team Composition.*

(a) Membership. The Operations Management Team shall be comprised of 6 members:

(1) The Concessionaire shall be represented by the Program Executive, the Plant Manager, and the Construction Manager.

(2) UMD shall be represented by the UMD Program Manager, the UMD Engineer, and the FM Construction Coordinator.

(b) Term. Each team member's term continues as long as the member holds the named position.

(c) Alternate Members. Each team member shall designate in writing an alternate who shall represent such member in the member's absence.

1.5.3 *Scope of Responsibilities.* The Operations Management Team shall perform all duties and responsibilities conferred on it by the Base Concession Agreement and these Operating Requirements.

(a) The Operations Management Team's duties and responsibilities shall include:

(1) Coordinating schedules for Preventive Maintenance, Predictive Maintenance, Planned Outages, and Performance Tests;

(2) Facilitating the gathering and exchange of information pertaining to the Energy Systems;

(3) Facilitating the collection and analysis of operating data pertinent to the operation of the Energy Systems;

(4) Coordinating repairs and arranging for the conduct of such studies as may be necessary to address joint operating issues or enhance the overall quality, reliability, efficiency, or sustainability of the Energy Systems;

(5) Facilitating the resolution of joint operating problems;

(6) Coordinating the application for, and the securing, maintenance, modification, and renewal of Governmental Authorizations and the compliance testing and reporting associated therewith;

(7) Coordinating the transition of the management, operation, and maintenance of the Energy Systems to a Successor Operator upon the expiration or termination of the Term; and,

(8) Performing such other duties and responsibilities related to coordination of the operations of the Energy Systems and the UMD Energy Systems as assigned by agreement of Concessionaire and UMD.

(b) The Operations Management Team's duties and responsibilities do not include the authorization of draws upon the NextGen Reserve or making other decisions that will increase or decrease the amount of the Fixed O&M Charge.

1.5.4 *Meetings*. The Operations Management Team shall meet at least weekly during the Transition Period and biweekly throughout the Operating Term according to a schedule developed by the UMD Program Manager and approved by the Operations Management Team on or before March 1 of each Contract Year.

(a) For the Team to conduct its business, each Team member must be present in person or by voice or represented by an alternate.

(b) All Team decisions require the agreement of both UMD and Concessionaire.

(c) Any Team member may invite a nonmember to attend all or part of a Team meeting to supply information pertinent to the matters to be considered during the meeting, provided the Team member notifies the other Team members of such invitation at least 24 hours prior to the meeting.

1.5.5 *Governance Coordination.* The UMD Program Manager (or designee) shall perform the following responsibilities:

(a) Chairing each meeting;

(b) Preparing and circulating a meeting agenda no later than 24 hours prior to the meeting;

(c) Monitoring the progress of each task and the Party assigned to perform such task;

(d) Preparing a summary of the matters considered and the decisions reached at each meeting;

(e) Preparing the annual Team meeting calendar for the Team's consideration and approval;

(f) Performing such other responsibilities as the Team may assign.

1.5.6 *Expenses*. Expenses incurred by Team members and alternates while carrying out their Team responsibilities shall be borne by the Party they represent.

1.6 COORDINATION WITH GOVERNMENTAL AUTHORITIES. Concessionaire shall cooperate with all local, state, and federal Governmental Authorities. Such cooperation may include:

1.6.1 Providing access to the Energy Systems;

1.6.2 Closing the CEP or other portion or portions of the Energy Systems for public safety purposes;

1.6.3 Disconnecting some or all Energy Services to address an Emergency or law enforcement situation;

1.6.4 Providing access to information contained in any security or data network system, provided that confidential information of the Workforce is not disclosed unless authorized by Law; and,

1.6.5 Taking any other action that is deemed necessary to ensure public safety.

1.7 COOPERATION WITH UMD GOVERNANCE. Concessionaire shall work collaboratively with UMD's departments, offices, faculty, staff, and student groups, and other UMD entities and affiliates to achieve coordinated, efficient, safe, sustainable, and effective Energy System Operations or to provide other services pursuant to the Concession Agreement. Such work may include:

1.7.1 Attending planning and operational meetings and participating in events and groups coordinated by UMD's Office of Emergency Management and Business Continuity;

1.7.2 Upon UMD's request, providing a participant for the FM Incident Response Unit in the event of a large-scale or critical situation that involves any portion of the Energy Systems or any of Concessionaire's responsibilities under the Concession Agreement;

1.7.3 Participating in meetings with subdivisions of the Facilities Management Department to coordinate:

(a) Connection of Energy Services to new UMD Buildings (including optimizing the location of, and design for, new building mechanical rooms and Equipment);

(b) Disconnection of Energy Services from UMD Buildings being demolished;

(c) Construction and Major Maintenance of the Energy Systems with other UMD construction projects on and off Campus;

(d) Responses by UMD's administration or Concessionaire's management (as appropriate) to inquiries by the media and members of the public regarding the Energy Systems or the Energy Services;

(e) Scheduling and implementing Planned Outages;

1.7.4 Participating in periodic development of Campus master plans, utility master plans, and other Campus long-term planning projects;

1.7.5 Participating in work teams to plan impacts under numerous scenarios related to planned and unplanned events; and,

1.7.6 Performing Concessionaire's other operational obligations under the Concession Agreement.

1.8 PUBLIC RELATIONS AND MEDIA INTERACTIONS. Concessionaire shall develop and implement a communications plan for coordinating the dissemination of information regarding the Energy Systems' status, operations, and improvements. Such plan shall promote transparency, public education, informed dialogue, and the responsible and sustainable use of energy. The initial communications plan and all changes thereto shall be approved by UMD prior to implementation.

1.8.1 Concessionaire's Records regarding its management, operation, and maintenance of the Energy Systems are public records, subject to disclosure pursuant to the provisions of the Public Information Act.

1.8.2 Concessionaire's official statements and press releases must be coordinated with, and approved by, UMD prior to release. UMD reserves the right to take any action necessary to ensure effective and factually accurate communication.

1.8.3 The communications plan shall designate a UMD communications representative to whom inquiries regarding the Energy Systems' status, operations, and improvements shall be referred.

1.8.4 Nothing in the communications plan or these Operating Requirements shall prevent Concessionaire from posting and maintaining a dedicated website that provides Energy Systems status and building energy use information to, and solicits feedback from, UMD faculty, staff, and students. The design and content of this website shall be approved by UMD prior to initial posting and thereafter any time Concessionaire makes material changes thereto.

PART 2: OPERATIONS PLAN

2.1 OPERATIONS PLAN. The Operations Plan describes the specific activities Concessionaire will undertake during a Contract Year to manage, operate, and maintain the Energy Systems in accordance with the Concession Agreement and the Five-Year Performance Improvement Plan. At a minimum, each Operations Plan shall contain the components named in Section 2.6.

2.2 OPERATIONS PLAN FORMAT. Each page of the Operations Plan shall be formatted to fit on letter-sized (8.5 inches x 11 inches) with a footer identifying both the page number and effective date of the Operating Requirements it contains. Printed pages of the Operations Plan shall be assembled with a binding that allows for page replacement. Electronic versions of the Operations Plan shall be transmitted to UMD and archivable in a digital file exchange format that allows the reader to open, review, search, and print, but not change, the document.

2.3 OPERATIONS PLAN UPDATE. Concessionaire shall update the Operations Plan annually in accordance with the procedures set forth in the Base Concession Agreement. If a portion of an Operations Plan has not changed materially from the immediately preceding Operations Plan, Concessionaire may submit only updated pages on which changes have been made. Such changes shall be underlined and all deletions shall be indicated by striking through the affected words.

2.4 OPERATIONS PLAN SUBMISSION. Each Contract Year no later than the date set in the Base Concession Agreement, Concessionaire shall deliver an electronic copy of the Operations Plan to the UMD Program Manager and such other UMD personnel (if any) designated by the Operations Management Team. Concessionaire shall also deliver a paper copy of the Operations Plan (or updated pages pursuant to Section 2.3) to the UMD Program Manager.

2.5 OPERATIONS PLAN APPROVAL. UMD shall approve the Operations Plan in accordance with the procedures set forth in the Base Concession Agreement.

2.6 OPERATIONS PLAN CONTENTS.

2.6.1 *Introduction.* Concessionaire shall summarize the operations planning process and describe the major changes from the immediately preceding Operations Plan.

(a) Concessionaire shall summarize the process by which it has identified, considered, trained, addressed, and planned all Energy System Operations activities for the Contract Year.

(b) Concessionaire shall describe how it established protocols, procedures, responsibilities, and minimum requirements to operate, repair, maintain, and replace the Equipment and other Energy System components in accordance with the Base Concession Agreement, these Operating Requirements, and Prudent District Energy Practices.

2.6.2 *Operational Goals*. Concessionaire shall provide a list of its operational goals for the Contract Year in each of four categories of Energy System Operation (operations, maintenance, repair, and replacement) and explain how those goals achieve the NextGen Objectives.

2.6.3 *PM Plan.* Concessionaire shall provide its PM Plan based on Equipment criticality and in accordance with Prudent District Energy Practices and applicable operations and maintenance best practices industry manuals. Concessionaire shall also include the plan for ensuring meter accuracy required by Part 13 hereof. The PM Plan shall comply with the requirements set forth in Part 3.

2.6.4 *Maintenance Management Program*. Concessionaire shall provide its Maintenance Management Program for the Energy Systems, which, at a minimum, shall comply with Prudent District Energy Practices and include procedures and records for asset management that include Equipment criticality, identification/documentation, Maintenance Workflow (including work prioritization based on Equipment criticality), Planned Outages, continuous improvement teams, and records management. Concessionaire shall note any major changes to the Maintenance Workflow during the immediately preceding Contract Year.

2.6.5 *Materials and Equipment Procurement and Management Plan.* Concessionaire shall include its plan for procuring and managing materials and Equipment, which, at a minimum, shall contain:

(a) A description of a process for procuring and maintaining a critical spare parts inventory for major Equipment; and,

(b) A list of certain materials designated by Concessionaire as being critical to providing Energy Services on a continuing basis and restoring such services following an Unplanned Service Outage, along with a list of sources for procuring such materials.

2.6.6 *Energy System Repairs, Replacements, and Additions*. Concessionaire shall provide a life extension plan for Energy Systems components, including Major Repairs, Replacements, additions, and major system or specific Equipment

improvements. Concessionaire shall include its estimated cost for each planned activity and shall identify any changes to existing Governmental Authorizations that may be required to implement this plan.

2.6.7 *Planned Outages.* Concessionaire shall provide a list of proposed Planned Outages for the upcoming 3 Contract Years (to the extent reasonably available) that has been developed and approved in accordance with Part 5.

2.6.8 *Electric Power Production Unit O&M Plan.* Concessionaire shall include the Electric Power Production Unit O&M Plan, that, at a minimum, shall contain the following information:

(a) Concessionaire's plan for operating the Electric Power Production Units during periods of peak demand on the local electric distribution system;

(b) Provisions describing and specifying the procedure for annual proactive, condition-based assessments of each Electric Power Production Unit based on performance data collected from the CEP's control systems, annual inspections, and OEM system mapping;

(c) Identification of the critical spare parts necessary for maintaining and maximizing the reliability and run-time of each Electric Power Production Unit, as well as the source or sources of such spare parts, their approximate cost, and Concessionaire's plan for keeping such spare parts in inventory;

(d) A description of, and schedule for, Preventive Maintenance of the Electric Power Production Units and associated Equipment;

(e) A description of, and schedule for, Planned Outages for each Electric Power Production Unit that:

(1) Recognizes the importance of maximizing the Electric Power Production Unit's runtime during period of peak electric demand; and,

(2) Prohibits Planned Outages for maintenance between June 1 and September 30 and January 1 and February 28 of each Contract Year and during any anticipated period of peak Campus electric load or without UMD's prior written consent.

2.6.9 *Standard Dispatch Protocols.* Concessionaire shall provide Standard Dispatch Protocols that, at a minimum, include the following information:

(a) Recommended procedures for balancing all factors relevant to economic dispatch of the Steam Production Units, the Electric Power Production Units, and the Chilled Water Production Units;

(b) An explanation of how the Standard Dispatch Protocols coordinate with the Electric Power Production Unit O&M Plan;

(c) Standard operating scenarios for the Steam Production Units, the Electric Power Production Units, and the Chilled Water Production Units and reasonably foreseeable situations and market scenarios under which Concessionaire would depart from these scenarios; and,

(d) Procedures and deadlines for the timely exchange of information between UMD and the Concessionaire for compliance with the Standard Dispatch Protocols.

2.6.10 *Chemical and Water Treatment Plans.* Concessionaire shall include chemical and water treatment plans and records for the Thermal System and the Chilled Water Systems that comply with the requirements of Parts 17, 19, and 20 hereof.

2.6.11 *Data Network Update and Replacement Plan.* Concessionaire shall submit its plan for keeping the Data Network's components updated, secure, and protected during the Contract Year. This plan, at a minimum, shall contain a schedule for the replacement of any outdated equipment or software.

2.6.12 *Energy System Staffing Plan*. Concessionaire shall provide a staffing plan that shall contain, at a minimum, the following information for the Contract Year:

(a) Organizational chart(s);

(b) Position descriptions for new positions created since the immediately preceding Contract Year;

(c) Concessionaire's plan for Workforce training and development;

(d) A list of professional credentials, licenses, and other certifications for each member of the Workforce;

(e) The Workforce's compliance with UMD policies on diversity and inclusion and the ratio of the value of the management, operations, and maintenance work performed by Minority Business Enterprises during the immediately preceding Contract Year to the total value of such work;

(f) One-year and five-year plans for staffing level increases or decreases, including organizational charts indicating the areas of staff addition or reduction; and,

(g) Plans for providing personnel coverage of Energy Systems' operation during an Emergency that results in UMD's closure, which plans, at a minimum, shall conform to UMD's policies for Emergency preparedness and closures and provide the following information for both short-term and long-term closures:

(1) Lists members of the Workforce designated as serving in "essential," "alternate," or "standby" during an Emergency;

(2) Provides the identity of, and contact information for, the Concessionaire communications contact(s).

2.6.13 *Safety and Security Policies and Procedures*. Concessionaire shall include its latest policies and procedures to ensure the Energy System's security and safety, including its cybersecurity plan and Accident Prevention Plan;

2.6.14 *Continuity Management Plan*. Concessionaire shall include a Continuity Management Plan that establishes procedures and protocols for continuing Energy Services during, and restoring Energy Services following, an Emergency. The Continuity Management Plan must include, at a minimum, the following information:

(a) An introduction that summarizes the Plan's purpose, scope, and underlying assumptions;

(b) Identification of Concessionaire's response teams and a brief description of each team's scope of work and the members of the Workforce assigned to each team;

(c) A contact tree identifying the identity of, contact responsibility of, and contact sequence for, all Workforce members and indicating the name of, and contact information for, the Person who will serve as the

primary contact in charge of Energy Services recovery and the Persons who will serve as alternate contacts for each Energy Service;

(d) Contact information for Concessionaire's vendors and contractors, Governmental Authorities, the UMD Program Manager, and other UMD stakeholders;

(e) Initial response activities in the following categories: leadership, communications, human resources and Workforce employee care, financials, information technology, and assessment;

(f) Identification of the critical points of failure for each Energy System and a plan for responding to an Unplanned Service Outage of the Energy Service for each such point; and,

(g) A description of how each Energy Service will be continued or recovered in each of the following three scenarios:

(1) Unavailability of majority of the members of the Workforce;

(2) Unavailability of key applications and/or Equipment;

(3) Unavailability of critical Equipment or distribution lines or inability to access the CEP, DTP, Mowatt Substation, or any UMD Building containing Equipment; and,

(4) List of supplies, materials, spare parts, and other resources that are minimally necessary for Energy Services recovery and restoration.

2.6.15 *Building Emergency Action Plan*. Concessionaire shall include a Building Emergency Action Plan that it developed in conjunction with the Continuity Management Plan to set forth procedures for the Workforce's evacuation from an Energy Systems facility quickly and safely upon the occurrence of an Emergency and other Emergency response actions it must take to protect life and property. This plan must be formatted like all other UMD Building emergency action plans and include, at a minimum, the following:

(a) Evacuation procedures and roles;

(b) Evacuation routes;

(c) Shelter-in-place location(s);

(d) Emergency communications;

(e) Training and drill schedules; and,

(f) Emergency Energy Facility contact.

2.6.16 *Changes in Law.* Concessionaire shall identify any proposed or expected Changes in Law of which Concessionaire has knowledge that may be applicable to the Energy Systems and, if so, shall include Concessionaire's assessment of the Change in Law's potential effects on the Energy Systems;

2.6.17 *Environmental and Safety Compliance Assurance Plan.* Concessionaire shall include the following information:

(a) Concessionaire shall include the latest Environmental and Safety Compliance Assurance Plan prepared pursuant to Section 10.4 hereof; and,

(b) Concessionaire shall identify any change to the Environmental Authorizations or classifications for any portion of the Energy Systems or their operation that are reasonably expected to occur during the three upcoming Contract Years of which Concessionaire has knowledge;

2.6.18 *Communications Plan.* Concessionaire shall confirm the latest Communications Plan approved by UMD and any proposed changes thereto;

2.6.19 *Hourly Rate Schedule.* Concessionaire shall include a schedule of its standard hourly and fixed rates for performing work associated with connecting new UMD Buildings to the Energy Systems or any other work related to improving the reliability, efficiency, or sustainability of the Energy Systems or UMD's use of energy; and,

2.6.20 *Quality Control Plan.* Concessionaire shall provide its Quality Control Plan, which shall set forth Concessionaire's plan of monitoring and, when necessary, correcting, its performance of these Operations Requirements and all other portions of the Concession Agreement related to the management, operation, or maintenance of the Energy Systems. The Quality Control Plan shall include a system of routine inspections in accordance with the requirements set forth in Section 16.1.

2.6.21 *MBE/Women Owned Businesses Plan.* Concessionaire shall provide its MBE/Women Owned Businesses Plan, which shall include the information set forth in Section 14.3 of the Base Concession Agreement.

2.6.22 *Progress of Phase II Capital Improvements and Phase III Capital Improvements.* Concessionaire shall identify the implementation status of each recommendation in the Decarbonization Study.

PART 3: PREDICTIVE MAINTENANCE AND PREVENTIVE MAINTENANCE

3.1 OVERVIEW. Concessionaire shall perform and track Predictive Maintenance and Preventive Maintenance in accordance with the PM Plan, which shall be prepared, updated, and approved annually as a component of the Operations Plan.

3.2 TYPES OF MAINTENANCE.

3.2.1 *Preventive Maintenance*.

(a) Preventive Maintenance is maintenance on, or inspections of, the Energy Systems or a portion thereof according to a pre-determined schedule or run time to reduce the probability of failure. "Preventive Maintenance" is synonymous with "scheduled maintenance."

(b) Preventive Maintenance includes inspection, cleaning, lubrication, adjustment, calibration, corrosion control, and part/component replacement, as required to increase the reliability and efficiency of Equipment by minimizing malfunction, breakdown, and deterioration of Equipment and by identifying any repairs required to bring Equipment up to manufacturers' operating standards.

3.2.2 *Predictive Maintenance*.

(a) Predictive Maintenance is condition-based maintenance performed on the Energy Systems or portion thereof based on regular monitoring to determine current condition and remaining life to reduce the probability of failure.

(b) Predictive Maintenance includes, at a minimum, inspections and vibration analysis, ultrasonic leak analysis, infrared analysis, laser shaft alignment, motor circuit analysis, oil analysis, video analysis, thermography testing, and other tests and analyses.

3.2.3 *Corrective Maintenance*. Corrective Maintenance occurs when Concessionaire performs specific corrective actions to return Equipment or other portion of the Energy Systems to good condition and repair after inspection, testing, observation, or operation monitoring discloses that the condition or performance of such Equipment or portion does not meet applicable standards of the OEM or the Law, is unsafe, defective, likely to fail, or otherwise deficient.

(a) Concessionaire shall provide the Corrective Maintenance necessary to maintain the Energy System in good condition and repair in accordance with Prudent District Energy Practices.

(b) Concessionaire shall issue a Corrective Maintenance Work Order for correction, restoration, or repair of each deficiency identified by Predictive Maintenance or Preventive Maintenance.

3.3 PM PLAN CONTENTS. Concessionaire shall deliver to the UMD Program Manager a comprehensive program for Preventive Maintenance and Predictive Maintenance of the Energy System as a component of its annual Operations Plan. The PM Plan shall meet the following requirements:

3.3.1 *Scope*. The PM Plan shall specify Preventive Maintenance standards and procedures for all Equipment and systems comprising the Energy System. The UMD Program Manager may conduct audits from time to time to confirm the PM Plan's scope includes all essential Equipment and systems comprising the Energy System.

3.3.2 *Standards and Procedures*.

(a) The PM Plan's minimum Preventive Maintenance standards and procedures for specific Equipment or systems shall be based on one of the following sources:

(1) OEM-recommended Preventive Maintenance standards and procedures; or,

(2) Alternate Preventive Maintenance standards and procedures proposed by Concessionaire that provide the same or better quality of Preventive Maintenance as those required by an OEM at a lower cost without compromising long-term reliability and shortening useful life, provided that no such alternate standards and procedures shall void or impair any applicable OEM warranty or guarantee.

(b) To support a proposal for alternate Preventive Maintenance standards and procedures, Concessionaire must describe the predictive technology to be used, establish performance metrics, and include the same type of information in the same detail as the applicable OEM Preventive Maintenance Standards or previously approved alternate Preventive Maintenance standards and procedures. Pending approval of its proposal,

Concessionaire shall diligently complete Preventive Maintenance and Predictive Maintenance work in accordance with the latest version of the PM Plan.

(c) If Concessionaire proposes alternate Preventive Maintenance standards and procedures, the UMD Program Manager, in consultation with the UMD Engineer and the FM Department, shall consider the proposal and notify Concessionaire as to whether the proposal is approved within 10 Business Days thereof. If UMD determines that the proposal is likely to provide the same or better quality of Preventive Maintenance at a lower cost without compromising long-term reliability and shortening useful life, then it shall approve the proposal.

3.3.3 For Preventive Maintenance of fire protection and life safety systems and Equipment, the PM Plan shall follow the National Fire Protection Association Codes and Standards and require Concessionaire to record inspection and testing results on the appropriate NFPA inspection and testing forms.

3.3.4 *Annual PM Schedule*. The PM Plan shall include an annual schedule of required activities ("Annual PM Schedule") for each piece of Equipment or other portion of the Energy System. The Annual PM Schedule shall consist of the following elements for each piece of Equipment or each portion of the Energy System to be maintained:

(a) Equipment ID number;

(b) Equipment description;

(c) Equipment location;

(d) PM to be performed;

(e) PM frequency;

(f) Last performance date;

(g) Next performance date (or dates if occurring more than once in the same Contract Year; and,

(h) Whether the PM requires an outage of Full Requirements Energy Services to any UMD Building and if so, the anticipated length of, and Concessionaire's plan for mitigation of, such outage.

3.3.5 *Predictive Maintenance*. The PM Plan shall identify each type of testing, inspection, and analysis Concessionaire typically uses for Predictive Maintenance, what triggers Concessionaire's performance of such tests, inspections, or analyses, and Concessionaire's schedule (to the extent known) for conducting them for the Contract Year.

3.4 PM PLAN IMPLEMENTATION.

3.4.1 *General Obligation*. Concessionaire shall perform all Preventive Maintenance and Predictive Maintenance in accordance with the then-effective approved PM Plan.

3.4.2 *Implementation of PM Plan*. Concessionaire shall enter information about the Equipment and portions of the Energy System subject to the PM Plan into the CMMS during its preparation of the PM Plan. Upon UMD's approval of the PM Plan, Concessionaire shall issue Preventive Maintenance and Predictive Maintenance work orders in accordance with such plan. After UMD's approval, Concessionaire shall obtain UMD's consent (which consent shall not unreasonably be withheld) prior to making changes to the CMMS database that would reduce the frequency of Preventive Maintenance services compensated in the Fixed O&M Charge or delete Equipment or systems covered by the PM Plan.

3.4.3 *Maintenance of Inventory Sufficient for Preventive Maintenance and Predictive Maintenance*. Concessionaire shall cause sufficient supplies, parts, materials, tools, and Equipment to be immediately available to support its performance of Preventive Maintenance and Predictive Maintenance in accordance with the PM Plan and to meet its other requirements under the Base Concession Agreement. Lack of availability of supplies, parts, materials, tools, or Equipment shall not relieve the Concessionaire from the requirement to complete all work within the time limits specified in the approved Annual PM Schedule unless such unavailability is caused by an Uncontrollable Circumstance.

3.4.4 *UMD Inspections of Preventive Maintenance and Predictive Maintenance Activities*. UMD may inspect or observe any Preventive Maintenance or Predictive Maintenance work that requires disassembly of Equipment or the excavation of underground piping or Utility Access Points, provided that Concessionaire shall perform such Preventive Maintenance and Predictive Maintenance work according to the schedule required in the applicable plan and shall not be required to delay such work if UMD notifies Concessionaire that it does not elect to inspect or observe.

(a) At least 2 days prior to beginning Predictive Maintenance or Preventive Maintenance on the above-noted Equipment (or such other time as may be reasonable under the circumstances), Concessionaire shall notify UMD of the scheduled time for the work's commencement and the projected time for reassembly or covering. Failure to notify UMD reasonably in advance of such reassembly or covering may result in the UMD Procurement Officer directing Concessionaire, at its sole cost and expense, to disassemble the Equipment or uncover the piping or utility access point for UMD inspection.

(b) UMD shall perform inspections under this provision in a timely manner prior to the scheduled time for reassembly or covering. Concessionaire shall notify UMD immediately if the scheduled time for reassembly or covering is advanced or postponed.

3.4.5 *PM Equipment Outages.* Concessionaire shall not interrupt Full Requirements Energy Services to any UMD Building without UMD's prior written approval. Concessionaire may take Equipment temporarily out of service for Preventive Maintenance, Predictive Maintenance, or repair under the conditions set forth in Section 5.1.2.

3.4.6 *Preventive Maintenance Deferral.*

(a) Concessionaire shall perform Preventive Maintenance in accordance with the approved Annual PM Schedule. If quarterly or annual Preventive Maintenance cannot be accomplished within the approved Annual PM Schedule due to circumstances beyond Concessionaire's control, Concessionaire may defer Preventive Maintenance for up to thirty (30) days, provided it reports all such deferrals in its annual PM Plan update.

(c) Deferral of Preventive Maintenance work shall not delay Concessionaire's subsequent performance of the work in accordance with the Approved Annual PM Schedule.

(d) Monthly and weekly Preventive Maintenance shall not be deferred. Monthly PM work shall be completed within the month for which it is scheduled in the Annual PM Schedule and weekly PM work must be completed within the week for which it is scheduled.

(e) Each month, Concessionaire shall deliver a written report to UMD listing all deferred Preventive Maintenance approved by the UMD during that month, along with previous Preventive Maintenance work that has been

deferred, but not completed. Concessionaire shall continue to include deferred Preventive Maintenance work in this report until it has been completed.

(f) The provisions of this Section 3.4.6 shall not apply to postponement of a Planned Outage for Preventive Maintenance, which shall be governed by Part 5 below.

3.5 MAINTENANCE RECORDS. Concessionaire shall maintain Records related to its maintenance of the Energy Systems in accordance with Article 13 of the Base Concession Agreement.

3.5.1 Maintenance Records that Concessionaire is required to maintain include the following information:

(a) Status of major Equipment (including emergency backup generators), noting occurrence and disposition of breakdowns, deteriorating conditions, any failure to start, and any decrease of 5% or greater in nameplate capacity or prior performance;

(b) Boiler inspection plans and results;

(c) Government-issued boiler certificates;

(d) Results of annual Equipment inspections required by the Occupational Safety and Health Administration or other Governmental Authority; and,

(e) Any other maintenance Records required by Prudent District Energy Practices.

3.5.2 *CMMS.* Concessionaire shall use the scheduling module of the CMMS for managing and documenting all PM inventory, activities, and completed work and all Service Calls and responses thereto in accordance with Section 12.2 of these Operating Requirements.

3.6 MAINTENANCE WORKFLOW.

3.6.1 Concessionaire shall establish Maintenance Workflow procedures to identify, prioritize, approve, execute, and document completion for all work. The Maintenance Workflow process shall align with the CMMS.

3.6.2 Concessionaire shall train all maintenance personnel on utilization of the Maintenance Workflow procedures, including work order generation, backlog

reviews, work prioritization, outage management, schedule development, and work completion. Concessionaire shall monitor use of the Maintenance Workflow procedures by its personnel and shall retrain such personnel as necessary to ensure the accuracy, reliability, and completeness of maintenance Records.

PART 4: SAFETY AND SECURITY OF PERSONS AND PROPERTY

4.1 **GENERAL OBLIGATION.** Concessionaire shall improve, manage, operate, and maintain the Energy Systems safely in accordance with all applicable Laws, UMD safety policies and procedures, the Operating Requirements, and Prudent District Energy Practices and shall implement all measures required by such Laws, policies, procedures, and standards to protect and secure the Energy Systems, the Workforce, and UMD's faculty, staff, students, and visitors from damage, injury, loss, data breach, or other harm.

4.2 **WORKPLACE SAFETY AND HEALTH STANDARDS.** Concessionaire shall provide a safe and sanitary workplace and shall comply with all applicable workplace safety requirements and standards established by Law, prescribed by a standard-setting entity, or followed in Prudent District Energy Practice. Concessionaire shall not require any laborer or mechanic employed or involved in the performance of the Concession Agreement to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to health or safety without correcting or mitigating such unsanitary, hazardous, or dangerous condition to the maximum extent required by Law and Prudent District Energy Practice.

4.2.1 *Specific Requirements*. Concessionaire's compliance with workplace safety requirements shall include compliance with applicable regulations of the U.S. Occupational Safety and Health Administration and the following requirements:

(a) *Electrical Safety*. Concessionaire shall comply with 29 C.F.R. 1910 Subpart S and National Electric Code 70 and 70E.

(b) *Lock Out/Tag Out Program*. Concessionaire shall develop and implement a lock out/tag out program for all Steam Production Units, all Electric Power Production Units, all Chilled Water Production Units, and all major Equipment and shall advise all subcontractors and others performing work on the Energy Systems regarding the requirements of such program.

(c) *Confined Space Program*. Concessionaire shall develop and implement a confined space entry program for controlling, and where appropriate, for protecting employees, subcontractors, and other Concessionaire Parties from hazards in confined spaces. Such program shall comply with the Law and American National Standards Institute/American Society of Safety Engineers Standard Z117.1.

(d) *Hazard Communication Program*. Concessionaire shall develop, implement, and maintain a written hazard communication program that complies with 29 C.F.R. 1910-1200(e).

(e) *Control Systems*. Concessionaire shall secure all control systems for the Energy Systems in accordance with Prudent District Energy Practices and UMD policy.

(f) *Safety and Security Alarms*. Concessionaire shall interconnect all safety and security alarms for the Energy Systems, including fire alarms, to UMD's safety and security alarm system.

(g) *Safety Training.* Concessionaire shall train all members of the Energy Systems Workforce on applicable safety and security procedures, including the Accident Prevention Plan and shall repeat such training at least once every Contract Year or at such lesser interval required by Law.

(h) *Injury Logs.* Concessionaire shall maintain all workplace injury logs and comply with workplace injury reporting requirements required by Law.

4.2.2 *Accident Prevention Plan*.

(a) No later than 60 days prior to Commencement, Concessionaire shall deliver to the UMD Program Manager an Accident Prevention Plan. Such plan shall contain the information, standards, and procedures necessary to comply with applicable Law and minimize or eliminate workplace accidents. Upon completion, the Accident Prevention Plan shall be reviewed and updated at least annually to reflect changes in applicable Law or other changed standard or procedure.

(b) Concessionaire shall include in each Accident Prevention Plan the information, standards, and procedures necessary to comply with applicable Law and minimize or eliminate injuries to Persons or property on those portions of the Campus caused by, resulting from, the condition or operation of any Energy System.

4.2.3 *Safety and Security Inspections.*

(a) Concessionaire shall cause the CEP, the DTPs, and the Mowatt Substation to be accessible at all times by the UMD Fire Marshal, UMD's Department of Environmental Safety, and the UMD Police Department;

(b) Concessionaire shall cause the Energy Systems to be accessible at all times to inspections conducted by representatives of Governmental Authorities

enforcing provisions of Law pertaining to the safe design, construction, installation, testing, or operation of the Energy Systems.

4.3 CAMPUS SAFETY AND SECURITY.

4.3.1 Upon learning of an existing or imminently unsafe condition in any UMD Building, Campus area, or portion of the Energy Systems, Concessionaire shall notify the UMD Program Manager and if necessary, the UMD Police Department (or other authority). If such unsafe condition is, or may be caused or produced by, any portion of the Energy Systems, Concessionaire shall implement all measures required by the Law, the Operating Requirements, UMD policies and procedures, and Prudent District Energy Practices, to protect all Persons and the Energy Systems and other property from injury or harm.

4.3.2 Concessionaire shall install security cameras throughout and around the CEP, the DTPs, the Mowatt Substation, and such other areas as required by Law, UMD policies, and Prudent District Energy Practices. Such cameras shall comply with UMD's specifications for, and limitations on, video surveillance and shall be interconnected with UMD's security network (at UMD's sole expense) to provide a direct feed to the UMD Police Department, provided that Concessionaire shall maintain control of the cameras.

4.3.3 Concessionaire shall promptly notify the UMD Police Department and local law enforcement upon learning of suspected or alleged criminal activity concerning the Energy Systems or any member or members of the Workforce.

PART 5: PLANNED SERVICE OUTAGES

5.1 OVERVIEW.

5.1.1 The Parties recognize that UMD is a major research institution that operates every day of the year on a 24-hour per day basis and consequently, advanced planning of outages is essential to facilitating timely construction and regular maintenance of the Energy Systems and the UMD Building Systems, avoiding outages during Major Events, shortening outage durations, and realizing cost savings and other benefits from a coordinated outage strategy. The Parties shall implement the procedures set forth in this Part 5 to achieve these objectives.

5.1.2 Nothing in these Operating Requirements shall preclude Concessionaire from planning and executing a temporary outage of Equipment for Preventive Maintenance, Predictive Maintenance, or repair in non-Emergency situations without the need of scheduling such outage in a Planned Outage Plan, provided that:

(a) The provision of Full Requirements Energy Services to UMD Buildings will not be interrupted;

(b) The maintenance or repair to be performed requires work only on the Energy Systems in areas controlled exclusively by Concessionaire or not adjacent to any Point of Demarcation;

(c) If Equipment is being disassembled, Concessionaire notifies UMD in advance of the outage pursuant to Section 3.4.4(a) hereof.

5.2 INITIAL PLANNED OUTAGE PLAN.

5.2.1 *Planned Outage Schedules.*

(a) Construction.

(1) No later than 30 days after the Effective Date, , Concessionaire shall deliver to the UMD Program Manager an initial schedule of Planned Outages required during the following 30 days for the construction, installation, or commissioning of the Phase I Capital Improvements.

(2) No later than 60 days after the Effective Date and every 30 days thereafter until Phase I Substantial Completion, Concessionaire

shall deliver to the UMD Program Manager a schedule of Planned Outages required for the following 30 days.

(b) Operation and Maintenance. No later than 60 days prior to Commencement, Concessionaire shall deliver to the UMD Program Manager a schedule of Planned Outages that Concessionaire expects will be required to maintain the Energy Systems during the first Contract Year, along with a schedule of anticipated Planned Outages affecting UMD Building Systems for the three Contract Years beginning at Commencement.

5.2.2 *Supporting Information.* For each Planned Outage identified in a schedule submitted pursuant to Section 5.2.1, Concessionaire shall identify the UMD Buildings affected, the outage's purpose, the outage's beginning and ending dates, and any measures required to mitigate the outage's adverse effects (including the utilization of temporary equipment).

5.2.3 *UMD Outages.* Upon receipt of Concessionaire's outage schedules under Section 5.2.1(b), the UMD Program Manager shall convene the Operations Management Team to review and discuss them. The UMD Program Manager may invite an appropriate Facilities Management representative, the UMD Building Managers, and the Department Representatives to such meeting for the purpose of coordinating anticipated UMD Building outages and Concessionaire's Planned Outages to minimize the total length of the outages to the greatest extent possible.

5.2.4 *Final Initial Planned Outage Schedule.* Based upon UMD's input under Section 5.2.3, Concessionaire shall deliver to the UMD Program Manager a composite Planned Outage schedule, The UMD Program Manager shall convene Operations Management Team to review and approve the schedule. Upon approval, the UMD Program Manager shall distribute the Planned Outage schedule to Facilities Management, the Department Representatives, and the UMD Building Managers.

5.3 ANNUAL PLANNED OUTAGE PLANS.

5.3.1 At least quarterly during each Contract Year (or such other interval that the Operations Management Team shall set), the Operations Management Team shall meet with the UMD Building Managers and the Department Representatives to exchange information regarding maintenance activities, upcoming Project construction, and Planned Outages for the next three Contract Years and to plan measures to mitigate the adverse effects of any such work and outages. The

Program Executive (or designee) shall keep written minutes of these meetings and distribute them to the attendees promptly following each meeting.

5.3.1 No later than 90 days prior to the end of each Contract Year, Concessionaire shall deliver to the UMD Program Manager for distribution to the UMD Building Managers and the Department Representatives a proposed Planned Outage schedule for the next three Contract Years containing the information identified in Section 5.1.1(a). Recipients of Concessionaire's plan shall be given at least 21 days from the date of Concessionaire's transmittal to comment on the proposal.

5.3.2 No later than 60 days prior to the end of each Contract Year, the UMD Program Manager shall convene the Operations Management Team to review, discuss, and approve such list. The UMD Program Manager may invite UMD Buildings Managers and the Department Representatives to such meeting. Upon the Operations Management Team's approval, UMD and Concessionaire shall maintain their respective energy systems in accordance with the Approved Planned Outage Schedule.

5.4 NOTICE.

5.4.1 No later than 60 days prior to each Planned Outage shown on the Approved Planned Outage Schedule, the Program Executive shall notify the UMD Program Manager, each affected UMD Building Manager, and each affected Department Representative of the upcoming outage and request confirmation that the outage may proceed as scheduled.

5.4.2 Each UMD Building Manager and each Department Representative shall respond within 7 days following the outage notice, either confirming that the Planned Outage may proceed or requesting that the outage be cancelled or postponed. If a response has not been received during such 7-day period, the Program Executive shall establish direct personal contact with each nonrespondent to obtain such information.

5.4.3 If the Program Executive cannot establish contact with each UMD Building Manager and each Department Representative to be affected by the Planned Outage within 20-days following the outage notice, the Program Executive shall compile a list of nonrespondents and the dates and times the Program Executive has attempted to contact them. The Program Executive shall transmit such list to the UMD Program Manager, who shall direct such list to the appropriate UMD executive or supervisor. If the Program Executive does not receive a response by 30 days prior to the beginning of the outage, such outage shall proceed according to the Approved Planned Outage Schedule.

5.5 APPROVED PLANNED OUTAGE PLAN CHANGES.

5.5.1 The Operations Management Team may adjust the Approved Planned Outage Schedule from time to time as it deems appropriate. The Program Executive shall notify all UMD Building Managers and Department Representatives of all such changes promptly upon their approval, provided that such notification is given no less than 30 days prior to the beginning of the first Planned Outage affected by the change.

5.5.2 If a UMD Building Manager or Department Representative requests the delay or cancellation of a Planned Outage, the Operations Management Team shall evaluate such request according to the effect of such delay or cancellation on that operation and maintenance of the Energy Systems and the UMD Building Systems, mitigation measures, the costs associated with the delay or cancellation, and other relevant factors. The Operations Management Team shall approve the outage's delay or cancellation only if the adverse effects and additional costs of the delay or cancellation outweigh the effects and costs of proceeding with the outage as scheduled. Concessionaire shall maintain a log of delays and cancellations approved by the Operations Management Team and shall take the reasons for them into account when preparing the next Planned Outage Plan. Unless the Parties otherwise agree, any additional costs shall be borne by the Party requesting the delay or cancellation.

5.5.3 Concessionaire shall use commercially reasonable efforts to negotiate agreements with its subcontractors and suppliers that allow Concessionaire to postpone Planned Outages upon at least twenty-one (21) days prior notice (or such other time specifically related to the nature of the work to be performed and the Equipment involved) without incurring costs, expenses, or other liabilities. Concessionaire shall notify UMD Program Manager of the results of these negotiations and shall incorporate the applicable postponement deadlines into each Planned Outage Plan.

5.5.4 Unless a Party has arranged for a temporary Chilled Water Production Unit, Steam Production Unit, Hot Water Production Unit, or Electric Power Production Unit to provide Chilled Water Service or Heating Service or generate electricity during a Planned Outage or has secured UMD's prior approval to waive this requirement, the Parties shall not schedule a Planned Outage of any such unit during any of the following periods:

(a) During a recurring Major Event;

(b) From October 1 through April 30 for a Planned Outage of all or any component of the Thermal System;

(c) From May 1 through September 30 for a Planned Outage of any Steam-Driven Chiller;

(d) From May 1 through September 30 for a Planned Outage of any Electric Power Production Unit; and,

(e) From May 1 through September 30 for a Planned Outage of any electric-driven Chilled Water Production Unit.

PART 6: EMERGENCIES; UNPLANNED SERVICE OUTAGES

6.1 APPLICABILITY. This Part 6 governs Unplanned Service Outages of the Energy Systems and Emergencies. Service Calls in non-Emergency situations are addressed in Part 7.

6.2 UNPLANNED SERVICE OUTAGE DEFINITIONS.

6.2.1 *Heating Service Unplanned Service Outage.* An Unplanned Service Outage of Heating Service occurs when:

(a) Steam pressure at a Thermal Demarcation Point served by the Steam System is less the Steam Delivery Pressure Requirement for more than 15 consecutive minutes;

(b) Hot Water is unavailable at a Thermal Demarcation Point that is served by a Hot Water System;

(c) Heating Service is available at a Thermal Demarcation Point, but does not comply with the applicable Heating Quality Standards; or,

(d) Concessionaire plans and implements an outage of Heating Service to any Thermal Demarcation Point that is not:

(1) A Planned Outage of which Concessionaire properly notified UMD in compliance with Sections 5.3 and 5.4;

(2) An outage to respond to respond to an Emergency; or,

(3) A change to a final Initial Planned Outage Plan or an Annual Planned Outage Plan that has been pre-approved by the Operations Management Team.

6.2.2 *Electric Service Unplanned Service Outage*. An Unplanned Service Outage of Electric Service occurs when:

(a) Electric Service is unavailable at an Electric Demarcation Point;

(b) Electric Service is available at an Electric Demarcation Point, but does not meet the Electric Service Quality Standards; or,

(c) Concessionaire plans and implements an outage of Electric Service to an Electric Demarcation Point that is not:

(1) A Planned Outage of which Concessionaire properly notified UMD in compliance with Section 5.3 and 5.4;

(2) An outage to respond to an Emergency; or,

(3) A change to the Planned Outage Plan scheduled then in effect that has been pre-approved by the Operations Management Team.

6.2.3 *Chilled Water Outage*. An Unplanned Service Outage of Chilled Water Service occurs when:

(a) Chilled Water is unavailable at a Chilled Water Demarcation Point;

(b) Chilled Water is available at a Chilled Water Demarcation Point, but its temperature exceeds 45 degrees for a period of time identified in Concession Agreement Appendix O-5, Section 4.3;

(c) Concessionaire plans and implements an outage of Chilled Water Service to a Chilled Water Demarcation Point that is not:

(1) A Planned Outage of which Concessionaire properly notified UMD in compliance with Section 5.3 and 5.4

(2) An outage to respond to respond to an Emergency; or,

(3) A change to the Planned Outage Plan scheduled then effect that has been pre-approved by the Operations Management Team.

6.3 NOTICE OF UNPLANNED SERVICE OUTAGES AND EMERGENCIES.

6.3.1 *Notice.* The Customer Response Center shall notify Concessionaire and the Key Operating Contractor immediately upon learning of an Unplanned Service Outage or Emergency. If Concessionaire identifies an Unplanned Service Outage or Emergency prior to receiving notice thereof from the Customer Response Center, Concessionaire shall contact the Customer Response Center immediately to initiate procedures for notifying the UMD Program Manager and other UMD personnel.

6.3.2 *Acknowledgement of Notice.* The Plant Manager or on-duty shift operations supervisor shall acknowledge receipt of the Customer Response Center's notice

immediately upon receipt. Such acknowledgement shall not be a computer-generated automatic response.

6.4 EMERGENCY RESPONSE.

6.4.1 Immediately upon being notified of, or identifying, an Emergency, Concessionaire shall take appropriate action to protect persons and property from injury, damage, or destruction. If Concessionaire identifies the Emergency before receiving notification from UMD, Concessionaire shall notify the UMD Program Manager, the Customer Response Center, and, if required, the Incident Response Team.

6.4.2 Concessionaire shall support all procedures and activities required by UMD during an Emergency, including the marking of Energy Systems lines if necessary, and perform its responsibilities required by Law, the Continuity Management Plan, the Building Emergency Action Plan, and all other applicable Emergency plans and requirements.

6.4.3 During an Emergency, Concessionaire shall work cooperatively with UMD to resolve the Emergency and restore Energy Services.

6.5 ENERGY SERVICE RESTORATION.

6.5.1 *Response Time.* Concessionaire's initial response to an Unplanned Service Outage shall consist of an Assessment Phase and a Restoration Commencement Phase.

(a) *Assessment Phase.* Concessionaire shall complete the Assessment Phase as soon as is reasonably possible, but in no case more than 30 minutes following the Customer Response Center's initiation of the process of notifying Concessionaire pursuant to Section 6.3.1. To the extent possible, in the Assessment Phase, Concessionaire shall inspect the portion(s) of the Energy Systems causing the Unplanned Service Outage and determine the personnel, materials, supplies, and Equipment required to restore the affected Energy Service.

(b) *Restoration Commencement Phase.* The Restoration Commencement Phase begins when Concessionaire completes its inspection of the portion(s) of the Energy Systems causing the Unplanned Service Outage and ends when skilled personnel arrive at the site and commence working to restore service. Concessionaire shall complete the Restoration Commencement Phase within 1 hour following the Concessionaire's discovery or notification of an Unplanned Service Outage of Heating Service

or Electric Service and within 2 hours following such discovery or notification for any Unplanned Service Outage of Chilled Water Service.

6.5.2 *Energy Service Restoration.*

(a) Subject to Section 6.5.2(c), Concessionaire shall restore the Energy Services experiencing the Unplanned Service Outage no later than 24 hours following its identification of the Unplanned Service Outage or its notification of such outage by the CRC, whichever first occurs. Concessionaire may restore the affected Energy Service on a temporary basis pending completion of a permanent Repair.

(b) Unless otherwise directed by UMD, Concessionaire shall work continuously on a 24-hour basis without stopping until the Energy Service affected by the Emergency is restored.

(c) If restoration of an Energy Service affected by an Unplanned Service Outage requires more than 24 hours to complete, then Concessionaire shall notify UMD orally and in writing immediately upon learning of the need for such additional time. Concessionaire shall state the reason for the additional time, the estimated amount of additional time required, the estimated costs and expenses required, and the steps Concessionaire is taking to expedite the Energy Service restoration and minimize the adverse effects of the Unplanned Service Outage on UMD's operations, personnel, or students. Concessionaire shall update both the UMD Program Manager and the Campus outage map as to the progress of the Repair and the estimated time of Energy Service restoration at least once during each 24-hour period or at such shorter interval specified by the UMD Program Manager.

(d) *Order of Energy Services Restoration.* If an Unplanned Energy Service Outage affects more than one UMD Building, UMD shall notify Concessionaire as soon as possible under then-prevailing circumstances as to the preferred order in which Energy Services for the affected UMD Buildings should be restored. Alternatively, UMD may develop in consultation with Concessionaire a schedule of UMD Buildings identifying those with temperature or electric supply-sensitive activities for which Energy Service restoration must occur as soon as possible.

(e) *Report.* Within 30 days following restoration of an Energy Service affected by an Unplanned Service Outage more than 2 hours in duration or if Concessionaire seeks UMD's reimbursement for all or any part of its costs

and expenses of restoration pursuant to Section 6.5.3, Concessionaire shall deliver to the UMD Program Manager a report describing the Unplanned Service Outage's cause, the steps taken by Concessionaire to restore Energy Service on a temporary and permanent basis, and measures to prevent a recurrence of similar outages. Along with this report, Concessionaire shall submit operation and maintenance records for the portion of the Energy Systems that was the cause of the Unplanned Service Outage along with invoices and other documents supporting the costs of Energy Service restoration.

6.5.3 *Payment of Energy Service Restoration Costs and Expenses.*

(a) Concessionaire shall advance all costs and expenses to restore Full Requirements Energy Services following an Unplanned Energy Service Outage.

(b) Concessionaire may seek reimbursement of its costs and expenses under Section 6.5.3(a), provided that Concessionaire shall not draw upon the NextGen Reserve or any other funding source to pay:

(1) The cost of personnel, supplies, materials, and Equipment for which it is compensated pursuant to the Fixed O&M Charge (including any overtime pay); or,

(2) If the Equipment or other portion of the Energy Systems subject to the restoration is within the scope of any Capital Improvement scheduled to commence within 12 months following the Concessionaire's discovery, or the Customer Response Center's notification of, the Unplanned Service Outage.

(c) UMD shall evaluate Concessionaire's request to draw on the NextGen Reserve or other funding source to pay the costs and expenses of Energy Service restoration according to the following procedure:

(1) If UMD disputes Concessionaire's identification of the Unplanned Service Outage's cause or any specific costs or expenses it incurred in restoring Energy Service, an Independent Engineer (selected according to the process set forth in Section 9.12.3(e) of the Base Concession Agreement) shall analyze Concessionaire's report and if necessary, perform a root cause analysis or audit the Energy Service restoration costs.

(2) UMD may require Concessionaire to pay all or a portion of the costs and expenses of the Independent Engineer's analysis and the Energy Service restoration if the Independent Engineer determines that:

(i) The Unplanned Service Outage resulted in whole or in part from Concessionaire's failure to properly operate and maintain the affected Equipment or Energy System in accordance with these Operating Requirements or any provision of the Base Concession Agreement; or,

(ii) The total amount of such costs and expenses exceeds by more than 10% the amount estimated by Concessionaire pursuant to Section 6.5.2 above and Concessionaire has not justified incurring such excess costs and expenses as reasonable under the Unplanned Service Outage's circumstances and required by Prudent District Energy Practices.

(d) Subject to Sections 6.5.3(b) and (c), if funds in the NextGen Reserve or other designated funding source are insufficient to reimburse the total amount of Energy Service restoration, Concessionaire shall charge, and UMD shall pay, the overage as Reimbursable Costs.

6.6 EMERGENCY PLANNING AND TRAINING.

6.6.1 *Continuity Management Plan; Building Emergency Action Plan*. Concessionaire shall comply with, evaluate annually, and update as needed the Continuity Management Plan and the Building Emergency Action Plan. Concessionaire's personnel training program shall include training in implementing these plans.

6.6.2 *Emergency Drills*. Concessionaire shall conduct, and participate in, Emergency drills as required by Law, Prudent District Energy Practices, or by UMD.

6.6.3 *UMD Incident Response Team; Emergency Management Council*. Concessionaire and the Key Operating Contractor each shall designate a representative to participate in UMD's Incident Response Team and its Emergency Management Council. Such representative shall:

(a) Attend meetings of the Team and the Council;

(b) Obtain such emergency training as UMD requires; and,

(c) Coordinate with UMD to plan for, and respond to, Emergencies in Energy Facilities, UMD Buildings, or other areas of UMD's campus.

6.7 MAJOR EVENTS.

6.7.1 UMD shall notify Concessionaire of each Major Event as soon as it is scheduled. At least 48 hours before any Major Event, Concessionaire shall:

(a) Prepare and deliver to the UMD Program Manager a response plan to address any Unplanned Service Outage or any Emergency that could arise during the Major Event, which plan shall address the specific risks presented by the Major Event; and,

(b) Notify the UMD Program Manager, UMD's Strategic Communications Department, and its Incident Response Team of the identity of a subject matter expert to serve as an on-call resource throughout the Major Event for information about the Energy Systems, provided that immediately upon UMD's request, Concessionaire shall make such expert available for consultation with UMD Facilities Management and UMD's communication personnel.

6.7.2 If UMD does not notify Concessionaire sufficiently in advance of a Major Event to allow Concessionaire to prepare and deliver the information required by Section 6.6.1(a), then Concessionaire shall deliver such information as soon as practicable.

6.7.3 If a group of similar Major Events (such as UMD home football games) are scheduled during a Contract Year, Concessionaire may provide the information required by Section 6.6.1(a) for the entire group, unless UMD otherwise directs.

PART 7: NON-EMERGENCY SERVICE CALLS

7.1 NON-EMERGENCY SERVICE CALL INITIATION.

7.1.1 *Service Call Requests*. Service Call Requests shall be transmitted to Concessionaire only by the UMD Program Manager or the Customer Response Center. Concessionaire shall not be required to respond to Service Call Requests transmitted by any other person or entity.

7.1.2 *Acknowledgment of Service Call Request*. The Plant Manager or on-duty Shift Operations Supervisor shall acknowledge each Service Call Request immediately upon receipt. Such acknowledgement shall not be a computer-generated automatic response.

7.1.3 *Service Call Classification.* The UMD Program Manager or Customer Response Center shall classify the Service Call as Urgent, Hot/Cold, or Routine and Concessionaire shall respond within the times and according to the procedures set forth in this Part 7.

7.2 COMPLIANCE WITH REQUIRED RESPONSE/COMPLETION TIMES. The time within which Concessionaire must respond to Service Calls begins when the UMD Program Manager or the CRC notifies Concessionaire of the Service Call Request and ends when Concessionaire's personnel arrive at the site of the event or condition that gave rise to the Service Call. In the case of multiple simultaneous Service Calls, Concessionaire shall prioritize its response according to its reasonable judgement unless UMD notifies it otherwise.

7.3 URGENT SERVICE CALLS.

7.3.1 *Definition.* An Urgent Service Call arises in a non-Emergency situation in which Concessionaire's response is required as soon as is reasonably possible.

7.3.2 *Response*. Concessionaire's personnel shall arrive and commence work at the site of the event or condition that prompted the Urgent Service Call request no later than two (2) hours after notice by the UMD Program Manager or the Customer Response Center of the Service Call Request during Normal Work Hours. If the UMD Program Manager or the Customer Response Center gives notice of the Urgent Service Call Request after 3:00 p.m. on a workday or outside Normal Work Hours, Concessionaire shall inspect the portion of the Energy Systems prompting the Urgent Service Call as soon as possible to secure it against imminent safety and environmental hazards, personal injury, or property damage and continue the Repair or other work during Normal Work Hours for the next workday.

7.3.3 *Repair Completion*. Concessionaire shall diligently complete the Repair or, or other work to address, the event or condition that prompted the Urgent Service Call. Such Repair or work must be completed during Normal Work Hours within seventy-two (72) hours following the notice of the Service Call Request. If the Repair cannot be completed within such seventy-two (72) hour period, then Concessionaire shall notify the UMD Program Manager orally and in writing immediately upon learning of the need for additional time. Concessionaire shall state the reasons for the additional time, the amount of additional time required, and the steps Concessionaire will take to expedite the completion of the Repair or other work and minimize its adverse effects on UMD's operations, personnel, or students, including the installation of a temporary Steam Production Unit or a temporary chiller.

7.3.4 *Service Records*. If the Urgent Service Call arises in whole or in part from failed Equipment that causes Concessionaire to require more than seventy-two (72) hours to complete a Repair, Concessionaire shall leave the original Record of the Service Call open until the Repair's completion, associate such Service Call to the failed Equipment, and record the Repair in the CMMS Equipment history database records, noting the hours worked to complete the Repair, the materials used, and the equipment rented.

7.4 HOT/COLD SERVICE CALLS.

7.4.1 *Definition*. A Hot/Cold Service Call arises from a request for adjustment of the temperature in a UMD Building.

7.4.2 *Response.* Concessionaire's personnel shall arrive at the site of the event or condition prompting the Hot/Cold Service Call request and shall commence work no later than thirty (30) minutes after notice of the Service Call Request during Normal Work Hours. If Concessionaire receives a Hot/Cold Service Call request after 4:30 p.m. on a workday or outside Normal Work Hours, Concessionaire shall utilize its best efforts to arrive at the building or facility as soon as reasonably possible after receipt of the Service Call Request, but in no event later than 8:30 a.m. during the next workday's Normal Work Hours.

7.4.3 *Required Repair*. Upon arrival at the site of the event or condition prompting the Hot/Cold Service Call, Concessionaire shall check the pressure and temperature of steam or chilled water delivered by the Energy Systems. If the delivery temperatures conform to those set forth in Parts 17 and 19, Concessionaire shall promptly notify UMD regarding possible malfunction of the UMD Energy Systems for that building or facility. If the delivery temperatures do not so conform, then Concessionaire shall complete necessary Repairs or other work as soon as reasonably possible during Normal Work Hours.

7.4.4 *Service Records*. If the Hot/Cold Service Call arises in whole or in part from an Equipment failure, Concessionaire shall leave the original Record of the Service Call open until the Repair's completion, associate such Service Call to the failed Equipment, and record it in the CMMS Equipment history database records, noting the hours worked to complete the repair, the materials used, and the equipment rented.

7.5 ROUTINE SERVICE CALLS.

7.5.1 *Definition.* A Routine Service Call arises from services that are required on a recurring basis and can be resolved for less than $1,000.

7.5.2 *Response*. Concessionaire shall commence work at the site of the event or condition that prompted the Routine Service Call request no later than 24 hours after notice by the UMD Program Manager or the Customer Response Center of the Service Call Request during Normal Work Hours, but in no event more than 72 hours after notice of the Routine Service Call Request. Concessionaire shall notify UMD and the person making the Routine Service Call Request regarding the additional response time.

7.5.3 *Repair Completion*. Concessionaire shall diligently repair the event or condition that prompted the Routine Service Call or shall perform required maintenance or other service. Such Repair or maintenance must be completed within 24 hours following start of the Service Call. If the Repair cannot be completed within such time, then Concessionaire shall notify UMD orally and in writing immediately upon learning of the need for additional time. Concessionaire shall state the reasons for the additional time, the amount of additional time required, and the steps Concessionaire will take to expedite the Repair's completion and minimize its adverse effects on UMD's operations, personnel, or students.

7.5.4 *Service Records*. If the Routine Service Call arises in whole or in part from an Equipment failure that causes Concessionaire to require more than 120 hours following receipt of the notice by the UMD Program Manager or the Customer Response Center, Concessionaire shall leave the original Record of the Service Call open until the Repair's completion, associate such Service Call to the failed Equipment, and record the Repair in the CMMS Equipment history database records, noting the hours worked to complete the repair, the materials used, and the equipment rented.

PART 8: UNDERGROUND ENERGY SYSTEM MARKING; GIS MAPPING

8.1 UNDERGROUND ENERGY SYSTEM MARKING.

8.1.1 *Energy System Marking*. Upon notice by the UMD Program Manager, Concessionaire shall mark the portions of the Energy Systems that are located underground at the site identified in the notice. Except for Emergency markings pursuant to Section 6.4.2, Concessionaire shall acknowledge receipt of such notice within 24 hours and shall complete such marking no later than 120 hours following such receipt or such other time agreed upon by Concessionaire and UMD.

8.1.2 *Design Support*. Upon notice by the UMD Program Manager, Concessionaire shall provide Energy Systems location information and other information to support design activities during UMD construction planning and development.

8.2 GIS MAPPING. UMD shall grant Concessionaire access to its Geographic Information System for the limited purpose of updating the Global Positioning System coordinates for Thermal System and Electric Distribution System utility access points and other major Energy System facility locations so that the GIS accurately depicts the Energy Systems' location. Concessionaire shall complete such update no later than 10 days following a change in the location of any portion of the Energy Systems or Substantial Completion of a Capital Improvement.

PART 9: NEXTGEN DESIGN CRITERIA/FACILITIES STANDARDS

9.1 **GENERAL OBLIGATION.** Concessionaire shall perform the Concession Agreement in accordance with the Design Criteria.

9.2 **DESIGN CRITERIA CHANGES PROPOSED BY UMD.** UMD shall notify Concessionaire of any proposed amendment of the Design Criteria. Concessionaire shall review such amendment promptly and advise UMD whether, and if so, specifically how, such amendment would materially affect Concessionaire's performance of the Concession Agreement or the amount of any component of Concessionaire's charges thereunder. If UMD adopts the proposed amendment, the Procurement Officer shall issue a Change Order equitably adjusting the applicable charge, provided that the amount of the adjustment reflects only the incremental cost directly resulting from the amendment.

9.3 **CONCESSIONAIRE-PROPOSED CHANGES.** Concessionaire may propose changes to the Design Criteria that it believes would enhance the operational efficiency or reliability of the Energy Systems, result in reductions to Concessionaire's charges under the Concession Agreement, or confer other benefits on UMD. Concessionaire shall propose any such change to the UMD Program Manager, who shall submit the change to the Operations Management Team for consideration and recommendation. Upon approval of the change by UMD, the Parties shall amend Appendix J as necessary and, if required, the Procurement Officer shall issue a Change Order equitably adjusting the applicable portion of the DC/FS.

9.4 **WAIVER.** Upon Concessionaire's request, UMD's Associate Vice President of Facilities Management, upon recommendation the UMD Program Manager, may grant a limited waiver of the DC/FS in the following circumstances by notifying Concessionaire and all UMD members of the Operations Management Team in writing, provided that such waiver shall be narrowly tailored to apply only to the specific situation identified in Concessionaire's request:

9.4.1 When necessary to facilitate Energy Service restoration on a temporary basis following an Unplanned Service Outage, provided that:

(a) Subsequent permanent Energy Service restoration measures comply fully with the DC/FS;

(b) The waiver materially advances temporary Energy Service restoration without compromising the safety of persons or property; and,

(c) The waiver does not cause either Concessionaire or the affected Energy System to violate any Law.

9.4.2 When necessary to manage, operate, and maintain any Innovation Zone energy initiative or other measure that advances the NextGen Objectives, provided that:

(a) The initiative or measure has been approved pursuant to the Concession Agreement;

(b) The waiver materially advances achievement of the applicable NextGen Objective without compromising the safety of persons or property; and,

(c) The waiver does not cause either Concessionaire or the affected Energy System to violate any Law.

PART 10: ENVIRONMENTAL COMPLIANCE

10.1 **GENERAL OBLIGATION.** Concessionaire shall manage, operate, and maintain the Energy Systems in accordance with applicable Environmental Laws and all Governmental Authorizations issued pursuant thereto.

10.2 **ENVIRONMENTAL RISK ALLOCATION.** Article 11 of the Base Concession Agreement articulates the Parties' allocation of risk for violations of Environmental Laws and Governmental Authorizations and their respective responsibilities for bearing the cost to remediate Environmental Matters. The following provisions apply to Concessionaire's compliance with Environmental Laws, Governmental Authorizations, and directives issued by a Governmental Authority while managing, operating, and maintaining the Energy Systems.

10.3 **GOVERNMENTAL AUTHORIZATIONS.** Concessionaire shall accurately monitor all air emissions and water or other discharges from the Energy Systems for compliance with Governmental Authorizations. The Parties shall cooperate, through the Operations Management Team, in applying for, securing, maintaining, modifying, and renewing all Governmental Authorizations necessary for operating and maintaining the Energy Systems and any Capital Improvements thereto.

10.3.1 *Application*. Concessionaire shall deliver to UMD in a timely manner all information necessary for preparing an application seeking approval, modification, or renewal of a Governmental Authorization. Concessionaire shall have the right to review and comment on such application for at least 7 days prior to its submittal.

10.3.2 *Supporting Testimony.* Upon UMD's request, Concessionaire shall testify and otherwise support an application for a Governmental Authorization before all Governmental Authorities.

10.3.3 *Discussions with Governmental Authorities*. Concessionaire shall have the right to be notified of, and participate in, all discussions and communications with Governmental Authorities regarding an application for approval, modification, or renewal of a Governmental Authorization.

10.3.4 *Concessionaire's Costs*. Concessionaire shall bear its own costs associated with its preparation of information for, review of, and testimonial support for, all applications for approval, modification, or renewal of any Governmental Authorization up through issuance of a final, non-reviewable order by the Governmental Authority that is acceptable to UMD (including, but not limited to, any application for rehearing or hearing on remand).

10.3.5 *Fees*. Concessionaire shall not be responsible for paying fees (including annual fees) associated with Governmental Authorizations related to air emissions, water, or other discharges from the Energy Systems.

10.4 ENVIRONMENTAL COMPLIANCE.

10.4.1 *Environmental and Safety Compliance Assurance Plan*. Concessionaire shall develop, implement, and update annually an Environmental and Safety Compliance Assurance Plan for review by UMD. Such plan will include the following components:

(a) A list of environmental regulatory and Governmental Authorizations applicable to the Energy Systems;

(b) A methodology for monitoring and assurance compliance with each of these requirements;

(c) A schedule for required testing, reporting, and auditing (including review periods for UMD review prior to submittal); and,

(d) Procedures for addressing and correcting instances of noncompliance.

10.4.2 *Reporting to Governmental Authorities.* Concessionaire shall complete and file all environmental reports for the Governmental Authorizations held in its name as required by Environmental Law, Governmental Authorizations, or a Governmental Directive.

(a) The Parties shall cooperate through the Operations Management Team in compiling information for such reports.

(b) UMD shall have the right to review each environmental report prepared by Concessionaire for at least 7 days prior to its submission.

(c) Concessionaire shall include all environmental report filing fees and related charges by a Governmental Authority in its Annual Operating Budget and recover them through the Fixed O&M Charge.

(d) Promptly upon submitting an environmental report to a Governmental Authority, Concessionaire shall deliver (or make available) one electronic copy of such report to the UMD Program Manager.

10.4.3 *UMD-Required Environmental Reporting.* Concessionaire shall deliver to the UMD Program Manager in a timely manner all operation and environmental and related information for inclusion in Campus-wide environmental reports and compliance filings prepared by UMD.

10.4.4 *Concessionaire's Costs and Expenses.* Concessionaire shall pay all costs and expenses of complying with Government Authorizations held in its name and with preparing information to support UMD's compliance with Governmental Authorizations held in UMD's name, including the costs and expenses of all emission performance testing and analysis.

10.5 ENVIRONMENTAL MATTERS AND CLAIMS.

10.5.1 *Notice to UMD.*

(a) If Concessionaire learns of any Environmental Matter or commits any act, or omits to act, during its performance of the Concession Agreement and such act or omission either actually causes or results in, or is likely to cause or result in any of the following matters, Concessionaire shall immediately, and before any substance is disturbed or any action taken (other than any action required to respond to an Emergency), notify the UMD Program Manager and UMD's Department of Environmental Safety, Sustainability, and Risk:

(1) A violation of an Environmental Law or Governmental Authorization issued pursuant thereto that is required by Law to be reported;

(2) An Environmental Matter that could result in an Environmental Claim; or,

(3) An Environmental Claim,

(b) Concessionaire's notice shall include:

(1) A description of the Environmental Matter or act or omission resulting in such violation, Environmental Matter, or Environmental Claim;

(2) Any action taken by Concessionaire with respect thereto; and,

(3) Any proposed contact or communication with any Governmental Authority regarding the Environmental Matter, act, or omission.

10.5.2 NOTICE TO GOVERNMENTAL AUTHORITIES.

(a) *Governmental Authorizations Held by Concessionaire.*

(1) Except for an Environmental Matter or an act or omission that causes, or is likely to cause, a violation of a Governmental Authorization held by UMD, Concessionaire shall notify the appropriate Governmental Authority of the Environmental Matter, act, or omission within the time and in the manner required by Law.

(2) Concessionaire shall be responsible for all subsequent communications, responses and follow-up meetings with such Governmental Authorities regarding, or with respect to, such condition or violation. UMD shall be notified of, and have the right to participate in, communications, responses, and follow-up meetings. UMD shall also have the right to review all written communications with any Governmental Authority prior to submission.

(b) *Governmental Authorizations Held by UMD*. Upon receipt of Concessionaire's notification, UMD shall be responsible for all subsequent notices, communications, responses, and follow-up meetings with such Governmental Authorities regarding, or with respect to, such violation. Concessionaire shall have the right to be notified of, and to participate in, communications, responses, and follow-up meetings. Concessionaire shall also have the right to review all written communications with any Governmental Authority prior to submission.

10.6 REMEDIATION REQUIREMENTS AND PROCEDURES.

10.6.1 *Remediation Decisions.* The Parties shall cooperate in remediating any Environmental Matter that arises during the Term. The Parties acknowledge that UMD will make the final decision, in its sole discretion, of how an Environmental Matter will be remediated, subject to the requirements of any applicable Environmental Law.

10.6.2 *Remediation Process*.

(a) *Generally.* Concessionaire shall remediate Environmental Matters occurring or discovered during the Term, provided that Concessionaire shall charge UMD, and UMD shall pay Concessionaire from available funds, only those remediation costs for which Concessionaire is not responsible under the Concession Agreement.

(b) Concessionaire shall take all actions reasonably necessary for restoring the portion of the Campus affected by the Environmental Matter and for cleaning up, controlling, removing, and disposing of Hazardous Substance associated therewith to the extent required by Law and to eliminate, reduce, and minimize any potential Environmental Claim.

(c) *Asbestos.*

(1) Except in Emergencies, Concessionaire shall immediately stop work and notify UMD if it encounters asbestos or asbestos containing material while maintaining or repairing any Energy System and removal of such asbestos is required by Law or necessary to perform the required maintenance or repair.

(2) In an Emergency, Concessionaire shall take all precautions necessary to ensure the safety of persons and property before stopping work and providing such notice.

(3) Upon approval by UMD, Concessionaire shall remove such asbestos or asbestos containing materials and then proceed with the repair or maintenance, using a Subcontractor qualified under the Law to perform such work or its Staff, provided they have been trained as Class III asbestos workers under 29 C.F.R. 1910.1101 (or equivalent or stricter standards).

10.7 WASTE MANAGEMENT.

10.7.1 *General Rule*. Concessionaire shall manage and dispose of all Waste associated with, or arising from, its management, operation, or maintenance of the Energy Systems safely and in compliance with the Law and UMD policies. Concessionaire shall be responsible for the cost of all Waste disposal.

10.7.2 *Generator of Record.* Concessionaire shall be the generator of record for all Waste generated by the management, operation, and maintenance of the Energy Systems.

10.7.3 *Reuse and Recycling.* Concessionaire shall use commercially reasonable efforts to (i) manage, operate, and maintain the Energy Systems in a manner that reduces or eliminates the generation of Waste and (ii) shall reuse, reclaim, or recycle material to the greatest practical extent.

10.7.4 *Waste Commingling.* Except for office and administrative Waste generated in the ordinary course of business that contains no Hazardous Waste, Concessionaire shall not commingle Waste generated during its performance of the Concession Agreement with any Waste generated by UMD.

10.8 HAZARDOUS SUBSTANCES AND HAZARDOUS WASTE MANAGEMENT.

10.8.1 *Hazardous Substances.* Concessionaire shall not bring any Hazardous Substances onto the Premises except as may be necessary to perform its obligations under the Concession Agreement. Concessionaire shall be responsible for all Hazardous Substances transported to or from, or used, moved, treated, or stored upon, the Premises after Commencement by Concessionaire or any Concessionaire Party for any reason related or unrelated to its performance of the Concession Agreement.

10.8.2 *Hazardous Waste.* Concessionaire shall transport, handle, move, use, treat, store, and dispose of all Hazardous Waste in accordance with the 40 C.F.R. Parts 260 and 270 and all other provisions of applicable Law.

(a) Concessionaire shall limit the quantity of Hazardous Waste stored onsite to those required to perform all activities under the Concession Agreement for no more than one hundred eighty (180) days or such shorter time as established by Law. Concessionaire shall inspect the Hazardous Waste storage facility weekly to assure compliance with this provision.

(b) Concessionaire shall store flammable Hazardous Waste in inflammable lockers, drums, or tanks, as applicable, and maintain all storage areas and lockers in a tidy and organized manner. Concessionaire shall tightly seal containers of Hazardous Waste when they are not in use.

10.8.3 *Workforce Training*. Concessionaire shall train the Workforce in Prudent District Energy Industry Practices for the safe transport, handling, movement, use, treatment, storage, and disposal of Hazardous Substances and for performing their job responsibilities in a manner that minimize exposure to Hazardous Substances. Concessionaire shall take such actions as it deems necessary and appropriate to enforce full compliance with these procedures.

PART 11: SERVICE VEHICLES

11.1 **IN GENERAL.** Concessionaire may utilize Service Vehicles to facilitate its management, operation, and maintenance of the Energy Systems in compliance with the Operating Requirements, provided it complies with the conditions set forth in this Part 11.

11.2 **SERVICE VEHICLE CONDITION.** Each Service Vehicle shall comply with the following requirements:

11.2.1 Each Service Vehicle must be clean and maintained in good repair to ensure that it is capable of operating safely and reliably.

11.2.2 Each Service Vehicle must be reasonably free from visible damage.

11.2.3 If a Service Vehicle sustains damage to its body or mechanical systems, such damage must be repaired within a reasonable time following the damage.

11.2.4 Concessionaire shall conduct a safety inspection of each Service Vehicle at least once each Contract Year or such other shorter period required by Law or OEM guidelines.

11.3 **SERVICE VEHICLE ENERGY REQUIREMENTS.**

11.3.1 No later than January 1, 2035, all Service Vehicles utilized by Concessionaire in performance of its obligations under the Concession Agreement shall be powered by electricity or a source of energy that does not emit Greenhouse Gases.

(a) If, prior to January 1, 2035, Concessionaire elects to utilize fossil fuel powered or hybrid Service Vehicles, such vehicles must have been assigned a new vehicle combined fuel efficiency rating no less than 25 per miles gallon by the U.S. Environmental Protection Agency.

(b) Concessionaire shall maintain each fossil fuel-powered or hybrid Service Vehicle so that the annual actual fuel efficiency of all gasoline-powered or hybrid-Service Vehicles utilized in Concessionaire's day-to-day management, operation, and maintenance of the Energy Systems averages no less than 22 miles per gallon (or such higher level as the Parties may set from time-to-time throughout the Term).

11.4 **ELECTRIC CHARGING.** If Concessionaire elects to utilize electric Service Vehicles, it shall design, construct, and install at its sole cost and expense (or compensate UMD to design,

construct, or install) a charging station or stations located at a site designated by UMD as near the CEP as feasible and dedicated solely to Concessionaire's business use.

11.5 **INSURANCE.** Each Service Vehicle must be insured in accordance with Section 18.1 of the Base Concession Agreement.

11.6 **SERVICE VEHICLE MARKING.** All Service Vehicles must be clearly identified and bear uniform markings on both sides of the vehicle. At a minimum, each Service Vehicle must bear the name of Concessionaire or the Key Operating Contractor and the vehicle (fleet) number on its tailgate or other prominent position on both back fenders.

11.7 **SERVICE VEHICLE OPERATION.** Concessionaire shall develop and implement Service Vehicle driver requirements that at a minimum include the following measures:

11.7.1 Concessionaire shall train the Workforce on the Service Vehicles' proper and safe use.

11.7.2 Concessionaire shall develop and implement standards and procedures that comply with the Law and Prudent District Energy Practices for obtaining the driving records of potential Service Vehicle drivers and prohibit all Workforce members with a record of unsafe driving over the prior 5 years from operating any Service Vehicle. Concessionaire shall update and review the driving records of all Workforce members annually to support such determination.

11.7.3 Concessionaire shall prohibit the transportation of passengers unaffiliated with Concessionaire or the NextGen Program in any Service Vehicle unless such transportation is authorized in writing by the UMD on an individual basis.

11.7.4 Concessionaire shall report to the UMD Program Manager all Service Vehicle accidents that occur on the Campus within 24 hours following such accident, provided that if any such accident injures any member of UMD's faculty, staff, or student body or any visitor, Concessionaire shall report such accident to the UMD Program Manager as soon as circumstances allow.

11.8 **LEGAL COMPLIANCE.** Concessionaire shall comply with all requirements of Law and UMD policies and procedures governing the condition and use of Service Vehicles in Concessionaire's management, operation, and maintenance of the Energy System, including the following requirements:

11.8.1 *Licensing*. All Service Vehicles must comply with all vehicle registration and licensing requirements and be authorized to utilize public roads and highways.

11.8.2 *Parking.*

(a) Concessionaire shall perform its obligations under these Operating Requirements in compliance with the Parking Regulations issued by UMD's Department of Transportation, as such regulations may change from time to time.

(b) Concessionaire shall be subject to any fees and charges under UMD's Parking Regulations (including meter fees, parking permit fees, parking sticker fees, and parking ticket charges).

(c) *Service Vehicles.* Concessionaire must purchase annual parking permits for each of its Service Vehicles, which will allow them to be parked in designated service vehicle parking spaces throughout the Campus. Concessionaire may purchase up to 7 permits. Additional permits may be available for purchase with UMD's Department of Transportation Service's prior approval. Each Service Vehicle must be clearly marked as belonging to the Energy Systems' operator. Parking permits shall not be moved from one Service Vehicle to another Service Vehicle, Workforce private vehicle, or a Subcontractor's vehicle.

(d) *Workforce Parking*. Workforce members desiring to park their vehicles on campus must purchase a parking permit and must comply with all parking regulations. Parking personal vehicles in fire lanes immediately adjacent to the Central Energy Plant or any other portion of the Energy Systems is strictly prohibited.

(e) *Key Contractors and Subcontractors.* Subcontractors providing occasional operation or maintenance services for the Energy Systems may purchase parking passes on a day-by-day basis. If Concessionaire retains a Subcontractor to provide such services on a regular basis, it may require the Subcontractor to purchase an annual parking pass.

(f) During a Project's construction and subject to UMD's consent, the Key Construction Contractor and its workers may park within the fenced and screened construction area for that Project.

PART 12: INFORMATION TECHNOLOGY AND CONNECTIVITY

12.1 GENERAL OBLIGATION. Concessionaire shall procure, install, manage, operate, and maintain such Information Technology and software necessary to perform its obligations under the Concession Agreement accurately and securely in accordance with the Law and Prudent District Energy Practices.

12.2 ELECTRONIC PERFORMANCE MONITORING AND MAINTENANCE TRACKING SYSTEMS.

12.2.1 *Computerized Maintenance Management System*.

(a) Beginning at Commencement, Concessionaire shall utilize a CMMS to track and record Management Services and Maintenance Services. The software for such CMMS shall be compatible with Maximo or other maintenance management software utilized by Facilities Management.

(b) No later than 30 days prior to Commencement, Concessionaire shall provide UMD, at no cost to UMD, at least 5 licenses for read only use of Concessionaire's CMMS software and shall maintain those licenses throughout the Operating Term.

(c) Concessionaire shall utilize the CMMS for all work order management (including Preventive Maintenance, Predictive Maintenance, Repairs, Service Calls) and for Inventory management so that the Energy Systems are maintained in an effective and efficient manner in accordance with the Law, the Concession Agreement, and Prudent District Energy Practices.

(d) Concessionaire, at its sole cost and expense, shall secure and maintain for itself, software consultation and maintenance services from its CMMS software vendor for each Contract Year during the Operating Term (including all licenses, technical support, and software upgrades).

(e) Concessionaire shall notify the UMD Program Manager not less than 24 hours before the CMMS becomes unavailable due to planned updates or maintenance and shall identify an estimated time at which access will be restored.

(f) If Concessionaire changes its CMMS software at any time during the Operating Term, it shall consult with UMD so that such new software is compatible with UMD's CMMS program and UMD's read only access to its CMMS is not interrupted and historical data is maintained. Concessionaire

shall procure, at no cost to UMD, at least 5 read only licenses for use of the new software through the remainder of the Operating Term.

12.2.3 *OSISOFT PIVISION SYSTEM*. UMD shall, and hereby does, grant Concessionaire remote, read-only access to its OSIsoft PiVision System (or such other similar system as UMD shall utilize from time to time during the Term). Concessionaire shall facilitate UMD's access to the Energy Systems to install and maintain the OSIsoft PiVision System. The UMD Program Manager shall notify Concessionaire no less than 24 hours before the OSIsoft PiVision System becomes unavailable due to planned updates or maintenance and shall identify an estimated time at which access will be restored.

12.3 CONNECTIVITY TO UMD NETWORKS. Concessionaire shall cooperate with UMD's Division of Information Technology to develop and implement appropriate interconnection protocols and security measures whenever Concessionaire is connecting to any electronic network, communications system, or other electronic media owned, operated or managed by UMD or its agents.

12.3.1 Prior to connecting to, or using, any electronic network, communications system or other electronic media owned, operated, or managed by UMD or its agents, Concessionaire shall submit to UMD's Division of Information Technology for review and approval all of Concessionaire's electronic network security protocols, application security protocols, data storage protocols, access management procedures, and any other information that such Division determines necessary to protect the integrity and security of UMD's electronic systems and communications networks.

12.3.2 [Reserved]

12.4 WIRELESS COMMUNICATION.

12.4.1 Prior to deploying or using any wireless communications within the Campus, Concessionaire shall submit to UMD's Division of Information Technology a detailed description of Concessionaire's proposed wireless communications technology for its review and approval. If required by the Division, Concessionaire will implement all reasonable measures necessary (including abatement) to protect the integrity and security of UMD's wireless communications networks and other equipment.

12.4.2 Concessionaire shall comply with UMD's conditions and requirements for use of wired network (IP), dark fiber, cellular data, analog telephone, or Wi-Fi communications systems. Concessionaire shall notify UMD when it first seeks

access to any such systems and the UMD Program Manager shall provide Concessionaire with the rules and regulations for the use of such systems.

PART 13: METERING

13.1 GENERAL OBLIGATIONS.

13.1.1 Concessionaire shall manage, operate, maintain, and replace as required the Energy Production Meters and the Energy Delivery Meters identified in Appendix H-9 so that they accurately and reliably record the quantities of steam, heating hot water, chilled water, and electricity produced and delivered by the Energy Systems.

13.1.2 Concessionaire shall calibrate and maintain meters in accordance with the OEM's recommendations and pursuant to a schedule set forth in its annual Preventive and Predictive Maintenance Plan.

13.1.3 Concessionaire shall include in its annual Preventive and Predictive Maintenance Plan a plan to ensure metering accuracy that includes an accountability metric to identify potential meter malfunctions.

13.2 METERING DATA.

13.2.1 Unless the Parties otherwise agree, meters shall record data at intervals of no more than 60 seconds. Concessionaire shall store such data for no longer than the retention period set by the Base Concession Agreement. Prior to deleting any metering data permanently, Concessionaire shall notify UMD and at UMD's request, transfer it to UMD.

13.2.2 Concessionaire shall compile metering data for the preparation of reports identified in Appendix O-7, filings with Governmental Authorities, or such other purposes required by Law or UMD policies, or in response to information requests by the UMD Program Manager.

13.2.3 Concessionaire shall cooperate with UMD as necessary to facilitate billing of UMD's departments and Self-Support Units.

13.3 PRODUCTION METERS. Each production meter shall be in service all times that its associated Equipment is operating. If a production meter fails in any respect, Concessionaire shall replace or repair a malfunctioning production meter promptly, but in no case more than 7 days following Concessionaire's identification of the failure.

PART 14: PERFORMANCE TESTS

14.1 SCHEDULED PERFORMANCE TESTS.

14.1.1 *Timing*.

(a) Concessionaire shall conduct Scheduled Performance Tests once every three (3) Contract Years. The first series of Scheduled Performance Tests shall be conducted as soon as practicable after the third anniversary of the Substantial Completion of the last Phase I Capital Improvement Project.

(b) The required Scheduled Performance Tests are listed in Appendix O-6. Upon 30 days' notice, UMD may request Concessionaire to conduct additional Scheduled Performance Tests, the costs and expenses of which shall be borne according to the methodology set forth in Section 14.2.4.

(c) UMD shall notify Concessionaire of any performance concerns UMD has identified that may require performance testing in addition to the required Schedule Performance Tests. The Parties shall cooperate to determine whether and to what extent such additional testing is required to confirm performance. If additional testing is required, the Parties shall schedule the test, the costs and expenses of which shall be borne according to the methodology set forth in Section 14.2.4. if the Parties cannot agree, then UMD may direct Concessionaire to conduct a Performance Test pursuant to Section 14.2.

(d) UMD may elect to retain an Independent Engineer to verify the results of any Scheduled Performance Test. In the event that the Independent Engineer's analysis reveals material and adverse inaccuracies in the results of a Scheduled Performance Test, then the Concessionaire shall pay the fees and expenses of the Independent Engineer; otherwise, UMD shall pay such fees and expenses of the Independent Engineer.

(e) The Parties shall cooperate with each other and with the Independent Engineer (if applicable) to facilitate all Scheduled Performance Tests.

14.1.2 *Test Observation.* UMD may observe all Scheduled Performance Tests. Concessionaire shall notify the UMD Program Manager at least 30 days prior to the commencement of each Scheduled Performance Test. In the event Concessionaire fails to give such notice, UMD, in its sole discretion, may require

Concessionaire to reschedule or repeat the Scheduled Performance Test, with Concessionaire bearing the fees, costs, and expenses thereof.

14.1.3 *Test Results*. Upon completion of a Scheduled Performance Test, Concessionaire shall deliver to UMD for its review, inspection, and accepts a certification of the test's results, along with the report and supporting documentation or information. In the event such results indicate that Concessionaire is in noncompliance with any KPI or provision of the Concession Agreement, Concessionaire shall also deliver to UMD a detailed plan for correcting the noncompliance. No later than 30 days following its receipt of the test results and associated information, UMD shall notify Concessionaire as to whether it accepts such results and, if applicable, request Concessionaire's plan to correct the noncompliance.

14.2 UMD-DIRECTED PERFORMANCE TESTS.

14.2.1 UMD may, at any time during the Operating Term, cause Concessionaire to conduct Performance Tests of the Energy Systems or any portion thereof for any reason. Nothing herein shall prevent UMD from retaining an Independent Engineer to conduct a UMD-directed Performance Test. Concessionaire shall cooperate with such Independent Engineer to facilitate such testing.

14.2.2 *Notice.* UMD shall schedule UMD-directed Performance Tests in consultation with Concessionaire. UMD shall notify Concessionaire of each such Performance Test at least 10 days prior to the date on which the test is to begin, unless UMD determines that shorter notice is reasonably necessary under the circumstances. Concessionaire shall cooperate fully with UMD in all UMD-directed Performance Tests. All such Performance Tests shall be witnessed by the UMD Program Manager and other UMD representatives.

14.2.3 *Testing Protocols*. UMD-directed Performance Tests shall utilize the testing protocols and methodologies in Appendix O-6. If Appendix O-6 does not specify protocols and methodologies for the Performance Test directed by UMD, applicable protocols and methodologies shall be determined according to Prudent District Energy Practices.

14.2.4 *Costs of Testing*. All costs and expenses of a UMD-directed Performance Test, including any costs and expenses reasonably incurred by Concessionaire to conduct the test, shall be UMD's sole responsibility except as provided in Section 14.3.2 hereof.

14.2.5 *Delivery of Test Results*. Concessionaire shall report the results of all UMD-directed Performance Tests to UMD in writing within 30 days (or such other time to which the Parties may agree) following the test's completion. If a UMD-directed Performance Test is conducted by an Independent Engineer, the Independent Engineer shall report the results of such test to UMD and Concessionaire in writing within 30 days (or such other time as UMD may direct) following the test's completion.

14.2.6 *Report Contents*. Each report shall contain data sufficient to permit the UMD Program Manager to determine that the Performance Test has been conducted in accordance with the applicable testing protocol or methodology and that the test results have been calculated accurately. If the UMD Program Manager's analysis identifies material inaccuracies in the conduct or results of Performance Tests conducted by Concessionaire, then Concessionaire shall pay the costs of any retesting.

14.3 CORRECTIVE ACTION.

14.3.1 *Root Cause Analysis.* If a Performance Test demonstrates that the Equipment, system, or other portion of the Energy Systems tested does not function properly in conformance with the Law, OEM requirements, or the Concession Agreement, or if the Performance Test cannot be performed because the Equipment, system, or other portion of the Energy Systems cannot operate, then Concessionaire shall prepare and deliver to UMD a root cause analysis and a plan for repair or mitigation. UMD shall review the analysis and plan and if it accepts the root cause analysis and if the plan fully cures or mitigates the failure, Concessionaire shall implement such plan at its sole cost and expense, unless the root cause analysis demonstrates that the malfunction or nonfunction resulted solely from UMD's failure to operate a UMD Building System in accordance with these Operating Requirements in which case UMD shall reimburse Concessionaire its reasonable and documented repair or mitigation costs.

14.3.2 *Resolution of Disagreement regarding Root Cause.* If UMD and Concessionaire disagree as to the root cause of the failure of Equipment, system, or other portion of the Energy Systems, the UMD Program Manager shall recommend that the Parties retain an Independent Engineer to complete a new root cause analysis of the failure.

(a) Upon receipt of the UMD Program Manager's recommendation, UMD and Concessionaire shall mutually agree upon an engineer or engineering firm to serve as the Independent Engineer. If the Parties

cannot agree, each promptly shall nominate one to three engineers or engineering firms with directly applicable experience to serve as the Independent Engineer. If UMD and Concessionaire each nominates the same engineer or firm, the Parties shall select that engineer or firm. Otherwise, the Parties shall select the Independent Engineer by random draw.

(b) Concessionaire shall pay the Independent Engineer's fees and expenses if the Independent Engineer determines that the failure of the Equipment, system, or other portion of the Energy Systems resulted in whole or in part from Concessionaire's failure to manage, operate, or maintain the Equipment or system in accordance with the Concession Agreement.

(c) If the Independent Engineer determines that the failure of the Equipment, system, or other portion of the Energy Systems did not result to any extent from Concessionaire's failure to manage, operate, or maintain the Equipment or system in accordance with the Concession Agreement, then the Independent Engineer's fees and expenses shall be paid by UMD.

PART 15: WATER CONSERVATION AND TREATMENT REQUIREMENTS

15.1 WATER CONSERVATION.

Concessionaire, in coordination with UMD, shall maintain the Energy Systems utilizing the most water-efficient replacement parts and Equipment available at the time at the lowest reasonable cost, taking into consideration the life cycle of such parts and Equipment. Where possible and practicable, Concessionaire shall implement other measures identified in its Water Treatment Plan to reduce materially the Energy Systems' water usage from an average water usage baseline set by the Parties based on billing records from the Washington Suburban Sanitary Commission for UMD Fiscal Years from 2017 through 2021.

15.2 WATER QUALITY STANDARDS.

Steam, hot water, and chilled water produced by the Energy Systems shall comply with the following Water Quality Standards. Concessionaire may propose alternative quality standards for adoption by UMD if: (i) they are derived from a Water Treatment Plan prepared by an Independent Water Contractor; (ii) the Independent Water Contractor explains in detail why changing to the alternative standards are in the UMD's best interests; and (iii) Independent Water Contractor provides information for at least 3 other district energy systems that have made the proposed change and the results thereof.

15.2.1 *Boiler and HRSG Feedwater Quality Standards*

(a) *Solids (total dissolved solids, PPM)*: Less than or equal to 1000.

(b) *Sodium (PPB)*: Less than or equal to 20.

(c) *Silica (PPM)*: Less than or equal to 25.

(d) *Chlorides (PPM)*: Less than or equal to 150.

(e) *Oxygen Content (PPB)*: Less than or equal to 5.

15.2.2 *Chilled Water and Hot Water Quality Standards.*

(a) Closed Hydronic Systems (Including the Chilled Water Systems):

(1) *pH*: Maintain a value within 8.8 to 9.5.

(2) *Turbidity*: Maintain a value less than 15 NTU.

(3) *Boron*: Maintain a value within 100 to 200 ppm (glycol system) and less than 10 ppm for the closed hydronic system.

(4) *Soluble Copper*: Maintain a maximum value of 0.20 ppm.

(5) *Total Dissolved Solids*: Maintain a maximum value of 3000 ppm.

(6) *Ammonia*: Maintain a maximum value of 5 ppm.

(7) *Free Caustic Alkalinity*: Maintain a maximum value of 20 ppm.

(8) *Microbiological Limits*:

(i) Total Aerobic Plate Count: Maintain a maximum value of 1000 organisms/ml.

(ii) Total Anaerobic Plate Count: Maintain a maximum value of I00 organisms/ml.

(iii) Nitrate Reducers: Maintain a maximum value of 100 organisms/ml.

(iv) Sulfate Reducers: Maintain a maximum value of O organisms/ml.

(v) Iron Bacteria: Maintain a maximum value of O organisms/ml.

(b) Open Hydronic Systems (Including Condenser Water):

(1) *pH*: Maintain a value within 7.0 to 9.0.

(2) *Langelier Saturation Index*: Maintain a maximum value of +2.5 ppm.

(3) *Soluble Copper*: Maintain a maximum value of 0.20 ppm.

(4) *Conductivity*: Maintain a minimum value of 2400 uhmos. The goal of the plant is to run the highest conductivity possible for water conservation.

(5) *Ammonia*: Maintain a maximum value of 20 ppm.

(6) *Free OH Alkalinity*: Maintain a maximum value of 0 ppm.

(7) *Silica*: Maintain a maximum value of 125 ppm.

(8) *Microbiological Limits*:

(i) Total Aerobic Plate Count: Maintain a maximum value of 10,000 organisms/ml.

(ii) Total Anaerobic Plate Count: Maintain a maximum value of 1000 organisms/ml.

(iii) Nitrate Reducers: Maintain: a maximum value of 100 organisms/ml.

(iv) Sulfate Reducers: Maintain: a maximum value of O organisms/ml.

(v) Iron Bacteria: Maintain a maximum value of O organisms/ml.

(vi) Polymer Testable: Maintain a minimum value within 10 to 40.

15.3 WATER TREATMENT CHEMICALS.

15.3.1 *General Requirements.*

(a) The chemicals selected for treating water for the Energy Systems shall be specifically formulated according to the recommendations of a qualified chemist, laboratory or firm experienced in the water treatment field. The treatment(s) shall prevent:

(1) Buildup of adherent mineral deposits (scale) on heat transfer surfaces in any of the systems;

(2) Growth of algae, slime, and bacteria; and,

(3) Corrosion of piping and other Equipment.

(b) Concessionaire may seek an exemption from the chemical requirements herein by submitting a written request to the UMD Program Manager explaining and documenting the basis for the request and why granting the exemption is in the best interests of UMD.

15.3.2 *Chilled Water and Hot Water Requirements*

(a) Closed Hydronic Systems (Including the Chilled Water Systems):

(1) *Low-temperature hot water, closed cooling, and chilled water*: Mixture of sodium nitrite, borax, and molybdate with other copper alloy inhibitors. For the chilled water, a non-nitrite program of phosphate, polymer borate, and copper alloy inhibitors; non-oxidizing, non-cationic biocide.

(2) *Glycol low temperature*: Ethylene glycol with buffered phosphate-based corrosion inhibitor with copper alloy inhibitor in deionized water, if water chloride levels are 750 ppm and contains hard water ions.

(b) Open Hydronic Systems (Including Condenser Water).

(1) Organic phosphonate and polymeric dispersant with copper alloy inhibitor, or other chromate- free treatment in liquid form; suitable for pumping from containers directly to water system.

(2) Alternate two biocides, one oxidizer and one non-oxidizer; increase dosage when significant amounts of algae or slime are detected after system operations.

(3) *Bleed off*:

(i) Automatic control by condenser water conductivity and water meter signals.

(ii) To maintain maximum chloride concentration at the maximum level possible based on the incoming water quality up to seven (7) times concentration of make-up water to minimize corrosion and scale formation.

15.4 WATER TREATMENT RESPONSIBILITIES.

15.4.1 *Concessionaire Responsibilities*. Concessionaire shall:

(a) Manage, operate, and maintain the Energy Systems so that steam, hot water, condenser water, and chilled water supplies comply with the Water Quality Standards;

(b) Retain, manage, and cooperate with a qualified Independent Water Contractor to supply water treatment chemicals and perform testing and other responsibilities set forth herein;

(c) At least once per shift, check the compliance of the Energy Systems' steam, condensate, and chilled water with the applicable Quality Standards and correct any noncompliance as soon as possible after discovery, but no later than the end of the shift during which the noncompliance is discovered;

(d) Clean Equipment and piping immediately where temperatures, pressures or other operating data indicate that the scale control treatment is not preventing scale buildup on such Equipment or piping.

15.4.2 *Independent Water Contractor Responsibilities*. Concessionaire shall cause the Independent Water Contractor to:

(a) Supply such water treatment services, chemicals, and testing for the Energy Systems as are necessary to maintain compliance with the applicable Water Quality Standard;

(b) Train plant engineers and operators as necessary, but at least once annually, on the proper operation of water treatment equipment and the safe storage, handling, and accurate administration of water treatment chemicals;

(c) Inspect each treatment system and provide field service and consultation services as necessary, but at least once weekly;

(d) Prepare, review, and monitor make-up water usage, report charts, and log sheets;

(e) Perform laboratory analysis of the Energy Systems' water;

(f) Advise Concessionaire regarding compliance with the Law and

Governmental Authorizations related to water treatment, use, and discharge;

(g) Test the compliance of the Energy Systems' steam, condensate, hot water, and chilled water against the applicable Water Quality Standards monthly and as soon as possible after any change in Concessionaire's Water Treatment Plan or the repair of a noncompliance identified in a monthly test;

(h) No later than 5 days following completion of each Water Quality Standards compliance test for steam, condensate, hot water, or chilled water, submit test results in writing to Concessionaire and UMD, along with its findings as to compliance with the Water Quality Standards and its recommendations for correcting any non-compliance;

(i) Prepare and submit to Concessionaire and UMD reports (including graphs) at six (6) month intervals summarizing the results of monthly and any other testing and including any other information or recommendations the Independent Water Contractor deems advisable to inform Concessionaire and UMD;

(j) Test CEP and DTP building system water annually (chilled water, condenser water) for the presence of Legionella in accordance with ISO 11731, NF T 60-431 and NF T 60-461 (and other applicable standards); and,

(k) Warrant that the chemicals supplied, and the water treatment protocols used comply with Environmental Law and do not, if handled and utilized in accordance with applicable Law, manufacturer recommendations, and Prudent District Energy Practices:

(1) Harm the health or safety of persons coming into contact with the chemicals;
(2) Harm or damage personal or real property; and,
(3) Have a detrimental effect on the Equipment or piping through which the Energy Systems' water passes.

15.5 WATER QUALITY REPORTING.

15.5.1 No later than 30 days prior to Commencement and the first day of each Contract Year thereafter (or such other time and intervals established by the Operations Management Team), Concessionaire shall deliver to the UMD Program Manager

a detailed list of the water treatment chemicals it anticipates utilizing in its operation and maintenance of the Energy Systems. Water treated with these chemicals must meet all requirements of Law (including applicable Governmental Authorizations) for discharge into UMD's stormwater system or sanitary sewer system.

15.5.2 If Concessionaire or any Concessionaire Party changes any of the chemicals listed on the list prepared pursuant to Section 5.5.1, Concessionaire promptly shall deliver to the UMD Program Manager two copies of the amended list, one copy of which must be highlighted to identify the change along with a cover letter explaining the reason for, and the benefit of, the change.

PART 16: QUALITY CONTROL

16.1 QUALITY CONTROL PLAN.

16.1.1 *Quality Control Plan Development and Updating.*

(a) *In General*. Concessionaire shall take a proactive approach to identifying and notifying UMD of Energy Systems conditions that might reasonably result in an interruption of Thermal Service, Electric Delivery Service, or Chilled Water Service to UMD.

(b) *Initial Quality Control Plan.* No later than sixty (60) days prior to Commencement, Concessionaire shall develop a Quality Control Plan as a component of its initial Operations Plan and deliver it to the UMD Program Manager for UMD's review and approval. Such review shall be limited to assuring that the proposed Quality Control Plan constitutes a reasonable approach to identifying and correcting service deficiencies so that the Energy Systems provide continuous and efficient Energy Services to UMD. Concessionaire shall manage, operate, and maintain the Energy Systems in accordance with the approved Quality Control Plan.

16.1.2 *Quality Control Inspections*.

(a) *Routine Inspections*. The Quality Control Plan shall include a system for routine inspections that is designed specifically for the Energy Systems. Routine inspections shall be conducted by Concessionaire's supervisory personnel or work leaders at least monthly or at such shorter intervals as required to maintain the reliability and quality of the Energy Services to UMD. Concessionaire shall promptly make Repairs or take such other actions necessary to correct deficiencies identified by a routine inspection.

(b) *Annual Inspections*.

(1) The Quality Control Plan shall provide for inspections of the Energy Systems by at least 2 executives or senior engineers of Concessionaire who supervise the Plant Manager, but do not bear day-to-day responsibility for managing, operating, or maintaining the Energy Systems. Such inspections shall be completed no less frequently than once each Contract Year.

(2) The executives or senior engineers performing the annual inspection shall prepare and deliver to Concessionaire and UMD a report on the findings of their inspection and proposed actions to correct any deficiencies no later than 15 days following completion of the inspection.

(c) *UMD's Right to Perform Annual Quality Control Inspection*. If Concessionaire fails to deliver the results of the annual quality control inspection within thirty (30) days of the inspection's completion, UMD shall be entitled to retain an Independent Engineer to perform such inspections and deduct the costs thereof from the Fixed O&M Charge. Such Independent Engineer shall perform the inspection required by the Quality Control Plan, and UMD shall deliver the results thereof, and the associated proposed corrective actions, if any, to Concessionaire. UMD and Concessionaire shall use reasonable efforts to coordinate the adoption and implementation of the proposed corrective actions.

16.2 QUALITY CONTROL RECORDS. Concessionaire shall maintain Records at the CEP of the results of all Quality Control inspections and the corrective actions taken pursuant thereto.

PART 17: HEATING SERVICE

17.1 THERMAL SYSTEM DESCRIPTION. The Thermal System consists of the Central Energy Plant, the Thermal Distribution System, the Hot Water Production Units, and the Condensate Return System.

17.1.1 *Central Energy Plant ("CEP").* The CEP is the combined heat and electric power generation facility located on the site described by the survey contained in Appendix H-1. The CEP consists of the CEP building and such Steam Production Units, Electric Power Production Units, piping, Structures, fuel storage facilities, machinery, Equipment, systems, accessories, and Capital Improvements located therein or on the CEP site at Commencement and at any time during the Term.

17.1.2 *Thermal Distribution System.* The Thermal Distribution System is the system of pipes, Structures, machinery, Equipment, and related Easements and all Capital Improvements and extensions thereto used to transport steam or hot water from the Central Energy Plant to the Thermal Demarcation Point in each UMD Building and DTP and hot water from a Hot Water Production Unit to the Hot Water Demarcation Point in each UMD Building served by a Hot Water System.

17.1.3 *Condensate Return System*. The Condensate Return System is the system of pipes, Structures, Equipment, accessories, and related Easements and all Capital Improvements and extensions thereto used to return condensate from the Condensate Input Point in each UMD Building or DTP to the Central Energy Plant.

17.2 GENERAL OBLIGATION.

17.2.1 *Steam and Hot Water.* Concessionaire shall receive Fuel and water from UMD at the CEP, generate steam or hot water, and deliver such steam or hot water to each UMD Building served by the Thermal System in compliance with the Law, the Concession Agreement, and Prudent District Energy Practices.

17.2.2 *Condensate.* Concessionaire shall receive Condensate from UMD at each Condensate Return Point and shall deliver such Condensate to the CEP for water treatment and re-use.

17.3 DEMARCATION OF MANAGEMENT, OPERATION, AND MAINTENANCE RESPONSIBILITIES.

17.3.1 *Thermal Demarcation Point.*

(a) The Thermal Demarcation Points are the points of interconnection between the Thermal Distribution System and the thermal system in each UMD Building.

(b) The Parties shall permanently and clearly mark the Thermal Demarcation Points utilizing a methodology approved by the Operations Management Team. The Parties shall locate these marks at a point in each UMD Building that results in the Concessionaire operating and maintaining the following Equipment:

(1) The piping up to each UMD Building's building service valve;

(2) Each UMD Building's pressure reducing station or stations, including the high pressure to low pressure station, the high pressure to medium pressure station, and the medium pressure to low pressure station;

(3) All pressure relief valves in UMD Buildings with building pressure relieve valves with multiple pressure levels; and,

(4) The quenching systems in UMD Buildings that are not connected to the Condensate Return System.

17.3.2 *Condensate Demarcation Point.*

(a) The Condensate Demarcation Points shall be the points of interconnection between the condensate return system in each UMD Building and the Condensate Return System.

(b) The Parties shall permanently and clearly mark the Condensate Demarcation Point(s) in each UMD Building utilizing a methodology approved by the Operations Management Team. The Parties shall locate these marks at a point in each UMD Building that results in the Concessionaire operating and maintaining the following Equipment:

(a) The pumped condensate receiver in each UMD Building; and,

(b) The condensate piping exiting each UMD Building's mechanical room.

17.3.3 *Maps and Diagrams.*

(a) Maps of the Thermal Distribution System and the Condensate Return System on the Effective Date are contained in Appendix H-2.

(b) A diagram of the typical interconnection between the UMD Building Systems and the Thermal Distribution System is contained in Appendix I-1.

(c) A diagram of the typical interconnection between a Hot Water Distribution System and a UMD Building served by a Hot Water System is contained in Appendix I-1.

(d) A diagram of the typical interconnection between a UMD Building's condensate collection system and the Condensate Return System is contained in Appendix I-2.

(e) Concessionaire shall revise all maps and diagrams from time to time as Capital Improvements and other changes are completed.

17.4 HEATING SERVICE REQUIREMENTS.

17.4.1 *Thermal Capacity Requirement*. Concessionaire shall manage, operate, and maintain the CEP and the Thermal Distribution System so that they meet the Contract Thermal Capacity Requirement. If the CEP and the Thermal Distribution System are unable to meet the Contract Thermal Capacity Requirement for any reason other than performance of Predictive Maintenance or Preventive Maintenance, Concessionaire shall notify UMD of such inability and shall implement the applicable procedures of the Heating Service Continuity Plan prepared pursuant to Section 2.6.14.

(a) The Contract Thermal Capacity Requirement is the total capacity of the Thermal Energy Production Units and the Thermal Distribution System necessary to produce and deliver quantities of thermal energy to all Thermal Demarcation Points sufficient to meet UMD's Heating Service requirements, as measured on a one-hour coincident demand basis at the Thermal Demarcation Points at 105 psig (or such other pressure on which the Concessionaire and UMD may agree). The Contract Thermal Capacity Requirement is equal to the Firm Thermal Production Capacity, as reduced

by the Heating Service consumption and losses occurring within the CEP and the losses occurring in the Thermal Distribution System.

(b) Firm Thermal Production Capacity is the Thermal System's Total Thermal Production Capacity, less the capacity of the largest Thermal Energy Production Unit located in the CEP, as determined pursuant to a Scheduled Performance Test.

(c) Total Thermal Energy Production Capacity is the aggregate capacity of the Thermal Energy Production Units with all such units in operation, as determined by a Performance Test.

17.4.2 *Thermal Delivery Requirement.*

(a) Concessionaire shall deliver steam to each Thermal Demarcation Point at no less than 90 psig (or at such other pressure set by the Operations Management Team for the Thermal Distribution System as a whole or for one or more Thermal Demarcation Points) in quantities sufficient to meet the heating requirements of each UMD Building connected to that delivery point.

(b) Concessionaire and UMD shall agree upon a delivery temperature for hot water service at such time UMD approves Concessionaire's construction of each hot water system.

17.4.3 *Additional Heating Service Deliveries*. During periods of peak demand, Concessionaire shall deliver Heating Service to the Thermal Demarcation Points up to 110% of the Contract Thermal Capacity Requirement, if available, and only on a short-term basis, without any additional charges or Deductions.

17.4.4 *Thermal Supply Mainlines and Steam Traps*. Concessionaire shall operate the CEP and the Thermal Distribution System to assure removal of any condensate in the thermal supply mainlines and steam traps prior to delivering steam to the Thermal Demarcation Points.

17.5 STEAM AND CONDENSATE QUALITY REQUIREMENTS.

17.5.1 *Steam Quality.* Concessionaire shall deliver steam to each Steam Demarcation Point that meets the following standards:

(a) Moisture Allowance: Dry, Saturated Steam, 125 psig, Temperature >352° Fahrenheit.

(b) Total Dissolved Solids: No greater than 1.0 parts per million.

(c) Sodium: No greater than 20.0 parts per billion.

(d) Silica: No greater than 20.0 parts per billion.

(e) Chlorides: No greater than 10 parts per billion.

17.5.2 *Condensate Return Quality*. UMD shall deliver condensate to each Condensate Input Point that complies with the following standards:

(a) Conductivity (umhos/cm): 3.0 to 12.0.

(b) Hardness: <1.0 parts per million.

(c) Iron: 0.025 parts per million.

(d) Copper: 0.03 to 0.08 parts per million.

(e) pH: 6.9 to 8.0.

17.6 THERMAL SYSTEM PERFORMANCE.

17.6.1 Concessionaire shall operate and maintain the Thermal System to meet the applicable Availability KPIs and to ensure the optimization of energy production and conservation of Fuels, water, and other natural resources.

17.6.2 Concessionaire shall exert commercially reasonable efforts to improve the Thermal System's operating efficiency continuously throughout the Term.

17.7 THERMAL SYSTEM MODELING. UMD shall secure and maintain such licenses and services necessary for Concessionaire to utilize its Pipe-Flo Software to develop and maintain an accurate Thermal System hydraulic flow model. Concessionaire shall rely on such model to analyze the effect of new UMD Buildings loads or changing UMD Building loads on the Thermal System.

17.8 CEP BLACKSTART CAPABILITY. As soon after Commencement as is reasonably possible, Concessionaire shall procure, install, operate, and maintain a natural gas or diesel-fueled electric generator or, with UMD's consent, another type of Equipment to provide electric power to restart CEP operations and Equipment if electric power from the Pepco local distribution system is unavailable. UMD shall pay the cost of such Equipment, as a

Reimbursable Cost or shall authorize Concessionaire to draw funds from the NextGen Reserve.

PART 18: ELECTRIC DELIVERY SERVICE

18.1 ELECTRIC SYSTEM DESCRIPTION. The Electric System consists of the Mowatt Substation and the Electric Distribution System.

18.1.1 *Mowatt Substation.* The Mowatt Substation is the electric switching station located at 1 Mowatt Lane directly across the street from the Pepco local distribution system substation, as shown on the map in Appendix H-3.

18.1.2 *Electric Distribution System.* The Electric Distribution System consists of all 13.8 kilovolt feeder cables, generators, Structures, meters, devices, utility access points, duct banks, Equipment, 13.8 kilovolt transformers, breakers, loop switches, facilities, Easements, and all Capital Improvements and extensions thereto used to deliver electric energy from the Electric Input Points to each Electric Demarcation Point and DTP.

(a) An Electric Input Point is any one of the following points at which electricity enters the Electric Distribution System:

(1) The point or points of interconnection between the Mowatt Substation and the Pepco local distribution system;

(2) The point or points of interconnection between the CEP and the Electric Distribution System; and,

(3) The point or points of interconnection between any UMD Renewable Resource and the Electric Distribution System.

(b) The Electric Demarcation Points are the points of interconnection between the Electric Distribution System and the electric systems in each UMD Building.

18.2 GENERAL OBLIGATION. Concessionaire shall receive electricity produced by the CEP and Supplemental Electricity purchased by UMD and shall deliver such electricity to each UMD Building connected to the Electric Distribution System in quantities sufficient to provide Full Requirements Electric Service in compliance with the Law, the Concession Agreement, Prudent District Energy Practices, the Interconnection Agreement, and the Renewable PPAs.

18.3 DEMARCATION OF MANAGEMENT, OPERATION, AND MAINTENANCE RESPONSIBILITIES.

18.3.1 The Electric Demarcation Points shall be located on the low voltage side of the main disconnect panel within each UMD Building.

18.3.2 The Parties shall permanently and clearly mark the Electric Demarcation Point in each UMD Building utilizing a methodology approved by the Operations Management Team. The Parties shall locate these marks at points that result in the Concessionaire operating and maintaining the following Equipment:

(a) The building disconnect switch;

(b) The building transformer; and,

(c) The secondary feeder from the transformer to the building.

18.3.3 *Maps and Diagrams*.

(a) A map and a one-line diagram of the Electric Distribution System on the Effective Date are contained in Appendix H-4.

(b) A diagram of the typical interconnection between the Electric Distribution System and a UMD Building electric system is contained in Appendix I-3.

(c) Concessionaire shall update these maps and diagrams from time to time as Capital Improvements and other changes are completed.

18.4 ELECTRIC SERVICE REQUIREMENTS. Excepting only the overhead electric distribution line in the Leonardtown area of the Campus, Concessionaire shall manage, operate, and maintain the Electric Distribution System to maintain complete dual feed capability to the high-voltage switchgear, with loading within National Electric Code ratings during normal and first contingency switching operations.

18.4.1 Concessionaire shall maintain a table of relay settings on feeders and substation transformers in accordance with Prudent District Energy Practices.

18.4.2 Concessionaire shall provide switching for Planned Outages. Such switching shall not result in an Unplanned Service Outage of electric service to any UMD Building.

18.4.3 Concessionaire shall provide switch loading as required to comply with bus limits, transformer load limits, and feeder loading limits.

18.4.4 Concessionaire shall provide low voltage switching and support for outages of electric service for UMD Buildings.

18.5 ELECTRIC SERVICE QUALITY REQUIREMENTS. Concessionaire shall deliver electricity to each Electric Demarcation Point that meets the following standards:

18.5.1 *Voltage.* Steady state voltages shall comply with Standard C.84.1-2020 of the American National Standards for Electric Power Systems and Equipment Voltage Rating (60 Hertz), published by the American National Standards Institute, as it may be amended from time to time or, with UMD's written consent, another equivalent standard.

18.5.2 *Harmonic Distortion*. Harmonic distortion shall meet or exceed Standard 519-2014 contained in the Recommended Practice and Requirements for Harmonic Control in Electric Power Systems, published by the Institute of Electrical and Electronics Engineers ("IEEE"), as it may be amended from time to time or, with UMD's written consent, another equivalent standard.

18.5.3 *Flicker*. Flicker shall meet or exceed Standard 141-1993 contained in the Recommended Practices for Electric Distribution for Industrial Plants, published by the IEEE, as it may be amended from time to time or, with UMD's written consent, another equivalent standard.

18.6 ELECTRIC DISTRIBUTION SYSTEM PERFORMANCE.

18.6.1 Concessionaire shall operate and maintain the Electric Distribution System to meet the applicable Availability KPIs and to minimize distribution losses.

18.6.2 Concessionaire shall exert commercially reasonable efforts to improve the Electric Distribution System's operating efficiency continuously throughout the Term.

18.7 ELECTRIC DISTRIBUTION SYSTEM MODELING. Concessionaire shall develop and maintain an accurate Electric Distribution System operating model utilizing software commonly accepted by operators of large district energy systems that is compatible with SKM Systems Power* Tools or such other modeling systems used by UMD to model building energy usage. Concessionaire shall rely on such model to analyze the effect of new UMD Buildings loads or changing UMD Building loads on the Electric Distribution System and to evaluate the locations and feasibility of microgrids.

PART 19: CHILLED WATER SERVICE

19.1 CHILLED WATER SYSTEMS DESCRIPTION. The Chilled Water Systems consists of all District Thermal Plants, the Chilled Water Production Units located therein, and the associated Chilled Water Distribution Systems.

19.1.1. *District Thermal Plant*. A District Thermal Plant ("DTP") is a standalone building or mechanical room in a UMD Building that contains, *inter alia*, one or more Chilled Water Production Units, variable frequency drives, pumps, and Equipment connected to a cooling tower or towers that serve more than one UMD Building.

19.1.2 *Chilled Water Production Units*. The Chilled Water Production Units are the steam-driven chillers and the electric driven chillers located in the DTPs, the Auxiliary Chillers, and the storage tanks, cooling towers, pumps, meters, pipes, Structures, and other Equipment and facilities necessary to generate chilled water.

(a) An Auxiliary Chiller is an electric-driven chiller installed in a UMD Building that receives chilled water service from DTP-4 and is used to precool the water being returned to DTP-4 or provide additional capacity to serve DTP-4's connected loads.

(b) The Chilled Water Demarcation Points are the points of interconnection between a Chilled Water System and the chilled water system in each UMD Building.

19.1.3 *Chilled Water Distribution System*. All pipes, Structures, machinery, Equipment, and Easements that are necessary to distribute chilled water from, and return water to, a Chilled Water Production Unit located in a DTP.

19.2 GENERAL OBLIGATION. Concessionaire shall receive Fuel and Supplemental Electricity from UMD, generate Chilled Water, and deliver such Chilled Water to UMD in compliance with the Law, the Concession Agreement, and Prudent District Energy Practices.

19.3 DEMARCATION OF MANAGEMENT, OPERATION, AND MAINTENANCE RESPONSIBILITIES.

19.3.1 The Chilled Water Demarcation Point for a UMD Building shall be one of the following locations:

(a) For a UMD Building with a heat exchanger, the Chilled Water Demarcation Point shall be located at a point immediately before the isolation valve on the primary (building) side of the heat exchanger.

(b) For a UMD Building with a decoupler, the Chilled Water Demarcation Point shall be located at a point immediately before the first set of building valves within the building's mechanical room. The building decoupler will be operated and maintained by UMD.

(c) For a UMD Building without a heat exchanger or a decoupler, the Chilled Water Demarcation Point shall be located at a point immediately before the first set of building valves within the building's mechanical room.

19.3.2 The Parties shall permanently and clearly mark the Chilled Water Demarcation Point(s) in each UMD Building utilizing a methodology approved by the Operations Management Team.

19.3.3 *Maps and Diagrams.*

(a) A map showing the location of each DTP and its associated Chilled Water Distribution System is contained in Appendix H-5.

(b) Floor plans of the standalone DTPs and the mechanical rooms of the UMD Buildings containing DTPs or Auxiliary Chillers are contained in Appendix H-5.

(c) One-line diagrams of the typical interconnection between a Chilled Water Distribution System and the UMD Building Systems for each of the types of buildings identified in Section 19.3.1 are contained in Appendix I-4.

(d) Concessionaire shall revise these maps and diagrams from time to time as Capital Improvements and other changes are completed.

19.4 CHILLED WATER SERVICE REQUIREMENTS.

19.4.1 *Chilled Water Delivery Requirement*. Concessionaire shall manage, operate, and maintain the Chilled Water Systems to deliver chilled water to each Chilled Water Demarcation Point in quantities sufficient to provide Full Requirements Chilled Water Service to each UMD Building connected to that system.

19.4.2 *UMD Building Heat Exchangers.* Concessionaire shall perform Predictive Maintenance and Preventive Maintenance at such intervals as specified in its PM Plan to maximize the heat exchangers' energy efficiency.

19.5 CHILLED WATER SERVICE QUALITY REQUIREMENTS. Concessionaire shall provide Chilled Water Service in accordance with the following requirements:

19.5.1 *Delivery Temperature*. Concessionaire shall deliver chilled water to each Chilled Water Demarcation Point at a temperature of between 42 degrees and 45 degrees. Concessionaire and UMD may agree to other delivery temperatures to increase the Chilled Water Systems' energy efficiency, provided that for increases of more than 2 degrees, the occupants of the UMD Buildings connected to the Chilled Water Systems are notified of the increase at least 30 days prior to its effective date and are informed about its purpose and effect, including anticipated reductions in UMD's GHG emissions and cost savings, at least 30 days prior to its effective date.

19.5.2 *Return Temperature*. UMD shall operate and maintain the UMD Buildings so that each building chilled water systems returns chilled water to its Chilled Water Return Point that is at least 12 degrees Fahrenheit warmer than the chilled water delivered to the Chilled Water Demarcation Point, provided that the UMD Building's load and the Concessionaire's chilled water flow control through the heat exchanger is sufficient to allow such temperature change to be achieved.

19.6 CHILLED WATER SYSTEMS PERFORMANCE.

19.6.1 Concessionaire shall operate and maintain the Chilled Water Systems to meet the applicable Availability KPIs and Efficiency KPIs and to comply with ASHRAE Standard 90.1.

19.6.2 Concessionaire shall exert commercially reasonable efforts to improve the Chilled Water Systems' operating efficiency continuously throughout the Term.

19.7 CHILLED WATER SYSTEMS MODELING. UMD shall secure and maintain such licenses and services necessary for Concessionaire to utilize its Pipe-Flo Software to develop and maintain an accurate hydraulic flow model for each Chilled Water System. Concessionaire shall rely on such model to analyze the effect of new UMD Buildings loads or changing UMD Building loads on the Chilled Water System.

PART 20: DOMESTIC HOT WATER SERVICE

20.1 DOMESTIC HOT WATER SYSTEM DESCRIPTION. Each Domestic Hot Water System consists of a Domestic Hot Water Production Units and a Domestic Hot Water Distribution System.

20.1.1 *Domestic Hot Water Production Unit.* A Domestic Hot Water Production Unit is Equipment that heats water received from the Campus water distribution system for delivery and domestic use in the UMD Buildings connected to the it by a Domestic Hot Water Distribution System.

20.1.2 *Domestic Hot Water Distribution System.* A system of Equipment, pipes, pumps, and Structures that deliver domestic hot water from a Domestic Hot Water Production Unit to a Domestic Hot Water Demarcation Point.

20.2 GENERAL OBLIGATION. Concessionaire shall receive water from UMD at each Domestic Water Input Point, produce domestic hot water, and deliver such water to UMD in compliance with the Law, the Concession Agreement, and Prudent District Energy Practices.

20.3 DOMESTIC HOT WATER SERVICE REQUIREMENTS. Concessionaire shall manage, operate, and maintain the Domestic Hot Water Systems to deliver domestic hot water to each Domestic Hot Water Demarcation Point in quantities sufficient to meet the full domestic hot water requirements of each UMD Building connected to a Domestic Hot Water System.

20.4 DOMESTIC HOT WATER SERVICE QUALITY REQUIREMENTS. Concessionaire shall provide Domestic Hot Water Service in accordance with the following requirements:

20.5.1 *Delivery Temperature*. Concessionaire shall deliver domestic hot water to each Domestic Hot Water Demarcation Point at a temperature to which Concessionaire and UMD may agree to increase a Domestic Hot Water System's energy efficiency.

20.5.2 *Water Quality*. At least once each Contract Year, Concessionaire shall test the quality of the domestic hot water delivered to each UMD Building served by a Domestic Hot Water System to confirm that such water is potable and complies with all applicable Laws governing drinking water safety and quality. If Concessionaire determines that domestic hot water delivered to a UMD Building does not comply with such Laws, then it shall immediately notify the UMD Program Manager and take such steps as necessary to prevent harm to Persons potentially using or consuming such water.

PART 21: PURPLE LINE COORDINATION

21.1 PURPLE LINE AGREEMENT. Concessionaire acknowledges that the Maryland Transit Administration, through its concessionaire, will be constructing, managing, operating, and maintaining the Purple Line light rail system throughout the Term, that these activities will impact the Energy Systems, and that UMD and the Maryland Transit Administration are parties to the Purple Line Agreement, which is contained in Appendix K-1, to provide a framework for coordinating these activities. Concessionaire agrees to perform the duties of the MEDCO Operator under the Purple Line Agreement.

21.2 COORDINATION WITH ENERGY SYSTEMS CONSTRUCTION AND OPERATIONS.

21.1.1. Concessionaire shall coordinate its construction of Capital Improvements and the operation and maintenance of the Energy Systems with the construction, operation, and maintenance of the Purple Line in accordance with the Purple Line Agreement and Prudent District Energy Practices. Concessionaire shall notify UMD promptly if it reasonably expects the Purple Line's construction, operation, or maintenance to adversely affect the operation of the Energy Systems and shall cooperate with UMD and the MTA Concessionaire to mitigate or eliminate such effects. Concessionaire shall facilitate minor interruptions of Heating Service, Electric Service, or Chilled Water Service to occur at times mutually agreed upon by Concessionaire, UMD, and the MTA Concessionaire.

21.1.2 Concessionaire shall be notified of, and shall participate in, all coordination meetings and activities on Campus involving the Purple Line, including the development and implementation of the Campus Utilities Management Plan required by the Purple Line Agreement. With respect to the Energy Systems, the Campus Utilities Management Plan, at a minimum, shall contain the provisions identified in Section 5.3 of the Purple Line Agreement. Concessionaire shall manage, operate, and maintain the Energy Systems in accordance with the Campus Utilities Management Plan on and after the date it becomes effective.

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CONCESSIONAIRE CHARGE PRICING

THE REDACTED PORTIONS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE THEY CONTAIN MARYLAND ENERGY IMPACT PARTNERS LLC'S TRADE SECRET AND COMPETITIVELY SENSITIVE INFORMATION.

Concessionaire Charge Components:

Annual Maximum Availability Payment (Max AP) for the first full the Contract Year following the Actual Substantial Completion Date:	$[redacted]
Annual Maximum Fixed O&M Charge (Max FOMC) for the period starting on the Commencement Date and ending on the Actual Substantial Completion Date:	$[redacted]
Annual Maximum Fixed O&M Charge (Max FOMC) for the period starting on the Actual Substantial Completion Date and ending on the Reversion Date:	$[redacted]
Baseline CPI value:	302.930

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APPENDIX O-3A

CONCESSIONAIRE COST AND PRICING DATA

THIS APPENDIX IS CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS THE ASSUMPTIONS AND OTHER DATA SUPPORTING MARYLAND ENERGY IMPACT PARTNERS LLC'S PROGRAM PRICING.

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APPENDIX O-4

PAYMENT MECHANISM

1.0 CALCULATION OF THE CONCESSIONAIRE CHARGE

1.1 CONCESSIONAIRE CHARGE.

1.1.1 *ANNUAL MAXIMUM CONCESSIONAIRE CHARGE*. The Annual Maximum Concessionaire Charge (MaxCC) for Contract Year (y) during the Operating Term ($MaxCC_{oy}$) shall be calculated as follows:

$$MaxCC_{oy} = [\, MaxAP \times (1.02)^{scy-1} + (\, MaxFOMC \times EF\_CPI_{oy} - KPI\_CD_{oy} \times EF\_CPI_{oy}\,)\,] + RCC_{oy} + NRD_{oy}$$

Where:

MaxCC	means the Annual Maximum Concessionaire Charge
MaxAP	means the Base Annual Maximum Availability Payment (MaxAP) calculated in accordance with Section 1.2.1 of this Appendix O-4 and as listed in Appendix O-3
MaxFOMC	means the Annual Maximum Fixed O&M Charge (MaxFOMC), as listed in Appendix O-3 and in the most recently approved Five Year Plan
EF_CPI	means the escalation factor calculated in accordance with Section 1.1.3 of this Appendix O-4
RCC	means the Reimbursable Costs Charge calculated in accordance with Section 1.5 of this Appendix O-4
NRD	means draws from the NextGen Reserve as approved by UMD in accordance with Section 17.1.2 of the Base Concession Agreement
KPI_CD	means the KPI Deduction as calculated in accordance with Appendix O-5 and Section 1.4 of this Appendix O-4
oy	means the number of the Contract Year's place in the sequence of Contract Years during the Operating Term. (For example, the Contract Year that begins at Commencement and ends on the next June 30 is Contract Year 1)

scy means the sum of the full Contract Years after the Actual Substantial Completion Date, starting with 1 for the first full the Contract Year following the Actual Substantial Completion Date.

1.1.2 *MONTHLY MAXIMUM CONCESSIONAIRE CHARGE*. Subject to any limitations and exceptions expressly provided in the Agreement, the Annual Maximum Concessionaire Charge shall be paid to Concessionaire in monthly installments. The Monthly Maximum Concessionaire Charge ($MaxMCC_{oy}$) shall be calculated as the monthly amount of the annual $MaxCC_{oy}$ pursuant to the terms of this Appendix O-4 as follows:

$$MaxMCC_m = \frac{1}{12} \times MaxCC_{oy}$$

Where:

MaxMCC means Monthly Maximum Concessionaire Charge calculated in accordance with Section 1.1.1 of this Appendix O-4

1.1.3 *ESCALATION OF THE FIXED O&M CHARGE AND THE KPI DEDUCTION*. The Fixed O&M Charge and KPI Deduction Escalation Factor (EF_CPI) for each Contract Year (y) shall be calculated in accordance with the following formula:

$$EF\_CPI = \left(\frac{CPI_{oy}}{CPI_{base}}\right)$$

Where:

CPI_{oy} means the CPI value for the most recently completed month during a Contract Year (oy) for which a CPI value is available

CPI_{base} means the Baseline CPI value

1.2 AVAILABILITY PAYMENT.

1.2.1 *MAXAP PRIOR TO THE PHASE I SUBSTANTIAL COMPLETION DATE.* From the Effective Date until the date of Phase I Substantial Completion, the MaxAP shall be equal to $0.

1.2.2 *MAXAP AFTER THE PHASE I SUBSTANTIAL COMPLETION DATE*.

(a) During the Contract Year in which Phase I Substantial Completion Date occurs, the MaxAP for that Contract Year shall be prorated based on the actual number of days beginning on the Actual Substantial Completion Date until the end of the Contract Year, as reflected in the Financial Model.

(b) Beginning with the first full Contract Year following the date of Phase I Substantial Completion, the MaxAP shall be equal to the MaxAP shown in Appendix O-3 multiplied by the escalation factor determined pursuant to Section 1.1.1 above.

(c) For the Contract Year in which the Reversion Date occurs, the MaxMCC shall be prorated to reflect the actual portion of the Contract Year during which the Concession Agreement is in effect.

1.3 FIXED O&M CHARGE.

1.3.1 Beginning at Commencement and continuing until the Phase I Substantial Completion Date, the MaxFOMC shall be equal to the Fixed O&M Charge shown in Appendix O-3, as adjusted annually by the EF_CPI escalation factor calculated pursuant to Section 1.1.4 above.

1.3.2 On and after the date of Phase I Substantial Completion through the end of the Term, the MaxFOMC shall be equal to the Fixed O&M Charge shown in Appendix O-3 for the post-Phase I Substantial Completion portion of the Term, as adjusted annually by the EF_CPI escalation factor calculated pursuant to Section 1.1.4 above.

1.4 KPI DEDUCTION.

1.4.1 The Total KPI Deduction for each Contract Year (oy) during the Operating Term shall be calculated in accordance with the following formula:

$$KPI\_CD_{oy} = \sum_{X=1}^{15} KPI\_X\_CD_{oy}$$

Where:

KPI_X_CD	means the sum of the Base KPI Deduction for the immediately preceding Contract Year (oy), as calculated in accordance with Appendix O-5
X	means the KPI ID, as identified in Appendix O-5

1.4.2 *KPI DEDUCTION CAP; ROLLOVER.* The Total KPI Deduction in any Contract Year shall be capped at the greater of $2,500,000 or 25% of the Fixed O&M Charge for the that Contract Year. This cap limits the amount of liquidated damages for all KPI Events in a given Contract Year but does not limit Concessionaire's liability for those events. If the Total KPI Deduction exceeds the cap in any Contract Year, the excess amount shall be deducted from the

Fixed O&M Charge in the two immediately succeeding Contract Years, provided that:

(a) The total of all KPI Deductions (newly calculated plus rollover) in any individual Contract Year shall not exceed the Total KPI Deduction Cap for that Contract Year; and,

(b) If a KPI Deduction amount is not fully paid in the two Contract Year immediately succeeding the Contract Year for which it was calculated, then UMD's right to deduct the remaining balance from the Fixed O&M Charge in future Contract Years shall expire.

1.4.3 *TOTAL KPI DEDUCTION CAP ESCALATION.* The Total KPI Deduction Cap shall be adjusted annually utilizing the result of the calculation set forth in Section 1.1.3.

1.4.4 *DEDUCTIONS AT REVERSION.* Upon Reversion, UMD shall calculate the Total KPI Deduction, if any, for the final Contract Year and UMD shall deduct the amount thereof plus any rollover KPI Deductions from the Fixed O&M Charge for the last month of the Term, provided that if such amount is not sufficient to pay all outstanding KPI Deductions then due and owing, UMD may:

(a) Offset any such amount against any other amounts (other than the Availability Payment) UMD owes Concessionaire; or,

(b) Draw upon the Letter of Credit posted by Concessionaire pursuant to Section 9.12.4 of the Base Concession Agreement until the outstanding KPI Deductions are fully paid.

1.5 REIMBURSABLE COSTS CHARGE.

1.5.1 *MONTHLY REIMBURSABLE COSTS CHARGE.* Concessionaire shall include an estimated annual amount of Reimbursable Costs in each Annual Operating Budget it submits to UMD pursuant to Section 17.4 of the Base Concession Agreement. The monthly Reimbursable Costs Charge shall be equal to the annual budgeted Reimbursable Costs divided by 12. For the period starting at the Initial Financial Closing through the end of the first Contract Year, if the Concessionaire incurs Reimbursable Costs, it shall include such costs as the Reimbursable Costs Charge in the next monthly invoice to UMD, along with reasonable justification of such charge.

1.5.2 *ANNUAL REIMBURSABLE COSTS CHARGE ADJUSTMENT.*

(a) The Annual Reimbursable Costs Charge Adjustment shall be equal to the amount by which the actual Reimbursable Costs incurred by Concessionaire during a Contract Year is higher or lower than the total amount of the Reimbursable Costs Charge budgeted for that Contract Year in the latest Annual Operating Budget.

(b) Beginning with the second Contract Year, UMD shall pay Concessionaire or Concessionaire shall credit UMD, the full amount of the Annual Reimbursable Costs Charge Adjustment in lump sum as early in the Contract Year as feasible unless the Parties agree to another methodology, provided that at no time shall any such credit reduce the Availability Payment.

1.6 NEXTGEN RESERVE CHARGE. The NextGen Reserve Charge shall be calculated as provided in Section 17.1.2 of the Base Concession Agreement.

2.0 INVOICING FOR MONTHLY CONCESSIONAIRE CHARGE

2.1 For each Monthly Concessionaire Charge, Concessionaire shall submit an invoice in a format acceptable to UMD in accordance with Article 17.2 of the Agreement.

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APPENDIX O-5

KEY PERFORMANCE INDICATORS

1.0 INTRODUCTION. The following Key Performance Indicators define benchmarks by which the quality of Concessionaire's performance of the Concession Agreement can be assessed annually. This Appendix specifies how KPI Deductions are calculated. The KPI Deduction Cap and the rollover of KPI Deductions that exceed such cap are governed by Appendix O-2.

Each KPI falls into one of four categories.

Availability KPIs determine how well Concessionaire has performed its core obligation to deliver Full Requirements Energy Services to UMD Buildings reliably.

Efficiency KPIs focus on whether Concessionaire has operated the steam, hot water, chilled water, and electricity production units to maximize the quantity of useful energy it produces from the Commodities purchased by UMD.

Environmental KPIs focus on whether Concessionaire is operating the Energy Systems in a manner that minimizes, if not eliminates, Environmental Matters and Environmental Claims and is reducing the Central Energy Plant's Greenhouse Gas Emissions to the target of 101,429 MTCO2e set by UMD's Climate Action Plan 2.0 Plan.

Safety KPIs focus on whether Concessionaire is protecting UMD's students, faculty, and staff from death or injury arising from its operation and improvement of the Energy Systems and whether it is responding promptly if an Emergency arises.

2.0 KPI ADDITIONS OR ADJUSTMENTS.

2.1 ***Setting KPI Targets.*** The Parties recognize that KPI Targets for certain KPIs in this Appendix cannot be determined until completion of the Phase I Capital Improvements. The Parties shall cooperate in setting those KPI Target at levels that optimize the Energy Systems' reliability, resiliency, efficiency, and sustainability in accordance with the procedures and at the times set forth herein.

2.2 ***Adjusted or Additional KPIs*****.** At any time during the Operating Term, the Parties may amend this Appendix to adjust the KPI Targets or calculation methodologies set forth herein or adopt new KPIs to reflect the effect of Additional Capital Improvements, Replacements, Major Repairs, or other changes. During each Midterm Review, the Parties shall evaluate each KPI and make changes based upon Equipment and Energy System operating history and other relevant

factors to assure that the KPI Targets promote achievement of the NextGen Objectives and reflect the Energy Systems' optimal levels of operation.

3.0 DEFINITIONS.

3.1 ***Incorporated Definitions.*** Unless otherwise defined herein, capitalized terms used in this Appendix shall have the meanings assigned to such terms by Appendix A of the Concession Agreement or the Ground Lease.

3.2 ***Additional Definitions.*** The following terms have the meanings set forth in this Section.

"Calculation Period" means the period (Operating Month, Contract Year, other 12-month period) for which compliance with a KPI Target is being calculated.

"Data Collection Point" means the point on an Energy System at which KPI compliance is measured.

"Delta T" means the difference in the temperature of chilled water between (a) the supply side inlet of a heat exchanger located in a UMD Building and (b) the outlet return side of that heat exchanger.

"Forced Outage" means the unplanned reduction of energy from, or nonproduction of energy by, any specific Equipment or Energy System resulting in the unavailability of such Equipment or Energy System, in whole or in part.

"Hour" means a 60-minute hour or any portion thereof.

"KPI Base Deduction" means the core KPI Deduction prior to adjustment as provided in Section 8.0 hereof.

"KPI Calculation" means the calculation of Concessionaire's achievement of, or compliance with, each KPI utilizing the formulae set forth in this Appendix O-5.

"KPI Deduction Table" means one of the series of tables set forth in Section 10.0 of this Appendix O-5.

"KPI Event" means a failure to meet a KPI Target, unless such failure is caused exclusively by UMD, a UMD Party, or a Force Majeure Event, or if, prior to Phase I Substantial Completion, a Forced Outage of Heating Service is caused exclusively by the failure of a Legacy Component of the Thermal Distribution System for which UMD has cost responsibility under Section 10.5.6 of the Base Concession Agreement.

"KPI Event Year" means a Contract Year in which a KPI Event occurs.

"KPI Measurement Window" means, the total number of consecutive Contract Years prior to the most current complete Contract Year in which the same KPI Event has occurred at least once annually.

"KPI Report" means a report prepared by Concessionaire and submitted to UMD that contains the information required in Section 9.0 hereof.

"KPI Target" means the amount, measurement, or percentage, as applicable, that Concessionaire must achieve in performing certain key obligations under the Concession Agreement, as identified in the applicable KPI Calculation.

"Operating Hour" means a 60-minute hour or any portion thereof during which Equipment is operating.

"Operating Month" means each complete calendar month following the first day of an Efficiency KPI's effectiveness. Each Operating Month shall begin at 12:00:00 midnight on the first day of the month and end at 11:59:59 on the last day of the month.

4.0 AVAILABILITY KPIS

4.1 *Effective Dates*

(a) *KPIs Effective at Commencement*. The Steam Service Availability KPI, the Chilled Water Availability KPI (DTP-4 only), and the Electric Service Availability KPI shall be effective at Commencement. If the first Contract Year consists of less than twelve months and UMD determines that a KPI Event has occurred during the first Contract Year, the Base KPI Deduction for that Contract Year shall be calculated by dividing the number of days in the first Contract Year by 365 and multiplying that result by the applicable Base KPI Deduction. Such Contract Year shall not constitute a KPI Event Year for the purposes of determining the Base KPI Deduction for the next Contract Year.

(b) *KPIs Effective after Commencement.*

(1) The Chilled Water Availability KPI for DTPs other than DTP-4 shall be effective on and after Phase I Substantial Completion. If less than twelve months in a Contract Year remain following Phase I Substantial Completion and UMD determines that a KPI Event has occurred during that time, the Base KPI Deduction for that period shall be calculated by dividing the number of days in that period by 365 and multiplying that result by the applicable Base KPI Deduction. Such period shall not constitute a KPI Event Year for the purposes of determining the Base KPI Deduction for the next Contract Year.

(2) The Combustion Turbine/HRSG Availability KPI shall be effective 90 days following the Actual Substantial Completion Date of the Phase I Capital Improvements for

the Central Energy Plant. A Heating Hot Water District's Heating Hot Water Availability KPI shall be effective 90 days following that district's Actual Substantial Completion Date. For the purpose of calculating Concessionaire's compliance with each of these KPIs, the first "Contract Year" of its effectiveness shall begin on the 91st day following its Actual Substantial Completion and shall end on the following June 30. If UMD determines that a KPI Event has occurred during such Contract Year, the Base KPI Deduction for that Contract Year shall be determined by dividing the number of days that the KPI was effective by 365 (or 366 if the Contract Year is a leap year) and multiplying that result by the applicable Base KPI Deduction. Such Contract Year shall not constitute a KPI Event Year for the purposes of determining the Base KPI Deduction for the next Contract Year.

4.2 *Steam Service Availability (KPI ID_1)*

The steam distribution set point at the Central Energy Plant is 125 PSIG. A steam outage occurs when the steam pressure at a UMD Building's Steam Data Collection Point is less than 90 PSIG for the period shown in the second column of the following table.

Pressure at a UMD Building's Steam Data Collection Point (PSIG)	Duration of Reduced Steam Pressure
x < 90	≥ 15 minutes

The Steam Data Collection Point shall be located at the Steam Demarcation Point.

The Steam Availability KPI (KPI_1) for each Contract Year (y) shall be calculated in accordance with the following formula:

$$KPI\_1_y = \frac{[(CYH\ x\ DP) - POH \quad (BOH_{15})]}{CYH\ x\ DP - POH}$$

If the result of the calculation is greater than or equal to 0.9999, Concessionaire has met the KPI for steam service for the Calculation Period. If the result is less than 0.9999, Concessionaire has not met the KPI.

Where:

CYH — *Number of hours in the Calculation Period (either 8760 or 8784 hours)*

DP — *Total number of Steam Demarcation Points on the Steam Distribution System*

POH — *Total planned outage hours for Central Energy Plant and individual Steam Demarcation Points for Preventive Maintenance and Planned Outages*.

BOH_{15} *Total number of hours steam pressure to any given Steam Demarcation Point was below 90 PSIG for a duration longer than 15 minutes.*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated.*

4.3 *Chilled Water Availability (KPI ID 2)*

Concessionaire must maintain Chilled Water Service to each UMD Building connected to a Chilled Water Distribution System between 42 and 45 degrees Fahrenheit ("°F") at all times the ambient air temperature is at or above 55°F. A Chilled Water Service outage occurs when the temperature at the Chilled Water Data Collection Point falls within a range identified in the first column of the following table for the corresponding duration identified in the second column.

Outage Type	Chilled Water Temperature (°F) at a UMD Building's Chilled Water Data Collection Point	Duration Temperature Increase
1	$45 < x \leq 46$	> 50 minutes
2	$46 < x \leq 47$	> 45 minutes
3	$47 < x \leq 48$	> 40 minutes
4	$48 < x \leq 49$	> 30 minutes
5	$49 < x \leq 50$	> 20 minutes
6	$X > 50$	> 10 minutes

A UMD Building's Chilled Water Data Collection Point shall be located at the supply side inlet of its heat exchanger.

The Chilled Water Availability KPI (KPI_2) shall be calculated for each DTP's Chilled Water System in accordance with the following formula:

$$KPI\_2_y = \frac{[\,TOH - POH - (T_{46} + T_{47} + T_{48} + T_{49} + T_{50} + T_{51})]}{TOH - POH}$$

If the result of the calculation is greater than or equal to 0.95, Concessionaire has met the KPI for Chilled Water Service for the Contract Year for that DTP. If the result is less than 0.95, Concessionaire has not met the KPI.

Where:

TOH *Total Operating Hours for the DTP for which the KPI compliance is being calculated*

POH	*Number of planned outage hours per year that the DTP is not in service for Preventive Maintenance and Planned Outages*
T_{46}	*Total number of Hours of Type 1 Outages experienced by UMD Buildings connected to the Chilled Water System*
T_{47}	*Total number of Hours of Type 2 Outages experienced by UMD Buildings connected to the Chilled Water System*
T_{48}	*Total number of Hours of Type 3 Outages experienced by UMD Buildings connected to the Chilled Water System*
T_{49}	*Total number of Hours of Type 4 Outages experienced by UMD Buildings connected to the Chilled Water System*
T_{50}	*Total number of Hours of Type 5 Outages experienced by UMD Buildings connected to the Chilled Water System*
T_{51}	*Total number of Hours of Type 6 Outages experienced by UMD Buildings connected to the Chilled Water System*
Y	*The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated.*

4.4 *Electric Service Availability (KPI ID_3)*

For the purposes of this KPI, an electric outage occurs when (i) a main Campus Electric Distribution System breaker opens; or (ii) an individual UMD Building's main electric service entrance breaker or breakers opens for a reason other than Preventive Maintenance or a Planned Outage.

The Electric Service Availability KPI (KPI_3) for a Calculation Period shall be calculated in accordance with the following formula:

$$KPI\_3_y \quad = [N_C + N_B]$$

If the result of the calculation is less than or equal to 2, Concessionaire has met this KPI. If the result is greater than 2, Concessionaire has not met this KPI.

Where:

N_C: *Total number of main Campus Electric Power Distribution breaker(s) openings during the Calculation Period*

N_B: *Total number of UMD Building breakers between the low side of the building transformer and the building service entrance openings*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated.*

4.5 ***Combustion Turbine/HRSG Availability (KPI ID 4).*** The Combustion Turbine/HRSG Availability KPI for a Calculation Period shall be calculated in accordance with the following formula:

$$KPI\_4_y = \frac{[CYH - POH - UPO \quad]}{CYH - POH}$$

If the result of the calculation is greater than or equal to 0.96, Concessionaire has met this KPI. If the result is less than or equal to 0.96, Concessionaire has not met the KPI.

Where:

CYH *Number of hours in the Contract Year (either 8760 or 8784 hours)*

POH *Number of planned hours per Contract Year that a Combustion Turbine or a HRSG is not in service due to Preventive Maintenance and Planned Outages.*

UPOH: *Number of unplanned hours per Contract Year that a Combustion Turbine or HRSG is not operating as a result of a Forced Outage*

Y: *The number of the Contract Year for which the KPI compliance is being calculated.*

4.6 ***Heating Hot Water Service Availability (KPI ID 5)***

This KPI shall apply to all Heating Hot Water Systems constructed during the Operating Term. It does not apply to DTP-based Heating Hot Water Systems in service at Commencement.

The hot water temperature set point to each UMD Building being heated by a Hot Water Thermal System must be maintained between 140 and 180°F and must follow a UMD Building-based reset schedule, the set points of which will be established by UMD during each System's design.

A UMD Building's Hot Water Data Collection Point shall be located at the supply side inlet of its heat exchanger.

A Heating Service outage for a Heating Hot Water System occurs when the temperature at the Hot Water Data Collection Point falls within a range identified in the second column of the following table for the corresponding duration identified in the third column.

Outage Type	Hot Water Degrees Below Set Point (°F)	Temperature Duration
1	$0 < x \leq 10$	$\geq$ 120 minutes
2	$10 < x \leq 20$	$\geq$ 60 minutes
3	$20 < x \leq 30$	$\geq$ 40 minutes
4	$30 < x \leq 40$	$\geq$ 30 minutes
5	$X > 40$	$\geq$ 5 minutes

The Heating Hot Water Availability KPI (KPI_5) for each Calculation Period (Y) for each Heating Hot Water System shall be calculated in accordance with the following formula:

$$KPI\_5_y = \frac{[(CYH\ x\ DP) - POH - (BOH_{120} + BO\ _{60} + BOH_{40} + BOH_{30} + BOH_5)]}{CYH\ x\ DP - PO}$$

If the result of the calculation is greater than or equal to 0.9999, Concessionaire has met this KPI. If the result is less than 0.9999, Concessionaire has not met the KPI.

Where:

CYH — *Number of hours in the Calculation Period (either 8760 or 8784 hours)*

DP — *Total number of Data Collection Points for UMD Buildings connected to a Heating Hot Water System*

POH — *Total planned outage hours for a Heating Hot Water System and all UMD Buildings connected to it for Preventive Maintenance and Planned Outages*

BOH_{120} — *Total number of Hours of Type 1 Outages experienced by the UMD Buildings connected to the Heating Hot Water System*

BOH_{60} — *Total number of Hours the Heating Hot Water temperature at the Data Collection Points of all UMD Buildings connected to the Heating Hot Water System experienced a Type 2 Outage*

BOH_{40} — *Total number of Hours the Heating Hot Water temperature at the Data Collection Points of all UMD Buildings connected to the Heating Hot Water System experienced a Type 3 Outage*

BOH_{30} *Total number of Hours the Heating Hot Water temperature at the Data Collection Points of all UMD Buildings connected to the Heating Hot Water System experienced a Type 4 Outage*

BOH_5 *Total number of Hours the Heating Hot Water temperature at the Data Collection Points of all UMD Buildings connected to the Heating Hot Water System experienced a Type 5 Outage*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated.*

5.0 EFFICIENCY KPIS

5.1 ***Effective Date.*** Except for the Heating Hot Water System Thermal Efficiency KPI, each Efficiency KPI shall become effective 90 days following the Phase I Substantial Completion of the Project with which it is associated. A Heating Hot Water District's Heating Hot Water Thermal Efficiency KPI shall be effective 90 days after that district's Actual Substantial Completion Date. The first "Contract Year" of an Efficiency KPI's effectiveness shall begin on the 91st day following Actual Substantial Completion and shall end on the following June 30. If UMD determines that a KPI Event has occurred for such Contract Year, the Base KPI Deduction for that year shall be determined by dividing the number of days that the KPI was effective by 365 (or 366, as appropriate) days and that Contract Year shall not constitute a KPI Event Year for the purposes of calculating the Base KPI Deduction for the next Contract Year.

5.2 *Combined Heat and Power (CHP) System Efficiency (KPI ID 6)*

The Combined Heat and Power System Efficiency KPI (KPI_6) for each Calculation Period (Y) shall be calculated in accordance with the following formula:

$$KPI\_6_Y = \frac{[Wt+Qt\ ]}{Qfuel}$$

If the result of the calculation is greater than or equal to 0.75, Concessionaire has met the KPI for CHP efficiency for the Contract Year. If the result is less than 0.75, Concessionaire has not met the KPI.

Where:

W_t: *Electrical output at generator terminals (BTU)*

Q_{th}: *Net thermal useful output (BTU) from the HRSG*

Q_{fuel}: *Total Fuel energy input (BTU) based on lower heating value of the fuel*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated.*

5.3 *Boiler Steam Production Efficiency (KPI ID 7)*

The Boiler Steam Production Efficiency KPI (KPI_7) for each Calculation Period (Y) shall be calculated in accordance with the following formula:

$$KPI\_7_Y = \frac{[Qout]}{[Qfuel]}$$

If the result of the calculation is greater than or equal to 0.80, Concessionaire has met the KPI for steam energy service for the Contract Year. If the result is less than 0.80, Concessionaire has not met the KPI.

Where:

Q_{fuel} *Total individual boiler Fuel energy input (BTU) based on lower heating value of the Fuel for the period*

Q_{out} *Individual total boiler energy output (BTU) based on steam pressure and steam temperature at outlet of non-return valve for the period*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated*

5.4 *Chiller Efficiency (KPI ID 8)*

The Chiller Efficiency KPI (KPI_8) for each Calculation Period (Y) shall be calculated in accordance with the following formula:

$$KPI\_8 \quad = \frac{[P_{DTP}]}{[Q_{out}]}$$

If the result of the calculation is less than or equal to a DTP's KPI Target, Concessionaire has met the KPI for chilled water service for the Contract Year. If the result is greater than 0.80, Concessionaire has not met the KPI.

Where:

P_{DTP} *Total power consumption of a District Thermal Plant in kilowatts (kW) during the Calculation Period, excluding consumption during the hours when the Delta T between the chilled water supply to the Campus and the chilled water return from the Campus is less than or equal to 10 degrees F.*

Q_{out} *Tons of cooling exported from a DTP (tons of cooling) as measured by sum of plant export BTU meters during the Calculation Period*

Y *The number of the Calculation Period (if it is a Contract Year) for which KPI compliance is being calculated*

The DTP Target for DTP-4 shall be .80. No later than the date of the Phase I Substantial Completion, the Parties shall set DTP chiller efficiency KPI Targets for every other DTP operated by Concessionaire. The Parties shall take into account the age and metered performance of each DTP's chillers, connected loads, and other similar factors. Each DTP's chiller efficiency KPI Targets shall be revised upward upon replacement of some or all of a DTP's chillers.

5.5 [Reserved]

5.6 *Heating Hot Water System Thermal Efficiency (KPI ID 10)*

This KPI shall apply to all Heating Hot Water Systems constructed during the Operating Term. It does not apply to DTP-based Heating Hot Water Systems in service at Commencement.

The Heating Hot Water System Efficiency KPI (KPI_10) for each Contract Year (Y) shall be calculated in accordance with the following formula for each heating hot water generation unit:

$$KPI\_10_{Y,M} = \frac{[Qout]}{[Qin]}$$

The KPI Target for the purposes of this KPI will be set by the Parties during the development of the Plans and Specifications for each Heating Hot Water System. The Parties shall set this KPI at a level equal to the efficiency assigned to the System's heating hot water generation unit(s) by the Air Conditioning, Heating, and Refrigeration Institute, as adjusted to reflect the highest projected temperature of the hot water returning to the System's heating hot water generation unit(s) and expected operating conditions outside the Parties' control. In no event shall calculation this KPI be less than .80.

Where:

Q_{in} *Total heating hot water generation system input (BTU) for the period*

Q_{out} *Total heating hot water generation system output (BTU) for the period*

Y *The number of the Contract Year for which KPI compliance is being calculated*

6.0 ENVIRONMENTAL KPIS

6.1 *Environmental Matters/Environmental Claims (KPI ID 11)*

The Environmental Matters and Environmental Claims KPI (KPI_11) for each Contract Year (y) shall be effective at Commencement and shall be calculated in accordance with the following formula:

$$KPI\_11_y = [ENV]$$

Prior to Phase I Substantial Completion, if the result of this calculation is less than or equal to 4, Concessionaire has met the KPI for Environmental Matters and Claim Events for the Contract Year. If the result is greater than 4, Concessionaire has not met the KPI.

On and after Phase I Substantial Completion, if the result of this calculation is less than or equal to 3, Concessionaire has met the KPI for Environmental Matters and Claim Events for the Contract Year. If the result is greater than 3, Concessionaire has not met the KPI.

Where:

ENV: *The sum of the following:*

(a) The total number of Environmental Matters that are not remedied by Concessionaire within 48 hours of its receipt of UMD's notice thereof or subject to an agreed-upon remediation plan; and,

(b)The number of Environmental Claims for which Concessionaire is found responsible by a Governmental Authority with jurisdiction to decide the claim

Y *The number of the Contract Year for which KPI compliance is being calculated*

6.2 *Greenhouse Gas Emissions Reduction (KPI ID 12)*

The annual Greenhouse Gas Emission Reduction associated with the Central Energy Plant (KPI_12) for each Contract Year shall be calculated in accordance with the following formula:

$$KPI\_13_y = \left[\frac{C_a - UMDC_a}{C_B}\right] * \left[\frac{D_B}{D_y}\right]$$

If the result of the calculation is less than or equal to 0.80, Concessionaire has met the KPI for Greenhouse Gas Emission Reduction for the Contract Year. If the result is greater than 0.80, Concessionaire has not met the KPI.

Where:

C_a	Annual carbon emission (tons) from the Central Energy Plant during the Contract Year for which KPI compliance is being calculated.
$UMDC_a$	Annual carbon emission (tons) from the Central Energy Plant emitted at times when UMD has directed Concessionaire to burn a Fuel less efficient than natural gas
C_B	Baseline Carbon Emissions of 126,429 MTCO2e[1]
D_b	Campus Thermal demand at baseline (BTUs)
D_y	Campus Thermal demand for Contract Year Y (BTUs)
Y	*Numbered Contract Year commencing 90 days following Phase I Substantial Completion and on each twelve-month anniversary thereof*

7.0 SAFETY KPIS

7.1 ***Effective Date.*** The Non-Concessionaire Safety Event KPI and the Concessionaire Emergency Response KPI shall be effective at Commencement.

7.2 *Non-Concessionaire Safety Event (KPI ID 14)*

The Non-Concessionaire Safety Event KPI (KPI_14) for each Contract Year (y) shall be calculated in accordance with the following formula:

$$KPI\_14_y = [NCSE]$$

[1] Source: https://sustainingprogress.umd.edu/progress-commitments/climate-action-plan, Section - Heat and Power Plant Improvements

If the result of the calculation is less than or equal to 4, Concessionaire has met the KPI for Non-Concessionaire Safety Events for the Contract Year. If the result is greater than 4, Concessionaire has not met the KPI.

Where:

NCSE: *An incident shall be defined as an event in which an Energy System causes, in whole or in part, death of, or injury to, a Person who is not under the supervision, direction, or control of Concessionaire or a Concessionaire Party*

Y *Numbered Contract Year for which KPI compliance is being calculated*

7.2 *Concessionaire Emergency Response (KPI ID 15)*

The Emergency Response KPI (KPI_15) for each Contract Year (y) shall be calculated in accordance with the following formula:

$$KPI\_15_y = [\frac{[(T_1 \; x \; F) + (T_2 \; x \; F) + \; (T_3 \; x \; F)]}{\sum I}]$$

Response Time	Time Factor (F)
t ≤ 30 minutes	0
30 < t ≤ 60 minutes	5
T > 60 minutes	10

If the result of the calculation is less than or equal to 15, Concessionaire has met this KPI. If the result is greater than 15, Concessionaire has not met the KPI. "Assessment Phase" has the meaning given it in Section 6.5.1(a) of the Operating Requirements.

Where:

T_1 Total number of Emergencies in which Concessionaire completed the Assessment Phase in 30 minutes or less

T_2 Total number of Emergencies in which Concessionaire completed the Assessment Phase in 31 through 60 minutes

T_3 Total number of Emergencies in which Concessionaire completed the Assessment Phase in more than 60 minutes

∑I	Total number of events requiring Concessionaire Emergency Response
Y	*Numbered Contract Year for which KPI compliance is being calculated.*
Emergency	*Defined in Concession Agreement Appendix A.*

8.0 KPI DEDUCTIONS. The Parties agree that the provision of reliable, efficient, resilient, sustainable, and affordable Energy Services is critical to UMD's mission of education, research, and service and that calculating damages for Concessionaire's failure to achieve the KPIs is difficult, if not impossible, to calculate with precision. Consequently, the Parties agree to determine damages for specific failures to achieve the KPIs in accordance with following methodology, provided that the KPI Deduction for failure to achieve KPI_ID 12 will be based on UMD's cost of carbon offsets as set forth in Section 10.13. The amounts reflected in this methodology and the tables contained in this Section 8.0 are liquidated damages and do not constitute penalties for breach of the Concession Agreement.

8.1 ***Calculation.*** Except for KPI_ID 12, the KPI Deduction for each KPI Event shall be calculated by determining the KPI Base Deduction and then adjusting it for inflation in accordance with Section 8.4.

(a) If the result of a KPI Calculation meets the applicable KPI Target for a KPI, then a KPI Event has not occurred and the KPI Deduction for that KPI is $0.

(b) If the result of a KPI Calculation shows that a KPI Event has occurred and the immediately preceding Contract Year was *not* a KPI Event Year for that KPI, then the KPI Base Deduction shall be equal to the amount shown on the applicable KPI Deduction Table under the column labeled "0 Consecutive Event Years" and the row in the "Annual Score" column equal to the result of the KPI Calculation.

(c) If the result of a KPI Calculation shows that a KPI Event has occurred and the immediately preceding Contract Year or Contract Years are KPI Event Years for that KPI, then the KPI Base Deduction shall be equal to the result of the following calculation:

(1) Add the results of the KPI Calculation for each of the Contract Years during the KPI Measurement Window and divide that sum by the number of Contract Years in the KPI Measurement Window;

(2) Round that result to the decimal point set forth in the applicable KPI Calculation, or if none is provided, to the nearest whole number (the "KPI Calculation Average"); and,

(3) Determine the KPI Base Deduction by comparing the following amounts and designate to the greater amount as the KPI Base Deduction:

(i) The amount shown on the KPI Deduction Table for the KPI under the column corresponding to the number of Contract Years in the KPI Measurement Window and the row in the "Annual Score" column equal to the KPI Calculation Average; or,

(ii) The amount of the KPI Deduction determined under Section 8.1(b).

8.2 ***Multiple KPI Events with a Single Root Cause.*** Within 60 days following a Forced Outage of more than one Energy System or portion thereof, Concessionaire may notify UMD that the Forced Outage resulted from a single root cause and submit evidence supporting such conclusion. If UMD, in its reasonable discretion, agrees that there was a single root cause for the Forced Outage, then the KPI Calculation for the Availability KPIs on the affected Energy Systems other than the Energy System in which the root cause originated shall exclude such Forced Outage.

8.3 ***Maximum Individual KPI Base Deduction.*** If the KPI Base Deduction shown by the applicable KPI Base Deduction Table is $2,500,000, it (and any cell in that KPI Base Deduction Table to the right or below such cell) shall be deemed to read, in all such instances, "the greater of (i) $2,500,000 and (ii) 25% of the Fixed O&M Charge for that particular Contract Year."

8.4 ***Inflation Adjustment*****.** Each KPI Base Deduction shall be adjusted for inflation according to the following formula to determine the KPI Deduction:

$$FKD = BKD \times (CPI \div BCPI)$$

Where:

FKD Final KPI Deduction

BKD KPI Base Deduction

CPI Consumer Price Index, which shall be the same CPI as used to adjust the Fixed O&M Charge for inflation for the Contract Year for which the KPI Deduction is being calculated

$BCPI$ Base Consumer Index, which shall the same CPI used to adjust the Fixed O&M Charge for inflation for the month in which Commencement occurs

9.0 KPI ADMINISTRATION. The following terms supplement, but do not supplant, terms set forth in any other portion of the Concession Agreement.

9.1 *Monthly Reporting Requirements.* No later than 15 days following the end of each month during the Operating Term and 15 days following the termination or expiration of the Operating Term, Concessionaire shall deliver to the UMD Program Manager (or other person designated by the UMD Program Manager) a monthly KPI Report, which the Parties shall utilize for informational purposes only, organized in the following manner:

(a) *Section 1*: A list of all KPI Calculations for the immediately preceding month and associated KPI Targets;

(b) *Section 2*: If any KPI Targets were not achieved for the reported month, a written description explaining the causes of each nonachievement;

(c) *Section 3*: A table summarizing KPI Target achievement for the Contract Year to the end of the reported month as compared with the same period in the immediately preceding Contract Year.

9.2 *Annual Reporting Requirements.* In addition to the monthly KPI Reports, no later than 30 days following the end of each Contract Year, Concessionaire shall deliver to the UMD Program Manager (or other person designated by the UMD Program Manager) an annual KPI Report organized in the following manner:

(a) *Section 1*: The results of all KPI Calculations for KPIs determined on an annual basis;

(b) *Section 2*: A table summarizing KPI Target achievement for the Contract Year as compared with the 5 immediately preceding Contract Years*;*

(c) *Section 3*: If any KPI Targets were not achieved for the reported Contract Year, a written description explaining the causes of each nonachievement; and,

(d) *Section 4*: If KPI Targets were not achieved, a calculation of the related KPI Deductions.

9.3 *UMD Review of the KPI Report*

(a) UMD shall review each KPI Report and may request additional information from Concessionaire or convene the Operations Management Team to discuss the causes of any KPI Event.

(b) Upon completion of its review of a KPI Report, UMD shall deliver to Concessionaire a Notice of KPI Report Review that will accept or reject Concessionaire's KPI Calculations. If UMD rejects any of Concessionaire's KPI Calculations, UMD shall include with its Notice of KPI Report Review workpapers showing its alternate KPI Calculations.

9.4 ***Resolution of KPI Disputes*****.** All KPI Calculation or KPI Deduction disputes shall be resolved by the Program Implementation Council, provided that the Program Executive and the UMD Program Manager have attempted to resolve the dispute in good faith but have been unsuccessful. The Program Implementation Council's determination shall be final and binding in all disputes in which the total disputed amount is less than or equal to the Total KPI Deduction Cap for the KPI Event Year in dispute. If the amount in dispute exceeds the Total KPI Deduction Cap, then the dispute shall be resolved by the Dispute Resolution Procedure.

10.0 KPI Calculation Appendix

10.1 *Combustion Turbine/HRSG Availability (KPI ID 1)*

	KPI Deduction								
Annual Score **% Availability**	**0 Consecutive Event Years**	**2 Consecutive Event Years**	**3 Consecutive Event Years**	**4 Consecutive Event Years**	**5 Consecutive Event Years**	**6 Consecutive Event Years**	**7 Consecutive Event Years**	**8 Consecutive Event Years**	**9 Consecutive Event Years**
100.00% ≥ x ≥ 96.00%	$0	$0	$0	$0	$0	$0	$0	$0	$0
96.00% > x ≥ 94.00%	$200,000	$500,000	$800,000	$1,200,000	$1,500,000	$1,800,000	$2,000,000	$2,400,000	$2,500,000
94.00% > x ≥ 92.00%	$500,000	$800,000	$1,200,000	$1,500,000	$1,800,00	$2,000,000	$2,400,000	$2,500,000	
92.00% > x ≥ 90.00%	$800,000	$1,200,000	$1,500,000	$1,800,00	$2,000,000	$2,400,000	$2,500,000		
90.00% > x ≥ 88.00%	$1,200,000	$1,500,000	$1,800,00	$2,000,000	$2,400,000	$2,500,000			
98.00% > x ≥ 86.00%	$1,500,000	$1,800,00	$2,000,000	$2,400,000	$2,500,000				
86.00% > x ≥ 84.00%	$1,800,000	$2,000,000	$2,400,000	$2,500,000					
84.00% > x ≥ 82.00%	$2,000,000	$2,400,000	$2,500,000						
42.00% > x ≥ 80.00%	$2,400,000	$2,500,000							
x < 80.00%	$2,500,000								

10.2 *Combined Heat and Power (CHP) System Efficiency (KPI ID 2)*

	KPI Deduction							
Annual Score % Efficiency	**0 Consecutive Event Years**	**2 Consecutive Event Years**	**3 Consecutive Event Years**	**4 Consecutive Event Years**	**5 Consecutive Event Years**	**6 Consecutive Event Years**	**7 Consecutive Event Years**	**8 Consecutive Event Years**
100.00% ≥ x ≥ 75.00%	$0	$0	$0	$0	$0	$0	$0	$0
75.00% > x ≥ 72.50%	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
72.50% > x ≥ 70.00%	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
70.00% > x ≥ 67.50%	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
67.50% > x ≥ 65.00%	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
65.00% > x ≥ 62.50%	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
62.50% > x ≥ 60.00%	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
60.00% > x ≥ 57.50%	$1,300,000	$1,400,000	$1,450,000					
57.50% > x ≥ 55.00%	$1,400,000	$1,450,000						
x < 55.00%	$1,450,000							

10.3 *Boiler Steam Production Efficiency (KPI ID 3)*

Annual Score % Efficiency	KPI Deduction							
	0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
100.00% ≥ x ≥ 80.00%	$0	$0	$0	$0	$0	$0	$0	$0
80.00% > x ≥ 79.50%	$10,000	$30,000	$60,000	$80,000	$100,000	$120,000	$160,000	$180,000
79.50% > x ≥ 79.00%	$30,000	$60,000	$80,000	$100,000	$120,000	$160, 000	$180,000	$200,000
79.00% > x ≥ 78.50%	$60,000	$80,000	$100,000	$120,000	$160, 000	$180,000	$200,000	
78.50% > x ≥ 78.00%	$80,000	$100,000	$120,000	$160, 000	$180,000	$200,000		
78.00% > x ≥ 77.50%	$100,000	$120,000	$160, 000	$180,000	$200,000			
77.50% > x ≥ 77.00%	$120,000	$160, 000	$180,000	$200,000				
77.00% > x ≥ 76.50%	$140,000	$180,000	$200,000					
76.50% > x ≥ 76.00%	$180,000	$200,000						
x < 76.00%	$200,000							

10.4 *Steam Service Availability (KPI ID 4)*

Annual Score % Availability	KPI Deduction							
	0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
100.00% ≥ x ≥ 99.9900%	$0	$0	$0	$0	$0	$0	$0	$0
99.9900% > x ≥ 99.2875%	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
99.2875% > x ≥ 98.6750%	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
98.6750% > x ≥ 98.0625%	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
98.0625% > x ≥ 97.4500%	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
97.4500% > x ≥ 96.8375%	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
96.8375% > x ≥ 96.2250%	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
96.2250% > x ≥ 95.6125%	$1,300,000	$1,400,000	$1,450,000					
95.6125% > x ≥ 95.0000%	$1,400,000	$1,450,000						
x < 95.0000%	$1,450,000							

10.5 *Hot Water Service Availability (KPI ID 5)*

Annual Score % Availability	KPI Deduction 0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
100.0000% ≥ x ≥ 99.9900%	$0	$0	$0	$0	$0	$0	$0	$0
99.9900% > x ≥ 99.2875%	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
99.2875% > x ≥ 98.6750%	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
98.6750% > x ≥ 98.0625%	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
98.0625% > x ≥ 97.4500%	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
97.4500% > x ≥ 96.8375%	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
96.8375% > x ≥ 96.2250%	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
96.2250% > x ≥ 95.6125%	$1,300,000	$1,400,000	$1,450,000					
95.6125% > x ≥ 95.0000%	$1,400,000	$1,450,000						
x < 95.0000%	$1,450,000							

10.6 *Electric Service Availability (KPI ID 6)*

Annual Score Events	KPI Deduction 0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
2 ≥ x ≥ 0	$0	$0	$0	$0	$0	$0	$0	$0
3	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
4	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
5	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
6	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
7	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
8	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
9	$1,300,000	$1,400,000	$1,450,000					
10	$1,400,000	$1,450,000						
x > 10	$1,450,000							

10.7 *District Thermal Plant Chiller Plant Efficiency (KPI ID 7)*

	KPI Deduction							
Annual Score **kW/Ton**	**0 Consecutive Event Years**	**2 Consecutive Event Years**	**3 Consecutive Event Years**	**4 Consecutive Event Years**	**5 Consecutive Event Years**	**6 Consecutive Event Years**	**7 Consecutive Event Years**	**8 Consecutive Event Years**
0.00 < x ≤ 80.00	$0	$0	$0	$0	$0	$0	$0	$0
80.00 < x ≤ 82.50	$200,000	$250,000	$300,000	$350,000	$400,000	$450,000	$500,000	$600,000
82.50 < x ≤ 85.00	$250,000	$300,000	$350,000	$400,000	$450,000	$500,000	$550,000	$600,000
85.00 < x ≤ 87.50	$300,000	$350,000	$400,000	$450,000	$500,000	$550,000	$600,000	
87.50 < x ≤ 90.00	$350,000	$400,000	$450,000	$500,000	$550,000	$600,000		
90.00 < x ≤ 92.50	$400,000	$450,000	$500,000	$550,000	$600,000			
92.50 < x ≤ 95.00	$450,000	$500,000	$550,000	$600,000				
95.00 < x ≤ 97.50	$500,000	$550,000	$600,000					
97.50k x ≤ 100.00	$550,000	$600,000						
x > 100.00	$600,000							

10.8 *Chilled Water Availability (KPI ID 8)*

	KPI Deduction							
Annual Score **% Availability**	**0 Consecutive Event Years**	**2 Consecutive Event Years**	**3 Consecutive Event Years**	**4 Consecutive Event Years**	**5 Consecutive Event Years**	**6 Consecutive Event Years**	**7 Consecutive Event Years**	**8 Consecutive Event Years**
100.0000% ≥ x ≥ 95.0000%	$0	$0	$0	$0	$0	$0	$0	$0
95.0000% > x ≥ 94.3750%	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
94.3750% > x ≥ 93.7550%	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
93.7500% > x ≥ 93.1250%	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
93.1250% > x ≥ 92.5000%	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
92.5000% > x ≥ 91.8750%	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
91.8750% > x ≥ 91.2500%	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
91.2500% > x ≥ 90.6250%	$1,300,000	$1,400,000	$1,450,000					
90.6250% > x ≥ 90.000%	$1,400,000	$1,450,000						
x < 90.0000%	$1,450,000							

10.9 [Reserved]

10.10 *Hot Water System Efficiency (KPI ID 10)*

	KPI Deduction							
Annual Score [Unit]	**0 Consecutive Event Years**	**2 Consecutive Event Years**	**3 Consecutive Event Years**	**4 Consecutive Event Years**	**5 Consecutive Event Years**	**6 Consecutive Event Years**	**7 Consecutive Event Years**	**8 Consecutive Event Years**
[TBD]	$0	$0	$0	$0	$0	$0	$0	$0
[TBD]	$100,000	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000
[TBD]	$250,000	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000
[TBD]	$400,000	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000	
[TBD]	$550,000	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000		
[TBD]	$1,000,000	$1,150,000	$1,300,000	$1,400,000	$1,450,000			
[TBD]	$1,150,000	$1,300,000	$1,400,000	$1,450,000				
[TBD]	$1,300,000	$1,400,000	$1,450,000					
[TBD]	$1,400,000	$1,450,000						
[TBD]	$1,450,000							

10.11 *Non-Concessionaire Safety Events (KPI ID 14)*

Annual Score / Events	KPI Deduction							
	0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
x ≤ 4	$0	$0	$0	$0	$0	$0	$0	$0
5	$300,000	$600,000	$800,000	$1,000,000	$1,100,000	$1,200,000	$1,300,000	$1,400,000
6	$600,000	$1,200,000	$1,300,000	$1,400,000				
x > 6	$1,400,000							

10.12 *Environmental Matters and Environmental Claims (KPI ID 11)*

Annual Score / Events	KPI Deduction							
	0 Consecutive Event Years	2 Consecutive Event Years	3 Consecutive Event Years	4 Consecutive Event Years	5 Consecutive Event Years	6 Consecutive Event Years	7 Consecutive Event Years	8 Consecutive Event Years
x ≤ 2	$0	$0	$0	$0	$0	$0	$0	$0
3	$300,000	$600,000	$800,000	$1,000,000	$1,100,000	$1,200,000	$1,300,000	$1,400,000
4	$600,000	$1,200,000	$1,300,000	$1,400,000				
x > 4	$1,400,000							

10.13 *Greenhouse Gas Emissions Reduction (KPI ID 12)*

The KPI Deduction for KPI_14 shall be an amount equal to the cost incurred UMD to purchase carbon offsets, including (a) the direct cost of the carbon offsets; (b) any UMD administrative cost associated with such purchases; and, (c) any other costs directly incurred due to the purchase of the carbon offsets not covered in (a) and (b).

10.14 *Emergency Response (KPI ID 15)*

Annual Score (Events)	KPI Deduction
x ≤ 15	$0
15 < x ≤ 20	$100,000
20 < x ≤ 25	$250,000
25 < x ≤ 30	$400,000
30 < x ≤ 35	$550,000
35 < x ≤ 40	$1,000,000
40 < x ≤ 45	$1,150,000
45 < x ≤ 50	$1,300,000
50 < x ≤ 55	$1,400,000
x > 55	$1,450,000

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APPENDIX O-6 and APPENDIX P-10

Required Performance Tests and Testing Protocols and Acceptance Tests and Testing Protocols

1. FACTORY ACCEPTANCE TESTING

a) Prior to shipment, major OEM equipment, as defined in Appendix P-8, shall perform factory acceptance tests (FAT) to validate the operation and performance of the equipment.

b) Contractor and equipment Seller shall agree upon an Inspection Test Plan (ITP) for the factory acceptance test. The ITP shall be included in the contract that will be followed for the factory acceptance test.

c) Contractor shall provide the Seller with checklists for group review weeks prior to actual FAT so that all testing required is understood by both parties. Both parties must agree on a well-defined test plan.

d) Seller and Contractor shall agree on any punch list items as a result of the FAT based on the conditions of the contract.

e) The FAT is not intended to replace internal quality assurance testing prior to witness testing. Seller will complete internal testing/requirements before the FAT.

2. CEP COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall perform commissioning and functional testing to assure the performance of the equipment and systems within the CEP, comprising 1) building commissioning, including the HVAC and lighting systems, and 2) system commissioning, including process mechanical, electrical and Plant Control Systems.

b) Contractor shall designate a project Commissioning Manager that shall manage all commissioning activities and engage persons having appropriate technical expertise for each piece of equipment or system.

2.1 CEP Building Commissioning

a) Contractor shall provide a CEP commissioning plan for the building systems that clearly defines the following:

1. Each specific task to be performed and any associated ANSI or ASHRAE guideline to used and/or any requirements defined in permits issued by any local Authority Having Jurisdiction (AHJ), such as a fire marshal.
2. Pre-Functional Checklists (PFC) for each system to ensure that equipment meets the project specifications and is installed correctly.
3. Functional Performance Testing (FPT) requirements for each system.

b) Building Systems to be commissioned:

1. Electric power distribution (240V and lower).
2. Lighting and lighting controls.
3. Plumbing systems.
4. Building HVAC systems.
5. Fire alarm system and fire protection equipment.
6. Life Safety systems installed in the building, including both office and process areas.
7. Data and communications.

2.1.1 Commissioning Reporting Requirements

a) The Commissioning Manager shall develop and maintain a record of any deficiencies discovered during the performance of the commissioning process, including corresponding resolutions (the “Commissioning Log”). The Commissioning Log shall include:

1. Deficiencies in functionality or issues related to equipment installation not in accordance with the manufacturer's specifications.
2. Resolution and disposition of such deficiencies and issues.
3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager

b) Contractor shall maintain records of all commissioning activities including, but not limited to, testing, equipment startup, and adjustments made. At the end of the commissioning process, Contractor shall provide a final building commissioning report including all documents and checklists.

2.1.2 Commissioning Acceptance

a) Provide verification of testing, adjusting and balancing performance of the in-scope systems.

b) Contractor shall submit a final commissioning report including all test results and current Commissioning Corrective Issues Log after completion of the building commissioning process.

2.2 CEP Process System Commissioning

a) Contractor shall provide a Commissioning Plan for the process mechanical, electrical (above 240V), and control systems that clearly defines the following:

1. Pre-functional checklists (PFC) of each system which will be used to ensure that equipment meets the project specifications and is installed correctly.
2. Functional Performance Testing (FPT) for each system.

b) The Contractor shall facilitate the following tasks:

1. Complete commissioning pre-functional checklist
2. Provide all tools, equipment, software, and manpower required for process systems functional testing as described in the commissioning plan.
3. Prepare a commissioning report.

2.2.1 General Requirements

a) Process system commissioning shall be performed and completed in accordance with Prudent District Energy Practices for the systems in the scope of the Work.

b) Provide specific test sequences for each major piece of equipment and process system including: A Commissioning Process Plan with index for CEP Process Systems Manual; Submittal Review and delivered equipment, PFC (Pre- Functional Checklist) Testing; FPT (Functional Performance Test); each device operating in isolation); and a final report with completed document sheets for all the tests listed above.

c) Contractor shall perform all aspects of CEP Commissioning Process in accordance with the approved CEP Commissioning Plan in 2.2.1.1.a.

2.2.1.1 CEP Commissioning Plan

a) Contractor shall create a commissioning plan for the CEP (the "CEP Commissioning Plan"). The CEP Commissioning Plan shall, at a minimum, include and describe in detail the following topics:

1. CEP commissioning objectives
2. CEP Commissioning Process as set forth herein, including:
    i. Detailed description of the CEP Commissioning Process
    ii. Detailed Pre-Functional Checklists

iii. Detailed CEP Functional test procedures, including a step-by-step explanation of such procedures and expected results

iv. Guidelines for acceptance of each piece of equipment or system. Expected results for each test must be included

v. Detailed description of the process for completing the Final Performance Tests and establishing Successful Completion of Performance Tests as required for Final Completion

3. CEP commissioning documentation requirements

4. Communication & reporting protocols

2.2.1.2 CEP Commissioning Report

a) Contractor shall prepare a final CEP commissioning report: The final report shall include all CEP Commissioning Process activities and the CEP Functional tests performed including corresponding results for each commissioning level.

2.2.1.3 CEP Commissioning Log

a) Contractor's Commissioning Manager shall develop and maintain a record of deficiencies discovered during the performance of the CEP Commissioning Process, including corresponding resolutions (the "CEP Commissioning Log"). The CEP Commissioning Log shall include:

1. Deficiencies, issues or failures to meet the required functionality of CEP systems not in accordance with the manufacturer's specifications, as discovered during the performance of the CEP Commissioning Process and the CEP Functional tests;

2. Resolution and disposition of such deficiencies and issues;

3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager.

2.2.1.4 CEP Testing General Requirements

a) CEP Test procedures for all CEP systems to be commissioned shall comply with the following requirements:

1. CEP Functional tests procedures shall provide instructions as to how equipment, systems, and integrated systems will be tested to demonstrate proper operation and performance.

2. Such CEP Functional test procedures shall identify the staff that will perform such tests, any special communication devices requirements, and required instrumentation for the performance of such tests.

3. Each CEP Functional test procedure shall include a CEP Pre-Functional Checklist for verification that proper calibration of all required instrumentation has been verified prior to test initiation.

4. Contractor's Commissioning Manager shall examine the Design Work, develop detailed CEP Pre-functional Checklists, and detailed Functional Performance Test procedures and data forms. Contractor shall verify, through the CEP Pre-functional Checklists, that the CEP systems follow the Construction Document CEP Submittal and are fully functional. Functional Performance Tests shall only begin when the CEP Pre-Functional Checklists have been completed, signed by the appropriate staff, contractors, and returned to Contractor's Commissioning Manager.

2.2.1.5 CEP Functional tests

a) The CEP Functional tests shall be scheduled and performed in a logical and sequential manner in compliance with Prudent District Energy Practices, and the following requirements:

1. Factory acceptance testing: testing of equipment, whether at the Campus or at the manufacturer's location, by manufacturer's staff. When relying on factory performance tests, Contractor must conform to the following:

i. Receipt inspection checklist with written confirmation that the equipment received from manufacturers or vendors is in accordance with the equipment specification

ii. Is free from defect or damage, and

iii. Includes required installation, operations and maintenance manuals

2. Installation testing activities shall consist of and comply with the following requirements:

i. System shall be checked for proper installation, and adjusted and calibrated to verify that it is ready to function as specified.

ii. All system elements shall be checked to verify that they have been installed properly and that all connections have been made correctly.

iii. All discrete elements and sub-systems shall be adjusted and checked for proper operation.

3. Functional Performance Testing: activities shall consist of and comply with the following requirements:

i. Systems shall be tested under all modes and configurations to the extent demand loads are available for the different test modes.

ii. If not performed during Commissioning cause and effect testing, per the approved CEP Commissioning Plan, to the extent possible systems shall be run through all the control system's sequences of operations and components verified to be responding as the sequences state.

iii. Tests shall demonstrate that each complete system under test is operating and complying with specified performance requirements.

iv. Electrical Functional Performance Testing shall verify that systems, sub-systems and equipment function interactively and throughout the full range of operating conditions (e.g. low load, design load, component failures, alarm conditions, safety interlocks including with life safety systems, etc.) and modes (e.g. normal shutdown, normal auto position, normal manual position, power failure including control power, emergency power, unoccupied, fire alarm, etc.).

v. Temporary upsets of systems, such as distribution fault, control loss, setpoint change, equilibrium upset and component failure, shall be imposed at different operation loads to determine system stability and recovery time, per the approved CEP Commissioning Plan.

vi. Functional Performance Tests shall be performed on complete systems. Each function shall be demonstrated to satisfy all requirements of the written test procedure.

2.2.1.6 CEP Acceptance

a) All CEP Functional tests shall be completed and accepted as a condition of Substantial Completion.

b) Contractor shall submit the final Commissioning Report including all test results after completion of the CEP Commissioning Process.

c) All CEP systems shall be tested for compliance with the test procedures and each separate CEP Functional test procedure and results shall be documented individually.

d) Corrective Measures: If acceptable performance cannot be achieved, the cause of the deficiency shall be identified. If it is determined that the deficiency was caused by the Work or by any the system or component not being installed in accordance with the manufacturer's recommendations or the Project Documents, the necessary corrective measures shall be carried out by Contractor. Every check or test for which acceptable performance was not achieved must be repeated after the necessary corrective measures have been completed.

DTP-4 COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall provide commissioning and functional testing to assure the performance of the equipment and systems within DTP-4, comprising 1) building commissioning, including the HVAC and lighting systems, and 2) system commissioning, including process mechanical, electrical and Plant Control Systems.

b) Contractor shall designate a project Commissioning Manager that shall manage all commissioning activities and engage persons having appropriate technical expertise for each piece of equipment or system.

2.3 DTP-4 Building Commissioning

a) Contractor shall provide a DTP-4 commissioning plan for the building systems that clearly defines the following:

1. Each specific task to be performed and any associated ANSI or ASHRAE guideline to used and/or any requirements defined in permits issued by any local Authority Having Jurisdiction (AHJ), such as a fire marshal.

2. Pre-Functional Checklists (PFC) for each system to ensure that equipment meets the project specifications and is installed correctly.

3. Functional Performance Testing (FPT) requirements for each system.

b) Process Area Building Systems to be commissioned:

1. Electric power distribution.

2. HVAC systems.

3. Data and communications.

2.3.1 Commissioning Reporting Requirements

a) The Commissioning Manager shall develop and maintain a record of any deficiencies discovered during the performance of the commissioning process, including corresponding resolutions (the "Commissioning Log"). The Commissioning Log shall include:

1. Deficiencies in functionality or issues related to equipment installation not in accordance with the manufacturer's specifications.

2. Resolution and disposition of such deficiencies and issues.

3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager

b) Contractor shall maintain records of all commissioning activities including, but not limited to, testing, equipment startup, and adjustments made. At the end of the commissioning process, Contractor shall provide a final commissioning report including all documents and checklists.

2.3.2 Commissioning Acceptance

a) Provide verification of testing, adjusting and balancing performance of the in-scope systems.

b) Contractor shall submit a final commissioning report including all test results and current Commissioning Corrective Issues Log after completion of the commissioning process.

2.4 DTP-4 Process System Commissioning

a) Contractor shall provide a Commissioning Plan for the process mechanical, electrical, and control systems that clearly defines the following:

1. Pre-functional checklists (PFC) of each system which will be used to ensure that equipment meets the project specifications and is installed correctly.

b) Functional Performance Testing (FPT) for each system. The Contractor shall facilitate the following tasks:

1. Complete commissioning pre-functional checklist
2. Provide all tools, equipment, software, and manpower required for process systems functional testing as described in the commissioning plan.
3. Prepare a commissioning report.

2.4.1 General Requirements

a) Process system commissioning shall be performed and completed in accordance with Prudent District Energy Practices for the systems in the scope of the Work, per the approved DTP-4 Commissioning Plan.

b) Provide specific test sequences for each major piece of equipment and system which shall include: A Commissioning Process Plan with index for DTP-4 Process Systems Manual; Submittal Review and delivered equipment, PFC (Pre- Functional Checklist); FPT (Functional Performance Test); each device operating in isolation); and a final report with completed document sheets for all the tests listed above.

c) Contractor shall perform all aspects of DTP-4 Commissioning Process in accordance with the requirements of the standards or guidelines under which the Commissioning Manager qualifications are certified in accordance with Prudent Industry Practices.

2.4.1.1 DTP-4 Commissioning Plan

a) Contractor shall create a commissioning plan for DTP-4 (the "DTP-4 Commissioning Plan"). The DTP-4 Commissioning Plan shall, at a minimum, include and describe in detail the following topics:

1. DTP-4 commissioning objectives;
2. DTP-4 Commissioning Process as set forth herein, including:
    i. Detailed description of the DTP-4 Commissioning Process;
    ii. Detailed Pre-Functional Checklists;
    iii. Detailed DTP-4 Functional test procedures, including an explanation of such procedures and expected results;
    iv. Guidelines for acceptance of each piece of equipment or system. Expected results for each test must be included;
    v. Detailed description of the process for completing the Final Performance Tests and establishing Successful Completion of Performance Tests as required for Final Completion.
3. DTP-4 commissioning documentation requirements; and
4. Communication & reporting protocols.

2.4.1.2 DTP-4 Commissioning Report

a) Contractor shall prepare a final DTP-4 commissioning report: The final report shall include all DTP-4 Commissioning Process activities and the DTP-4 Functional tests performed including corresponding results for each commissioning level.

2.4.1.3 DTP-4 Commissioning Log

a) Contractor's Commissioning Manager shall develop and maintain a record of deficiencies discovered during the performance of the DTP-4 Commissioning Process, including corresponding resolutions (the "DTP-4 Commissioning Log"). The DTP-4 Commissioning Log shall include:

1. Deficiencies, issues or failures to meet the required functionality of DTP-4 systems not in accordance with the manufacturer's specifications, as discovered during the performance of the DTP-4

Commissioning Process and the DTP-4 Functional tests;

2. Resolution and disposition of such deficiencies and issues;
3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager.

2.4.1.4 DTP-4 Testing General Requirements

a) DTP-4 Test procedures for all DTP-4 systems to be commissioned shall comply with the following requirements:

1. DTP-4 Functional tests procedures shall provide instructions as to how equipment, systems, and integrated systems will be tested to demonstrate proper operation and performance.
2. Such DTP-4 Functional test procedures shall identify the staff that will perform such tests, any special communication devices requirements, and required instrumentation for the performance of such tests.
3. Each DTP-4 Functional test procedure shall include a DTP-4 Pre-Functional Checklist for verification that proper calibration of all required instrumentation has been verified prior to test initiation.
4. Contractor's Commissioning Manager shall examine the Design Work, develop detailed DTP-4 Pre-functional Checklists, and detailed Functional Performance Test procedures and data forms. Contractor shall verify, through the DTP-4 Pre-functional Checklists, that the DTP-4 systems follow the Construction Document DTP-4 Submittal and are fully functional. Functional Performance Tests shall only begin when the DTP-4 Pre-Functional Checklists have been completed, signed by the appropriate staff, contractors or vendors, and returned to Contractor's Commissioning Manager.

2.4.1.5 DTP-4 Functional tests

a) The DTP-4 Functional tests shall be scheduled and performed in a logical and sequential manner in compliance with Prudent District Energy Practices, and the following requirements:

1. Factory acceptance testing: testing of equipment, whether at the Campus or at the manufacturer's location, by manufacturer's staff. When relying on factory performance tests, Contractor must conform to the following:
    i. Receipt inspection checklist with written confirmation that the equipment received from manufacturers or vendors is in accordance with the equipment specification
    ii. Is free from defect or damage, and
    iii. Includes required installation, operations and maintenance manuals.
2. Installation testing activities shall consist of and comply with the following requirements:
    i. System shall be checked for proper installation, and adjusted and calibrated to verify that it is ready to function as specified;
    ii. All system elements shall be checked to verify that they have been installed properly and that all connections have been made correctly;
    iii. All discrete elements and sub-systems shall be adjusted and checked for proper operation;
3. Functional Performance Testing: activities shall consist of and comply with the following requirements:
    i. Systems shall be tested under all modes and configurations to the extent demand loads are available for the different test modes.
    ii. If not performed during Commissioning cause and effect testing, per the approved DTP-4 Commissioning Plan, to the extent possible systems shall be run through all the control system's sequences of operations and components verified to be responding as the sequences state;
    iii. Tests shall demonstrate that each complete system under test is operating and complying

with specified performance requirements; Electrical Functional Performance Testing shall verify that complete systems function interactively and throughout the full range of operating conditions (e.g. low load, design load, component failures, alarm conditions, safety interlocks including with life safety systems, etc.) and modes (e.g. normal shutdown, normal auto position, normal manual position, power failure including control power, emergency power, unoccupied, fire alarm, etc.);

iv. Temporary upsets of systems, such as distribution fault, control loss, setpoint change, equilibrium upset and component failure, shall be imposed at different operation loads to determine system stability and recovery time;

v. Functional Performance Tests shall be performed on complete systems. Each function shall be demonstrated to satisfy all requirements of the written test procedure;

2.4.1.6 DTP-4 Acceptance

a) All DTP-4 Functional tests shall be completed and accepted as a condition of Substantial Completion.

b) Contractor shall submit the final Commissioning Report including all test results after completion of the DTP-4 Commissioning Process.

c) All DTP-4 systems shall be tested for compliance with the test procedures and each separate DTP-4 Functional test procedure and results shall be documented individually.

d) Corrective Measures: If acceptable performance cannot be achieved, the cause of the deficiency shall be identified. If it is determined that the deficiency was caused by the Work or by any the system or component not being installed in accordance with the manufacturer's recommendations or the Project Documents, the necessary corrective measures shall be carried out by Contractor. Every check or test for which acceptable performance was not achieved must be repeated after the necessary corrective measures have been completed.

3. THERMAL DISTRIBUTION LOOP COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall perform commissioning and functional testing to assure the structural integrity of the thermal distribution piping. The functional testing shall be a hydrostatic test of the newly installed thermal distribution piping sections and performed in accordance with ASME B31.1 Power Piping Code. Such testing may be performed by a predetermined section of the thermal distribution loop (e.g. - from valve to valve). Other sections of the hydrostatic tests will not be performed until such time that all sections of the thermal distribution loop are complete.

b) Contractor shall prepare and document the hydrotesting plan which may be self-performed or performed by an experienced subcontractor.

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APPENDIX O-7

REPORTING AND COMMUNICATIONS

Concessionaire shall prepare the reports and provide the data monitoring capability specified in this Appendix. Prior to Phase I Substantial Completion, Concessionaire shall prepare reports utilizing data provided by UMD's OSIsoft-PiVision software or other data gathering software Concessionaire installs upon Commencement. No later than 30 days prior to Commencement, Concessionaire and UMD shall determine the data to be reported prior to Phase I Substantial Completion.

1.0 MONTHLY REPORTS. Each month throughout the Operating Term, Concessionaire shall deliver to UMD a written report of its management, operation, and maintenance of the Energy Systems during the immediately preceding month. The Operations Management Team shall establish the format, specific content, and deadline for such reports. At a minimum, each monthly report shall include the following information:

1.1 *General.*

(a) The total actual Reimbursable Costs during the month and cumulatively to date during the Contract Year compared to the budgeted amount for that month and the Contract Year, along with an explanation of any material differences between the actual and budgeted amounts and the date on which UMD authorized each unbudgeted Reimbursable Cost;

(b) A list of all outages of any performance monitoring network, the reason for the outage, and Concessionaire's actions to restore service;

(c) A list by Energy System of each notice of an Unplanned Service Outage or Emergency and each Service Call request received by Concessionaire during the month and a description of Concessionaire's response thereto (including any corrective actions taken), noting the date and time of the Concessionaire's receipt of the notice or request, the date and time at which Concessionaire's personnel arrived at the location identified in the notice or request, and the date and time at which the affected Energy Service was restored, the Emergency was resolved, or the Service Call was completed; and,

(d) A report on KPI compliance during the month and Contract Year to date.

1.2 *Thermal System*.

(a) Quantity and type of fuel consumed by each Steam Production Unit and the Electric Power Production Unit (in MMBtus);

(b) Number of hours the Electric Power Production Unit was in operation during the month and the cumulative number of hours the unit has operated during the Contract Year to date;

(c) Planned Outages and Unplanned Service Outages for the Electric Power Production Unit during the month and cumulatively to date during the Contract Year and over the immediately previous 12 months;

(d) Number of kWh produced by the Electric Power Production Unit during on-peak and off-peak periods as defined by Pepco's tariffs;

(e) Quantity of electricity generated by the Electric Power Production Unit during the hour of UMD's peak demand during the month and the Contract Year to date;

(f) Fuel efficiency of the Electric Power Production Unit during the month and cumulatively to date during the Contract Year, stated in Btus per kWh of electricity delivered to the Electric Input Point;

(g) Quantities of steam delivered to each Steam Demarcation Point; and,

(h) Quantities of condensate returned to the Central Energy Plant;

1.3 *Electric Distribution System*.

(a) Quantity of kWh delivered to each Electric Demarcation Point during the month and cumulatively to date during the Contract Year; and,

(b) A report of the loading on each of the Electric Distribution System's feeders during the month.

1.4 *Chilled Water Systems*.

(a) Quantity and average temperature of chilled water delivered to each Chilled Water Demarcation Point;

(b) Electric efficiency of each electric-driven Chilled Water Production Unit during the month and cumulatively to date during the Contract Year, stated in tons per kWh; and,

(c) A description of each Unplanned Service Outage of the Chilled Water System, including the date and time of the outage; its location, length of time, and cause; and the corrective measures taken by Concessionaire to restore service.

1.5 *CMMS Report.*

(a) Number of work orders received by category;

(b) Response time between issuance of a work order and response by category; and,

(c) List of Preventive Maintenance and Predictive Maintenance performed.

2.0 **ANNUAL REPORTS.** Within 60 days following the end of the second Contract Year and each Contract Year thereafter, Concessionaire shall submit to UMD a written report of the operation of the Energy Systems during that Contract Year. The Operations Management Team shall establish the format and specific content for such reports. At a minimum, each Annual Report shall include the following information:

2.1 Concessionaire's overall evaluation of the Energy Systems' condition and operation and the results of all performance testing or other facility assessments during such year;

2.2 A spreadsheet summarizing each Energy System's performance utilizing the Key Performance Indicators;

2.3 A report of the total Campus electric consumption during the Contract Year broken down between electricity generated onsite and Supplemental Electricity; the date, time, and Campus electric load at each of the 5 annual electric demand peaks; and,

2.4 A list of Reimbursable Costs incurred during the Contract Year, showing the total budgeted versus actual costs, the calculation of the Annual Reimbursable Cost Adjustment pursuant to Appendix O-4, Section 1.5.2 identifying the date on which each unbudgeted Reimbursable Cost was authorized by UMD;

2.5 A short description and the final cost of all Capital Improvements, Major Repairs, Replacements, Unscheduled Replacements, and Material Changes completed during the Contract Year;

2.6 A summary of the loading of each Electric Distribution System feeder during the Contract Year; and,

2.7 A report of the results of the annual Quality Control inspection prepared by Concessionaire pursuant to Part 16 of the Operating Requirements.

3.0 **ENERGY SYSTEMS ELECTRONIC DASHBOARD**. In addition to the monthly and annual reports required above, on and after Phase I Substantial Completion, Concessionaire shall provide UMD with access to an online, real-time Energy Systems performance dashboard that displays the information required in Sections 1.0 and 2.0 above and such other information as identified by the Operations Management Team. Concessionaire shall permit UMD to generate and download reports of data it selects.

NEXTGEN ENERGY PROGRAM
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APPENDIX P-1

PHASE I CAPITAL IMPROVEMENTS
SCOPE OF WORK

INTRODUCTION. Concessionaire shall design, engineer, procure, construct, install, test, and commission the Capital Improvements to the Energy Systems. During the NextGen Program's early years, these Capital Improvements will be completed in three phases. The scope of the Phase I Capital Improvement Projects is described in the Project 1.0 through Project 3.0 sections of this Appendix. Detailed narratives, drawings, equipment lists, and other information for these Projects are contained in the Concession Agreement's Appendices P-2 through P-4. Similar detailed information for the Phase II Capital Improvements and the Phase III Capital Improvements will be contained in Appendices that the Parties will add when UMD issues the Change Order approving such improvements.

The Phase I Capital Improvements also include developing a strategy for achieving Decarbonization ("Decarbonization Study") by December 31, 2035, or as soon thereafter as possible. This study will produce a list of recommended Phase II Capital Improvements and Phase III Capital Improvements with expected carbon reductions and indicative pricing. Each of these Projects will be developed, reviewed, and approved as Additional Capital Improvements. The Decarbonization Study's scope of work is described in the Project 4.0 section of this Appendix. Detail narratives and other information are contained in Concession Agreement Appendix P-5.

All Capital Improvements must conform to, and be completed in accordance with, the Concession Agreement and the Construction Requirements. Unless otherwise indicated below, Concessionaire shall design, engineer, procure, construct, install, test, and commission the Phase I Capital Improvements in conformance with the Equipment, materials, supplies, drawings, and other information set forth in Appendices P-2 (Project 1.0), P-3 (Project 2.0), and P-4 (Project 3.0). Concessionaire shall collect the data, perform the analyses, and complete the Decarbonization Study in accordance with Appendix P-5 (Project 4.0). This Appendix shall govern if any conflict arises between its requirements and Appendices P-2 through P-5 if such conflict cannot be resolved by applying the order of priority and precedence set forth in Section 1.5 of the Base Concession Agreement. Concessionaire shall secure all Governmental Authorizations necessary to complete and operate these Projects in accordance with the procedures and requirements set forth in the Base Concession Agreement.

LAYDOWN SITE. [NTD: Specific Laydown Areas will be identified by the Parties no later than the Effective Date and the areas' descriptions will be incorporated into this Appendix.]

I. CENTRAL ENERGY PLANT (PROJECT 1.0).

A. ***General Project Requirements***. Concessionaire shall design, engineer, procure, construct, install, test, and commission the Phase I Capital Improvements for the CEP that are identified in this Appendix. All Equipment and materials for this Project shall be new, but Concessionaire may retain certain recently installed Equipment (identified below) for incorporation into the reconstructed CEP, provided that such Equipment is cleaned, reconditioned, tested, recommissioned, applied, installed, erected, and used in accordance with OEM Documents, the instructions of the applicable Supplier, and applicable Industry Standards in accordance with Section 6.2 of the Construction Requirements. UMD will not warrant, guarantee, or offer any other assurance regarding the condition or suitability of this Equipment and for the purpose of Section 10.5.6 of the Base Concession Agreement, each piece of Equipment will be deemed to be a New Component.

Concessionaire shall provide a complete set of Plans and Specifications to UMD for review in accordance with Section 3.3 of the Construction Requirements.

B. ***Project Design Parameters*****.** At all times, the CEP's total steam delivery capacity to the Campus (referred to in the Operating Requirements as the "Contract Thermal Capacity Requirement") shall not be less than 260,000 PPH. A single point of failure within the CEP shall not impact the ability to meet the Contract Thermal Capacity Requirement.

The generation pressure of the Steam Production Units located in the CEP shall be driven by the Campus thermal requirements (space heating and process uses). The generation pressure for new Equipment shall not exceed 250 PSIG. At all times, such Equipment shall have the ability to deliver 125 PSIG saturated steam, as measured at the points where each Thermal Distribution System line exits the CEP. The minimum steam pressure at the delivery point to each UMD Building shall be 90 PSIG at all times.

The new Central Energy Plant shall have the capability to start from a completely cold condition on both natural gas and No. 2 (low sulfur) fuel oil. The CEP shall be capable of conversion to a renewable, low-carbon emission alternative fuel such as hydrogen.

C. ***Construction Staging*****.** Concessionaire shall install interim Steam Production Units (boilers) within Laydown Site No. 1. Such boilers shall be capable of operating on natural gas or No. 2 (low sulfur) fuel oil and shall have a total steam generation capacity sufficient to meet UMD's peak steam demand at any time with the largest steam generation capacity unit unavailable. UMD shall purchase and arrange for the delivery of Commodities for these boilers in accordance with Section 9.7.1 of the Base Concession Agreement. Concessionaire shall plan for, construct, and install piping and such other equipment necessary to deliver such Commodities to the boilers.

Concessionaire (in consultation with UMD as provided in the Base Concession Agreement and Section 10.3 of the Operating Requirements) shall secure all Governmental Authorizations, including all Environmental Authorizations, required for the installation and operation of such interim Steam Production Units. In no event shall any interim Steam Production Unit remain onsite and operational for more than 24 months without UMD's prior approval and applicable Governmental Authorization.

D. ***Project 1.0 Components*****.**

Item 1.1 Concessionaire shall decommission, demolish, and remove Boiler Nos. 2 and 4, and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement.

Item 1.2 Concessionaire shall design, engineer, install, test, and commission new Steam Production Units to replace Boiler Nos. 2 and 4. Installation of a single Steam Production Unit to meet the capacity requirements is prohibited. Each Steam Production Unit must be capable of operating on natural gas and No. 2 (low sulfur) fuel oil with a fuel efficiency rating no less than 82% and must be capable of conversion to a renewable, low-carbon emission alternative fuel such as hydrogen.

Item 1.3 Concessionaire shall decommission, demolish, and remove the existing back pressure steam turbine, the two existing Combustion Turbines, their Heat Recovery Steam Generators, and the Equipment therewith and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement.

Item 1.4 Concessionaire shall design, engineer, procure, construct, install, test, and commission the new dual fuel cogeneration system described in Appendix P-2.

Item 1.5 Concessionaire shall design, engineer, procure, construct, install, test and commission new CEP control technology and software/hardware to facilitate efficient CEP operation, preserve historical data, and provide real-time data reporting. Such technology and software must incorporate (a) the existing Equipment that will remain in the CEP following completion of the Initial Capital improvements; (b) the new Equipment that will be installed during those projects; and (c) be compatible with UMD's OSIsoft PiVIsion System.

Item 1.6 Concessionaire shall decommission, demolish, and remove the existing CEP mechanical auxiliary systems and equipment (feedwater, condensate, water treatment, compressed air, blowdown, blow off, chemical treatment, pumps, pipes, space conditioning equipment, and other equipment) and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement.

Item 1.7 Concessionaire shall design, engineer, procure, construct, install, test, and commission new CEP mechanical auxiliary systems and Equipment with such capacities as it determines to be necessary. The failure of any single component (electrical, mechanical, control, etc.) shall not impact the CEP's ability to deliver a winter peak of 260,000 PPH of steam to UMD. Redundancy in Equipment and systems shall be included in the design so that Preventive Maintenance can be performed without interrupting the delivery of steam to the Campus. Concessionaire may reutilize the above-ground Fuel Oil Storage facility, subject to the conditions noted in the Project 1.0 Introduction above and provided the Equipment associated with that facility meets the operational requirements of the other new Equipment and systems being installed. Concessionaire must install two condensate receivers (both of which shall have the same capacity) to permit annual Preventive Maintenance and inspection during Planned Outages. (Currently, the CEP includes only a single condensate receiver.)

Item 1.8 Concessionaire shall decommission, demolish, and remove the CEP's existing 5 KV, 600V and 120/208V electrical auxiliary systems and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement. Concessionaire shall design, engineer, construct, install and test new electrical auxiliary systems with capacities determined by Concessionaire. The failure of any single component shall not impact the ability to deliver 260,000 PPH. Redundancy in Equipment and systems shall be included in the design, so that Preventive Maintenance activities can be performed without interrupting the delivery of steam to Campus.

Item 1.9 Concessionaire shall design, engineer, procure, construct, install, test, and commission a CEP emergency power system that has the ability to support 160,000 PPH of steam generation in the event of a loss of power delivered from the local electric distribution utility. The emergency power system must operate on liquid Fuel.

Item 1.10 Concessionaire shall design, engineer, procure, construct, install, test, and commission a new code-compliant fire alarm/detection system for the CEP, including a fire suppression sprinkler system in all workspaces intended to be occupied regularly by Persons.

Item 1.11 Concessionaire shall design, engineer, procure, construct, install, furnish, new locker rooms and restrooms (gender specific) in the CEP. In addition, Concessionaire shall design, engineer, and construct, install, furnish, and equip appropriate storage and work areas to the extent possible within the current CEP Building.

Item 1.12 Concessionaire shall repair the CEP's exterior by tuckpointing and cleaning it, replacing the roof (if necessary), and performing such other work required to preserve the building. Concessionaire shall make such aesthetic improvements to the CEP's appearance in compliance with UMD's Design Criteria and Facility Standards and with UMD's prior approval. Concessionaire shall complete the Year 1 and Year 2 repair scope set forth in the building envelope study, relevant pages of which are contained in Appendix P-1.2.

Item 1.13 Concessionaire shall provide all interior CEP building and structural modifications to accommodate the new Equipment and the Workforce.

Item 1.14 Concessionaire shall provide such Occupational Health and Safety Administration-compliant platforms, access means, and catwalks to facilitate operations and permit Predictive Maintenance and Preventive Maintenance of Equipment in accordance with its PM Plan.

II. THERMAL DISTRIBUTION SYSTEM (PROJECT 2.0).

A. ***General Project Requirements*****.** Concessionaire shall design, engineer, procure, construct, install, test, and commission the Phase I Capital Improvements for the Thermal Distribution System. All Equipment and materials for this Project shall be new. Concessionaire shall remove and dispose of all asbestos encountered during its performance of this work in accordance with Article 11 of the Base Concession Agreement and Section 10.6 of the Operating Requirements.

Concessionaire shall complete Project 2.0's Phase I Capital Improvements in the Subprojects identified below. Concessionaire shall provide a complete set of Plans and

Specifications to UMD for review in accordance with Section 3.3 of the Construction Requirements.

B. ***Project Design and Operating Parameters.*** The following design parameters for Project 2.0 are based on the design conditions for the existing Thermal Distribution System and Condensate Return System and the existing CEP operations and safety valve settings. Concessionaire may utilize these parameters in its design for Project 2.0 or may utilize other parameters that optimize these systems' operations with the reconstructed CEP.

Existing Thermal Distribution System:

- Design Conditions: 300 PSIG at 422^{o} Fahrenheit
- Operating Conditions: 125 PSIG at 353^{o} Fahrenheit

Condensate Return System:

- Design Conditions: 15 PSIG at 200^{o} Fahrenheit
- Operating Conditions: Atmospheric at 150^{o} Fahrenheit

C. ***Material Selection.*** Concessionaire shall select materials for all Project 2.0 work that meet the design and operating conditions specified above and at a minimum, comply with following material requirements. If any of these material requirements irreconcilably conflict with the material requirements of the DC/FS, Concessionaire shall comply with the following requirements:

- Internal MH and Building Steam Piping – ASTM A-106 Gr B, Schedule 40
- Internal MH and Building Condensate Piping – ASTM A-106 Gr B, Schedule 80
- Direct Buried Steam and Condensate – Pre-engineered and pre-insulated pipe system PERMA-Pipe Multi-Therm500 or Thermacor Process LLC, Duo-Therm 505. Systems using field applied PITWRAP are prohibited.
- Valves – Cast or Forged Steel
- Insulation & Jacket – Insulation shall be 100 percent rigid cellular glass, totally inorganic with no binder. Jacket shall be aluminum weatherproof, not less than 0.016 inches thick. Thickness of insulation shall be determined by the concessionaire so that pipe insulation surface temperature does not exceed 140^{o} F.
- Each new MH shall have a low and high vent. These vents shall be routed to a common point and have a length not exceeding 30-feet. All vent piping shall be insulated for pedestrian protection.
- All sump pumps installed in MHs shall be steam powered.

D. ***Construction Staging*****.** Concessionaire shall stage all Project 2.0 Subprojects to maintain Heating Service at all times to the UMD Buildings listed below and shall secure and install interim Steam Production Units as necessary to meet this obligation.

Animal Science	Engineering Annex
A.V. Williams	Farm Buildings
Biopsychology	Microbiology
Bioscience	School of Public Health
Central Animal Research Facility	Physical Sciences
Clark Hall	Veterinary Medicine
Chemistry Wing 5	

Sections of the existing Steam Distribution System serving other UMD Buildings may be taken out of service provided that Concessionaire coordinates service interruptions with UMD significantly in advance so that critical loads are not impacted by the outage.

Concessionaire (in consultation with UMD) shall secure all Governmental Authorizations, including all Environmental Authorizations, required for the installation and operation of interim Steam Production Units to serve individual or small groups of UMD Buildings. Concessionaire shall operate such equipment on a 24 hours per day/7 days per week basis. Concessionaire shall purchase all fuel required to operate such interim equipment.

E. ***Project 2.0's Subprojects.*** Project 2.0 has 2 Subprojects: the reconstruction of the Thermal Distribution System crossing under Baltimore Avenue and increasing the Condensate returned from certain UMD Buildings in north Campus.

Subproject 2.1 Thermal Distribution System Reconstruction under Baltimore Avenue (formerly RFP Appendix L-1, Subproject 2.2, Items 2.2.1; 2.2.8, and 2.2.10). Concessionaire shall perform the following work in accordance with the UMD-completed design documents contained in Appendix P-1.

- Construct, install, test, and commission the MH 501/502 replacement project in accordance with UMD's completed design documents contained in Appendix P-1.3;

- Disconnect, decommission, and remove the existing MH 501 and MH 502 and the Equipment and piping therein and replace both with a new single MH 502A as shown in such design documents;

- Disconnect, decommission, and remove the existing MH 305 and MH 503 structures and the Equipment and piping therein and construct, install, test, and

commission new MH 305 and MH 503 structures and each MH's contents, including the piping, valves, fittings, insulation, steam traps, pipe supports/hangers, sump pump, access ladder, and the wall penetration seals for service pipe and vents. Replace all service pipe penetrating the MH wall a distance of 10-feet in each direction from the MH wall. Include in the design and install new anchors where required based on an engineer-performed pipe stress analysis;

- Disconnect and remove all Steam Distribution System and Condensate Return System piping a minimum of 10 feet in each direction from the exterior wall of each MH being replaced and design, engineer, procure, install, test, and commission new piping to replace the piping removed;

- Disconnect and remove all Steam Distribution System and Condensate Return System piping from MH 505 through MH 305, and into MH 502A and design, engineer, procure, install, test, and commission new piping to replace the piping removed.

- Disconnect and remove all Steam Distribution System and Condensate Return System piping between the termination of work associated with MH 502A (toward MH 503) to the termination of the Steam Distribution System and Condensate Return System lines between MH 504 and MH 503 and design, engineer, procure, install, test, and commission new piping to replace the piping removed.

Subproject 2.2 Condensate Return Unit Installation/Condensate Line Replacement (formerly RFP Appendix L-1, Subproject 2.2, Item 2.2.6 and Subproject 2.3). Concessionaire shall perform the following work to replace the Condensate Return System units for the UMD Buildings listed in the table below. Prior to procuring the condensate return units, Concessionaire shall validate the design parameters identified in this scope and modify them as necessary to perform with the existing Condensate Return System. Validation will require Concessionaire to enter and collect field data for the listed units.

Each replacement Condensate Return System unit shall be a packaged duplex type consisting of a rectangular cast iron receiver, duplex centrifugal pumps with a top mounted single point electrical connection and control panel. The discharge pressure will be 30 PSIG and have a storage capacity of 50 gallons. In addition to replacing the condensate receiver, all discharge pipe, valves, and insulation shall be replaced from the outlet connection of each pump to a point three feet inside of the building wall. All piping shall be schedule 80 carbon steel.

Buildings for Condensate Return System Unit Replacement/Installation

McKeldin Library	Cole Student Activities	DTP-3	Tawes Hall
DTP-1	South Campus Dining	DTP-2	Prince Frederick
Nyumburu	Microbiology	Chemistry	Kirwan Hall
Physics	JM Patterson	Chemical and Nuclear Engineering	Animal Science (Wings 1, 3, & 5)
Oakland Hall	Easton Hall	Denton Dining	Denton Hall
Elkton Hall	Eppley Rec Center	Cumberland Hall	Chestertown Hall
Bel-Air Hall	Cambridge Community Center	Cambridge Hall	Centerville Hall
Atlantic Building	Physical Science	Pyon-Chen Bldg.	Johnson Whittle Building
Yahentamitsi Dining	LaPlata Hall	Ellicott Dining	Ellicott Hall
Hagerstown Hall	Marie Mount		

Specifically, Concessionaire shall:

- Decommission, remove, and dispose of the existing Condensate Return System units in the identified UMD Buildings and design, engineer, procure, install, test, and commission new Condensate Return System units to replace the units removed; and,

- Disconnect, decommission, and remove the existing Condensate Return System piping running from C140, through C134, C130, and C125 into MH 324 and design, engineer, procure, install, test, and commission new Condensate Return System piping to replace the piping removed. Replace existing condensate line anchors with new anchors and install condensate line anchors for those segments outside each MH where none exist.

III. DISTRIBUTED THERMAL PLANT-4 CHILLED WATER SYSTEM (PROJECT 3.0).

A. ***General Project Requirements*****.** Concessionaire shall design, engineer, procure, construct, install, test, and commission the Phase I Capital Improvements to DTP-4 and its Chilled Water Distribution System. All Equipment and materials for this Project shall be new.

B. ***Construction Staging*****.** Chilled Water Service must remain available to all UMD Buildings connected to the DTP-4 Chilled Water System (including all connected UMD Building chillers) at all times during construction. Concessionaire shall secure, install, connect, test, and commission such temporary Chilled Water Production Units necessary to maintain Chilled Water Service to the UMD Buildings.

C. ***Project 3.0's Subprojects.***

Subproject 3.1: DTP-4. Concessionaire shall design, engineer, procure, construct, install, test, and commission the following Capital Improvements to DTP-4:

Item 3.1.1 Concessionaire shall decommission, demolish, and remove all Chilled Water Production Units and all Equipment associated therewith located in or on DTP-4 and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement.

Item 3.1.2 Concessionaire shall design, engineer, procure, construct, install, test, and commission new Chilled Water Production Units and all associated and auxiliary Equipment (including pumps, cooling towers, electrical equipment) necessary to operate and monitor DTP-4 and their associated performance. DTP-4 and the Chilled Production Units connected thereto (as identified in RFP Appendix C-4) shall have a total capacity of at least 10,000 tons

Item 3.1.3 The total capacity of the Chilled Water Production Units within DTP-4 shall not be less than 8,000 tons firm capacity. Such units shall be exclusively electric driven. Concessionaire shall not install steam driven Chilled Water Production Units and shall not expand the DTP-4's existing footprint.

Item 3.1.4 Concessionaire shall support new chilled water production capacity with all new mechanical auxiliary Equipment.

Item 3.1.5 Concessionaire shall procure, install, test, and commission an advanced "smart" control system for the new Chilled Water Production Units and Equipment that has operational, optimization, and historian functionality, the effectiveness of which has been demonstrated in Comparable Energy

Systems. This control system shall receive monitoring input from the Auxiliary Chillers connected to DTP-4. The new control system may control such units, but such capability is not required.

Item 3.1.6 To facilitate the diversion of a sufficient supply of condenser water return for use by the Interdisciplinary Engineering Building's (Zupnik Hall's) heat pump chiller plant, Concessionaire shall procure, install, test, and commission a 10-inch tap on DTP-4's condenser water supply and return lines (two taps total) with the appropriate rated manual isolation valve and blind flange. To assure MEIP and DTP-4 have sole operation of these connections, a series of control valves and instrumentation will be selected and provided to Concessionaire by UMD or its designee. Such selection shall be based on Industry Standards for on/off flow. UMD or its designee shall install and set the control valves, instrumentation, and associated piping after seeking input from Concessionaire.

Subproject 3.2: Animal Sciences Building and Toll Physics Building. Concessionaire shall decommission, demolish, and remove Chilled Water Production Units and all Equipment associated therewith located within Animal Science Building Wings 1, 3, and 5 and Toll Physics Building (connected to DTP-4) and shall dispose of the resulting Waste and Hazardous Waste (if any) in accordance with the Law and the Concession Agreement.

Subproject 3.3: A.V. Williams Building and Biology-Psychology Building. Concessionaire shall decommission, demolish, and remove Chilled Water Production Units and all Equipment and auxiliaries associated therewith located in the A.V. Williams Building and the Biology-Psychology Building. Except as noted below, Concessionaire shall procure, install, test, and commission new Chilled Water Production Units and associated and auxiliary Equipment (including pumps, cooling towers, electrical equipment) necessary to operate and monitor such units. Concessionaire shall configure each building's new Chilled Water Production Units and Equipment so that they can provide Chilled Water Service to the building in an "island mode" (that is, hydraulically isolated from DTP-4). All such Units and Equipment shall be controlled from DTP-4.

Item 3.3.1 In the A.V. Williams Building, Concessionaire shall design, engineer, procure, construct, install, test, and commission three new Chilled Water Production Units, each with a capacity of 375 tons. Concessionaire may reuse existing piping as long as such piping is safe and with a remaining service life that reasonably approximates the service life of new piping. Concessionaire shall procure, install, test, and commission new controls for the replacement Equipment. Concessionaire shall reuse the building's cooling towers and shall make all interconnections and modifications consistent with such reuse. Such reused Equipment and piping shall be cleaned, tested, recommissioned,

and used in accordance with OEM Documents, the instructions of applicable Suppliers, and applicable Industry Standards in accordance with Section 6.2 of the Construction Requirements. UMD will not warrant, guarantee, or offer any other assurance regarding the condition or suitability of this Equipment and piping and for the purpose of Section 10.5.6 of the Concession Agreement, such Equipment and piping will be deemed to be New Components.

Item 3.3.2 In the Biology/Psychology Building, Concessionaire shall design, engineer, procure, construct, install, test, and commission two new Chilled Water Production Units, each with a capacity of 550 tons and all associated Equipment. Concessionaire may reuse existing piping as long as such piping is safe and with a remaining service life that reasonably approximates the service life of new piping. Such reused piping shall be cleaned, tested, and used in accordance with OEM Documents, the instructions of applicable Suppliers, and applicable Industry Standards in accordance with Section 6.2 of the Construction Requirements. UMD will not warrant, guarantee, or offer any other assurance regarding the condition or suitability of this piping and for the purpose of Section 10.5.6 of the Concession Agreement, such Equipment and piping will be deemed to be a New Component. Concessionaire shall procure, install, test, and commission new controls for the replacement Equipment

IV. DECARBONIZATION STRATEGY DEVELOPMENT (PROJECT 4.0). Concessionaire shall develop a strategy for achieving Decarbonization by December 31, 2035 (or at the earliest possible date thereafter) while optimizing attainment of the NextGen Objectives. Concessionaire shall begin the strategy development at Commencement and deliver its report containing all information required below no later than the expiration of 18 months following Commencement, including the UMD Building energy usage data upon which Concessionaire can recommend specific Phase II Capital Improvement Projects and Phase III Capital Improvement Projects for evaluation and selection by UMD pursuant to the Additional Capital Improvements approval process set forth in Section 10.5 of the Base Concession Agreement. For each Project, such information shall include an analysis of the greenhouse gas emission reductions necessary to reach UMD's energy Decarbonization target of December 31, 2035, a cost and financial plan, and implementation/operating requirements.

At a minimum, Concessionaire shall:

1. Develop an analysis of the availability and economics of a Campus-wide transition to renewable natural gas, including a market, technical, and cost assessment of its impact on the Energy Systems.

2. Develop a three-year heating, cooling, and electric load profile for each UMD Building based on meter data provided by UMD;

3. Develop a heating and cooling equipment inventory for each UMD Building. The inventory shall include heating water circulating pumps, cooling water circulating pumps, heat exchangers used directly for heating and cooling, air handling units, heat recovery equipment, and other equipment Concessionaire deems necessary for a comprehensive Decarbonization strategy. This inventory shall not include terminal units (diffusers, VAV boxes, fan coil units, radiant heaters, etc.) unless Concessionaire considers such inclusion to be necessary for completing the strategy.

4. Physically assess the condition of the HVAC system in each UMD Building to:

   (a) Identify each system's remaining useful life utilizing published ASHRAE recommendations or specific OEM-published recommendations;

   (b) Understand how each building currently utilizes steam, chilled water, and hot water; and,

   (c) Identify, for each UMD Building recommendations for conversion to low temperature hydronic heating (less than 140° F) and cooling systems, specific HVAC replacements and upgrades (excluding building envelope modifications) required for each building to operate compatibly with such system and estimate the cost of such replacements and upgrades. All estimates shall comply with AACE Class III requirements.

5. Identify for each UMD Building demand-side measures that could produce potential energy savings, carbon emission reductions, enhanced compliance with applicable energy building codes and regulations, and greater thermal comfort, while addressing building programmatic needs.

6. Complete an 8,760-hour energy model to forecast UMD's energy purchasing requirements to serve as a foundation for informed decision-making regarding Campus and UMD Building-level capital investment, operating costs, and carbon emissions for the energy generation technologies being considered to advance Decarbonization. Concessionaire shall consider the following Projects:

   (a) Converting the CEP and the Steam Distribution System to a single low-temperature hot water network or creating several Heating Hot Water Districts;

   (b) Converting the CEP's assets and infrastructure to provide hot water production, including water-source heat pumps, electric boilers, or air-source heat pumps;

(c) Installing geothermal well fields; and,

(d) Expanding and/or reconfiguring the Electric Distribution System to accommodate the preferred approach(es).

7. Develop a list of potential Projects for each UMD Building to implement the Decarbonization Strategy's recommendations and recommend a Project implementation plan that achieves Decarbonization by December 31, 2035 (or as soon as possible thereafter).

8. Develop a lifecycle cost analysis for each option identified above and recommend Projects to UMD, optimizing for UMD Utility Services Budget neutrality, and minimizing upfront and lifecycle costs to UMD.

9. Develop a Campus-wide annual financial plan, including programmatic and project-specific sources and uses, that could support each option identified. The plan shall maximize opportunities for UMD to leverage, directly or indirectly, available local, State, and federal funding and incentive programs (such as those under the Inflation Reduction Act of 2022), as well as funds from private and nonprofit sources to minimize any upfront and lifecycle costs to UMD for pursuing each option.

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APPENDIX P-2

PHASE 1 CAPITAL IMPROVEMENTS:
CENTRAL ENERGY PLANT

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL COMMERCIAL INFORMATION, CONFIDENTIAL FINANCIAL INFORMATION, AND TRADE SECRETS. THIS APPENDIX ALSO CONTAINS CRITICAL ENERGY INFRASTRUCTURE PLANS, DRAWINGS, PHOTOGRAPHS, AND OTHER INFORMATION THAT ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352.

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APPENDIX P-3

PHASE 1 CAPITAL IMPROVEMENTS: THERMAL DISTRIBUTION SYSTEM AND CONDENSATE RETURN SYSTEM

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL COMMERCIAL INFORMATION, CONFIDENTIAL FINANCIAL INFORMATION, AND TRADE SECRETS. THIS APPENDIX ALSO CONTAINS CRITICAL ENERGY INFRASTRUCTURE PLANS, DRAWINGS, PHOTOGRAPHS, AND OTHER INFORMATION THAT ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352.

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APPENDIX P-4

PHASE 1 CAPITAL IMPROVEMENTS:
DISTRICT THERMAL PLANT NO. 4

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL COMMERCIAL INFORMATION, CONFIDENTIAL FINANCIAL INFORMATION, AND TRADE SECRETS. THIS APPENDIX ALSO CONTAINS CRITICAL ENERGY INFRASTRUCTURE PLANS, DRAWINGS, PHOTOGRAPHS, AND OTHER INFORMATION THAT ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE FOR SECURITY REASONS PURSUANT TO ANNOTATED CODE OF MARYLAND, GENERAL PROVISIONS ARTICLE, SECTION 4-352.

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APPENDIX P-5

PHASE 1 CAPITAL IMPROVEMENTS: DECARBONIZATION STRATEGY DEVELOPMENT

THE CONTENTS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE IT CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL COMMERCIAL INFORMATION, CONFIDENTIAL FINANCIAL INFORMATION, AND TRADE SECRETS.

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APPENDIX P-6
PHASE I CAPITAL IMPROVEMENTS
PROJECT PRICES

THE REDACTED PORTIONS OF THIS APPENDIX ARE CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335 BECAUSE THEY CONTAIN MARYLAND ENERGY IMPACT PARTNERS LLC'S CONFIDENTIAL TRADE SECRET AND COMPETITIVELY SENSITIVE INFORMATION.

Project 1.0 – Central Energy Plant	$ [redacted]
Project 2.0 – Thermal Distribution System and Condensate Return System	$ [redacted]
Project 3.0 – District Energy Plant No. 4 Chilled Water System	$ [redacted]
Project 4.0 – Decarbonization Strategy	$ [redacted]
TOTAL PHASE I CAPITAL IMPROVEMENT COSTS	**$** [redacted]

Phase I Capital Improvement Costs:

A. Total Phase I Capital Improvement DB Costs $[redacted]

B. Total Phase I Capital Improvement Other Costs $[redacted]

C. Total Phase I Capital Improvement Costs (sum of A and B): $[redacted]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX P-7

CONSOLIDATED CONSTRUCTION SCHEDULES

THIS APPENDIX CONTAINS MARYLAND ENERGY IMPACT PARTNERS LLC'S COMPETITIVELY SENSITIVE CONSTRUCTION SEQUENCING AND SCHEDULING INFORMATION THAT IS CONFIDENTIAL AND PROTECTED FROM DISCLOSURE PURSUANT TO ANNOTATED CODE OF MARYLAND, STATE FINANCE AND PROCUREMENT ARTICLE, SECTION 10A-203(B) AND GENERAL PROVISIONS ARTICLE, SECTION 4-335.

NEXTGEN ENERGY PROGRAM
ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX P-8

UMD OBSERVATION OF PHASE I CAPITAL IMPROVEMENTS
MAJOR EQUIPMENT FACTORY TESTING

UMD may observe the factory testing of the following major Equipment. Concessionaire shall notify UMD at least 30 days prior to the date of such testing, update UMD promptly if an Equipment manufacturer reschedules or cancels the testing, confirm the testing date and time with the manufacturer and UMD no later than 3 Business Days before the scheduled testing's beginning, and reconfirm it no later than 24 hours before such time. UMD shall promptly notify Concessionaire if it chooses not to attend the testing.

Project 1.0
Solar Turbine Inc.'s Titan 130 Combustion Turbine Testing
Factory Acceptance Test for CEP Plant Control System
Factory Acceptance Test for HRSG Controls (Combustion Control and Burner Management System)

Project 3.0
One of the three 2,675-ton electric chillers
Factory Acceptance Test for DTP-4 Plant Control System

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ENERGY SERVICES CONCESSSION AGREEMENT

APPENDIX P-9

CONCESSIONAIRE DUE DILIGENCE PRIOR TO EFFECTIVE DATE

The following table is a list of information and drawings were used by D&C Contractor prior to the Effective Date and represents its due diligence based on the interpretation of these conditions.

Geotechnical
Central Energy Plant Drawing S-6 Dated 6/24/1948 Archive 001-0061
Central Energy Plant Drawing A-1 Dated 4/21/1954 Archive 001-0062
Satellite Central Utilities Building Drawing S-1 Dated 01/13/2003

Civil
CAMPUS ELECTRIC DISTRIBUTION SYSTEM
Campus_Base
CCMS
COMPOSITE_current
CONDENSATE
Drainage Riser Diagran_TEMP001
EDS_geography_CURRENT (2017 master)
Fuel oil Piping
GAS

SANITARY
SCUBS
STEAM
UMCP one line_FEBRUARY 2017
Duke Engineering AS-BUILT drawings of University of Maryland College Park Cogeneration Plant
UMD PowerPlantEnvelope Assessment Report_FINAL 12-1-2020
Plant Walk Through Presentation_20201209_02
Manhole 105 Replacement
Manhole_502A_Project
UMCP-Campus-Basemap2015_with_Upgrades
UMD Typ MH Repair Details
UMD TYP MH Repair Specifications

Structural
1930 dwgs:
0010240 A-1
0010239 A-2
0010238 A-3
0010237 A-4
1948 West Wing Addition:
0010022 A-1
0010023 A-2
0010024 A-3
0010025 A-4
0010026 A-5
0010027 A-6

0010028 A-7
0010029 S-1
0010030 S-2
0010031 S-3
0010033 S-5
0010061 S-6
1956 East Wing Addition:
0010062 A-1 Ground Floor Plan
0010063 A-2 Floor Plans
0010064 A-3 Floor Plans
0010065 A-4
0010066 A-5
0010067 A-6
0010068 A-7 Stair Catwalk Details
0010078 S-1
0010079 S-2
0010080 S-3
0010081 S-4
0010082 S-5
1966 Blr 4 Install:
0010114 S-1
0010178 S-2
0010262 M-12
1976 Blr 2 Install:
0010085 S-1
2000 Blr 2 and 4 Upgrades:

0010385S1.01 Struct Part Plans and Details
0010386 M0.01
0010387 M1.01 Basement Floor Plan - Demo
2001 Stm Plant Improvements:
0010306 S1.01 Demo Plan
0010307 S1.02 Demo Plan
0010308 S1.03 Demo Plans – Details
0010309 S2.01 Foundation – Framing Plan
0010310 S2.02 Framing Plan
0010311 S2.03 Framing Plan
0010312 S2.04 Framing Plan
0010313 S3.01 Struct Details
0010314 S3.02 Struct Details
0010315 S3.03 Struct Details - Sections
Duke Engineering Drawings:
Duke Engineering AS-BUILT drawings
M-100 GA Floor Plan at EL 71’-4” to 97’-6”
M-101 GA Floor Plan at EL 97’-6” & 95’-6” & Platform at El 107’-6”
M-102 GA Electrical Equip. Rm at El. 117’-6” & Comp. Rm at El 12’-0”
M-103 GA Roof Plan El 131’-4 ¼”
M-104 GA Sections Looking West
M-105 GA Sections Looking North
M-106 GA Section E-E Looking West
DTP-4 Drawings:
Architectural:
4050020
4050021

4050022
4050023
4050024
Structural:
1245S1-Layout
1245S2-Layout
1245S3-Layout
1245S4-Layout
1245S5-Layout
1245S6-Layout
1245S7-Layout

Process, Mechanical
Duke Engineering AS-BUILT drawings of University of Maryland College Park Cogeneration Plant
M-0010
M-001
M-002
M-100
M-101
M-102
M-103
M-104
M-105
M-106
M-200
M-201
M-202
M-203

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M-327
M-328
M-329
M-330
M-332
M-334-A
M-335
M-336
M-337
M-338
2022-07-29 - AV Williams Cooling Tower Replacement Bid Documents
M0.01
M1.01
M1.02
M2.01
M2.02
M3.01
M4.01
M4.02
M5.01
M6.01
M7.01
UMCP Utilities Drawings
CONDENSATE.pdf
Campus_Base.pdf
GAS.pdf
STEAM.pdf

UMCP SCUB Flow Diagrams:
T0.40
M1.40
M1.41
M4.40
M4.41
M4.42
M6.41
M6.42
M6.46
M6.48
(Bio-Psych CAD drawing)
01124M101BS.dwg
(AV Williams CAD drawing)
01124 M101 BS.dwg
One Name Drawings
UMCP Load Data (Excel Spreadsheet)
UMCP Consumption Statement July 2021 (Excel Spreadsheet)
University of Maryland, College Park Chilled Water Distribution System Site Plan & Design Load – Chilled Water System (photo of drawing)
Appendix 5.11 Water Quality Test Results
Photo of DTP-4 piping layout drawing (drawing title not shown)
Plant Walk Through Presentation_20201209_02

Electrical, Instrumentation, Controls
LTR UMD RFP 98266-K NextGen MEIP Draft BAFO Schedule 2 FINAL.pdf
UMD Facilities Master Plan 2017-2030.pdf

University of Maryland- NextGen Energy Program Presolicitation Report FINAL.pdf
5.10 ELECTRICAL MANHOLE AND TRANSFORMER ASSESSMENT, RMF FINAL September 2015.pdf
5.16 UMCP ISLANDING STUDY, PARETO ENERGY, MAY 2016.pdf
5.8 TEST PIT SURVEY UMCP-UtilityConditionAssessment June2016.pdf
UMCP CAMPUS ELECTRIC DISTRIBUTION SYSTEM Main Campus_36x48 (1).pdf
UMCP ELECTRIC ONE-LINE _FEBRUARY 2017 Modified to Remove LDC Ino.pdf
UMCP CAMPUS ELECTRIC DISTRIBUTION SYSTEM.pdf
UMCP ELECTRICAL ONE-LINE FEBRUARY 2017.pdf
IEEE BATTERY TEST RESULTS-8-7-2013.pdf
Job 12816 - Maint Testing BPST Gen Prot Relays - 12.31.13.pdf
Job 13426 - Test DPU-2000R Protective Relays - 01.13.15.pdf
Job 13715 - Generator 52 Breakers - 05.26.15.pdf
Job 13794 - Generator GT#1 and GT#2 - 08.21.15.pdf
Job 14064 - Inspect and Test Breaker - 11.05.15.pdf
Maintenance Testing Relays and Breakers - 11.21.16.pdf
Substation Relay Testing Electronic Report - 01.09.15.pdf
UMD PowerPlantEnvelope Assessment Report_FINAL 12-1-2020.pdf
Test Pits Pages from UMCP-UtilityConditionAssessment-Draft-June2016-r1 comments.pdf
Duke Engineering AS-BUILT drawings of University of Maryland College Park Cogeneration Plant.pdf
2022-07-29 - AV Williams Cooling Tower Replacement Bid Documents.pdf
2022-07-29 - Specs - Bid Document Reissue.pdf
Jan 2022 - base proj.pdf
Jan 2022 - Scenario 1.pdf
Jan 2022 - Scenario 2.pdf
Jan 2022 - Scenario 3.pdf
Jan 2022 - Scenario 4.pdf
Jan 2022 load ltr.pdf
405_cond_line.pdf
CAMPUS ELECTRIC DISTRIBUTION SYSTEM.pdf
CCMS.pdf

EDS_geography_CURRENT(2017 master).pdf
SCUBS.pdf
UMCP one line_FEBRUARY 2017.pdf
PEPCO MEDCO Interconnection Agreement.pdf
Consolidated Appendix V - IMOMA T for C Demob Costs.pdf
UMCP_SCUBStudy_06.2020.pdf
UMCP_SCUBStudy_06.2020.pdf
STM-Demarcation.pdf
Cond-Demarcation.pdf
Electric-Demarcation.pdf
CHW-Demarcation.pdf
Consolidated Appendix P - Design Criteria Facilities Manual.pdf
C101 - EXISTING CONDITIONS PLAN.pdf
C111 - DEMOLITION PLAN.pdf
C131 - UTILITY PLAN.pdf
C311 - ELECTRIC _ TELECOM PROFILES.pdf
E001 - ELECTRICAL NOTES _ ABBREVIATIONS.pdf
E002 - ELECTRICAL SYMBOLS.pdf
EDS101 - EARLY SITE PACKAGE DEMOLITION SITE PLAN.pdf
EDS301 - EARLY SITE PACKAGE DEMOLITION SINGLE LINE DIAGRAM.pdf
TS100 - TELECOM SITE PLAN.pdf

Buildings
o BAFO- dated 12/21/22: UMD- Combined RFP Documents 12-21-22 Updates
o Appendix L-1- (comparison) RFP Appendix L-1 BAFO Phase I Cap Improv Scope of Work BAFO FINAL
o Duke Engineering & Services drawings:
o M-0010
o M-001
o M-002

- M-100
- M-101
- M-102
- M-103
- M-104
- M-105
- M-106
- M-200
- M-201
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o M-328
o M-329
o M-330
o M-332
o M-334-A
o M-335
o M-336
o M-337
o M-338
o UMD Facilities Master Plan- UMD Facilities Master Plan 2017-2030
o UMD PowerPlantEnvelope Assessment Report_FINAL 12-1-2020
o DTP-4 As-Builts:
o H-01 – Legends
o H2.1 - H&V Floor Plans and Schedules
o M-9 - Trigen-Cinergy Scub Misc. Systems P&ID & Detail
o M-13 – Trigen-Cinergy Scub Mechanical upper supports
o M-16 – Trigen-Cinergy Equipment Schedules
o Client Questions and Answers from BAFO

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APPENDIX O-6 and APPENDIX P-10

Required Performance Tests and Testing Protocols and Acceptance Tests and Testing Protocols

1. FACTORY ACCEPTANCE TESTING

a) Prior to shipment, major OEM equipment, as defined in Appendix P-8, shall perform factory acceptance tests (FAT) to validate the operation and performance of the equipment.

b) Contractor and equipment Seller shall agree upon an Inspection Test Plan (ITP) for the factory acceptance test. The ITP shall be included in the contract that will be followed for the factory acceptance test.

c) Contractor shall provide the Seller with checklists for group review weeks prior to actual FAT so that all testing required is understood by both parties. Both parties must agree on a well-defined test plan.

d) Seller and Contractor shall agree on any punch list items as a result of the FAT based on the conditions of the contract.

e) The FAT is not intended to replace internal quality assurance testing prior to witness testing. Seller will complete internal testing/requirements before the FAT.

2. CEP COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall perform commissioning and functional testing to assure the performance of the equipment and systems within the CEP, comprising 1) building commissioning, including the HVAC and lighting systems, and 2) system commissioning, including process mechanical, electrical and Plant Control Systems.

b) Contractor shall designate a project Commissioning Manager that shall manage all commissioning activities and engage persons having appropriate technical expertise for each piece of equipment or system.

2.1 CEP Building Commissioning

a) Contractor shall provide a CEP commissioning plan for the building systems that clearly defines the following:

1. Each specific task to be performed and any associated ANSI or ASHRAE guideline to used and/or any requirements defined in permits issued by any local Authority Having Jurisdiction (AHJ), such as a fire marshal.
2. Pre-Functional Checklists (PFC) for each system to ensure that equipment meets the project specifications and is installed correctly.
3. Functional Performance Testing (FPT) requirements for each system.

b) Building Systems to be commissioned:

1. Electric power distribution (240V and lower).
2. Lighting and lighting controls.
3. Plumbing systems.
4. Building HVAC systems.
5. Fire alarm system and fire protection equipment.
6. Life Safety systems installed in the building, including both office and process areas.
7. Data and communications.

2.1.1 Commissioning Reporting Requirements

a) The Commissioning Manager shall develop and maintain a record of any deficiencies discovered during the performance of the commissioning process, including corresponding resolutions (the “Commissioning Log”). The Commissioning Log shall include:

1. Deficiencies in functionality or issues related to equipment installation not in accordance with the manufacturer's specifications.
2. Resolution and disposition of such deficiencies and issues.
3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager

b) Contractor shall maintain records of all commissioning activities including, but not limited to, testing, equipment startup, and adjustments made. At the end of the commissioning process, Contractor shall provide a final building commissioning report including all documents and checklists.

2.1.2 Commissioning Acceptance

a) Provide verification of testing, adjusting and balancing performance of the in-scope systems.

b) Contractor shall submit a final commissioning report including all test results and current Commissioning Corrective Issues Log after completion of the building commissioning process.

2.2 CEP Process System Commissioning

a) Contractor shall provide a Commissioning Plan for the process mechanical, electrical (above 240V), and control systems that clearly defines the following:

1. Pre-functional checklists (PFC) of each system which will be used to ensure that equipment meets the project specifications and is installed correctly.
2. Functional Performance Testing (FPT) for each system.

b) The Contractor shall facilitate the following tasks:

1. Complete commissioning pre-functional checklist
2. Provide all tools, equipment, software, and manpower required for process systems functional testing as described in the commissioning plan.
3. Prepare a commissioning report.

2.2.1 General Requirements

a) Process system commissioning shall be performed and completed in accordance with Prudent District Energy Practices for the systems in the scope of the Work.

b) Provide specific test sequences for each major piece of equipment and process system including: A Commissioning Process Plan with index for CEP Process Systems Manual; Submittal Review and delivered equipment, PFC (Pre- Functional Checklist) Testing; FPT (Functional Performance Test); each device operating in isolation); and a final report with completed document sheets for all the tests listed above.

c) Contractor shall perform all aspects of CEP Commissioning Process in accordance with the approved CEP Commissioning Plan in 2.2.1.1.a.

2.2.1.1 CEP Commissioning Plan

a) Contractor shall create a commissioning plan for the CEP (the "CEP Commissioning Plan"). The CEP Commissioning Plan shall, at a minimum, include and describe in detail the following topics:

1. CEP commissioning objectives
2. CEP Commissioning Process as set forth herein, including:
    i. Detailed description of the CEP Commissioning Process
    ii. Detailed Pre-Functional Checklists

iii. Detailed CEP Functional test procedures, including a step-by-step explanation of such procedures and expected results

iv. Guidelines for acceptance of each piece of equipment or system. Expected results for each test must be included

v. Detailed description of the process for completing the Final Performance Tests and establishing Successful Completion of Performance Tests as required for Final Completion

3. CEP commissioning documentation requirements

4. Communication & reporting protocols

2.2.1.2 CEP Commissioning Report

a) Contractor shall prepare a final CEP commissioning report: The final report shall include all CEP Commissioning Process activities and the CEP Functional tests performed including corresponding results for each commissioning level.

2.2.1.3 CEP Commissioning Log

a) Contractor's Commissioning Manager shall develop and maintain a record of deficiencies discovered during the performance of the CEP Commissioning Process, including corresponding resolutions (the "CEP Commissioning Log"). The CEP Commissioning Log shall include:

1. Deficiencies, issues or failures to meet the required functionality of CEP systems not in accordance with the manufacturer's specifications, as discovered during the performance of the CEP Commissioning Process and the CEP Functional tests;

2. Resolution and disposition of such deficiencies and issues;

3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager.

2.2.1.4 CEP Testing General Requirements

a) CEP Test procedures for all CEP systems to be commissioned shall comply with the following requirements:

1. CEP Functional tests procedures shall provide instructions as to how equipment, systems, and integrated systems will be tested to demonstrate proper operation and performance.

2. Such CEP Functional test procedures shall identify the staff that will perform such tests, any special communication devices requirements, and required instrumentation for the performance of such tests.

3. Each CEP Functional test procedure shall include a CEP Pre-Functional Checklist for verification that proper calibration of all required instrumentation has been verified prior to test initiation.

4. Contractor's Commissioning Manager shall examine the Design Work, develop detailed CEP Pre-functional Checklists, and detailed Functional Performance Test procedures and data forms. Contractor shall verify, through the CEP Pre-functional Checklists, that the CEP systems follow the Construction Document CEP Submittal and are fully functional. Functional Performance Tests shall only begin when the CEP Pre-Functional Checklists have been completed, signed by the appropriate staff, contractors, and returned to Contractor's Commissioning Manager.

2.2.1.5 CEP Functional tests

a) The CEP Functional tests shall be scheduled and performed in a logical and sequential manner in compliance with Prudent District Energy Practices, and the following requirements:

1. Factory acceptance testing: testing of equipment, whether at the Campus or at the manufacturer's location, by manufacturer's staff. When relying on factory performance tests, Contractor must conform to the following:

i. Receipt inspection checklist with written confirmation that the equipment received from manufacturers or vendors is in accordance with the equipment specification

ii. Is free from defect or damage, and

iii. Includes required installation, operations and maintenance manuals

2. Installation testing activities shall consist of and comply with the following requirements:

i. System shall be checked for proper installation, and adjusted and calibrated to verify that it is ready to function as specified.

ii. All system elements shall be checked to verify that they have been installed properly and that all connections have been made correctly.

iii. All discrete elements and sub-systems shall be adjusted and checked for proper operation.

3. Functional Performance Testing: activities shall consist of and comply with the following requirements:

i. Systems shall be tested under all modes and configurations to the extent demand loads are available for the different test modes.

ii. If not performed during Commissioning cause and effect testing, per the approved CEP Commissioning Plan, to the extent possible systems shall be run through all the control system's sequences of operations and components verified to be responding as the sequences state.

iii. Tests shall demonstrate that each complete system under test is operating and complying with specified performance requirements.

iv. Electrical Functional Performance Testing shall verify that systems, sub-systems and equipment function interactively and throughout the full range of operating conditions (e.g. low load, design load, component failures, alarm conditions, safety interlocks including with life safety systems, etc.) and modes (e.g. normal shutdown, normal auto position, normal manual position, power failure including control power, emergency power, unoccupied, fire alarm, etc.).

v. Temporary upsets of systems, such as distribution fault, control loss, setpoint change, equilibrium upset and component failure, shall be imposed at different operation loads to determine system stability and recovery time, per the approved CEP Commissioning Plan.

vi. Functional Performance Tests shall be performed on complete systems. Each function shall be demonstrated to satisfy all requirements of the written test procedure.

2.2.1.6 CEP Acceptance

a) All CEP Functional tests shall be completed and accepted as a condition of Substantial Completion.

b) Contractor shall submit the final Commissioning Report including all test results after completion of the CEP Commissioning Process.

c) All CEP systems shall be tested for compliance with the test procedures and each separate CEP Functional test procedure and results shall be documented individually.

d) Corrective Measures: If acceptable performance cannot be achieved, the cause of the deficiency shall be identified. If it is determined that the deficiency was caused by the Work or by any the system or component not being installed in accordance with the manufacturer's recommendations or the Project Documents, the necessary corrective measures shall be carried out by Contractor. Every check or test for which acceptable performance was not achieved must be repeated after the necessary corrective measures have been completed.

DTP-4 COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall provide commissioning and functional testing to assure the performance of the equipment and systems within DTP-4, comprising 1) building commissioning, including the HVAC and lighting systems, and 2) system commissioning, including process mechanical, electrical and Plant Control Systems.

b) Contractor shall designate a project Commissioning Manager that shall manage all commissioning activities and engage persons having appropriate technical expertise for each piece of equipment or system.

2.3 DTP-4 Building Commissioning

a) Contractor shall provide a DTP-4 commissioning plan for the building systems that clearly defines the following:

1. Each specific task to be performed and any associated ANSI or ASHRAE guideline to used and/or any requirements defined in permits issued by any local Authority Having Jurisdiction (AHJ), such as a fire marshal.

2. Pre-Functional Checklists (PFC) for each system to ensure that equipment meets the project specifications and is installed correctly.

3. Functional Performance Testing (FPT) requirements for each system.

b) Process Area Building Systems to be commissioned:

1. Electric power distribution.

2. HVAC systems.

3. Data and communications.

2.3.1 Commissioning Reporting Requirements

a) The Commissioning Manager shall develop and maintain a record of any deficiencies discovered during the performance of the commissioning process, including corresponding resolutions (the "Commissioning Log"). The Commissioning Log shall include:

1. Deficiencies in functionality or issues related to equipment installation not in accordance with the manufacturer's specifications.

2. Resolution and disposition of such deficiencies and issues.

3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager

b) Contractor shall maintain records of all commissioning activities including, but not limited to, testing, equipment startup, and adjustments made. At the end of the commissioning process, Contractor shall provide a final commissioning report including all documents and checklists.

2.3.2 Commissioning Acceptance

a) Provide verification of testing, adjusting and balancing performance of the in-scope systems.

b) Contractor shall submit a final commissioning report including all test results and current Commissioning Corrective Issues Log after completion of the commissioning process.

2.4 DTP-4 Process System Commissioning

a) Contractor shall provide a Commissioning Plan for the process mechanical, electrical, and control systems that clearly defines the following:

1. Pre-functional checklists (PFC) of each system which will be used to ensure that equipment meets the project specifications and is installed correctly.

b) Functional Performance Testing (FPT) for each system. The Contractor shall facilitate the following tasks:

1. Complete commissioning pre-functional checklist
2. Provide all tools, equipment, software, and manpower required for process systems functional testing as described in the commissioning plan.
3. Prepare a commissioning report.

2.4.1 General Requirements

a) Process system commissioning shall be performed and completed in accordance with Prudent District Energy Practices for the systems in the scope of the Work, per the approved DTP-4 Commissioning Plan.

b) Provide specific test sequences for each major piece of equipment and system which shall include: A Commissioning Process Plan with index for DTP-4 Process Systems Manual; Submittal Review and delivered equipment, PFC (Pre- Functional Checklist); FPT (Functional Performance Test); each device operating in isolation); and a final report with completed document sheets for all the tests listed above.

c) Contractor shall perform all aspects of DTP-4 Commissioning Process in accordance with the requirements of the standards or guidelines under which the Commissioning Manager qualifications are certified in accordance with Prudent Industry Practices.

2.4.1.1 DTP-4 Commissioning Plan

a) Contractor shall create a commissioning plan for DTP-4 (the "DTP-4 Commissioning Plan"). The DTP-4 Commissioning Plan shall, at a minimum, include and describe in detail the following topics:

1. DTP-4 commissioning objectives;
2. DTP-4 Commissioning Process as set forth herein, including:
    i. Detailed description of the DTP-4 Commissioning Process;
    ii. Detailed Pre-Functional Checklists;
    iii. Detailed DTP-4 Functional test procedures, including an explanation of such procedures and expected results;
    iv. Guidelines for acceptance of each piece of equipment or system. Expected results for each test must be included;
    v. Detailed description of the process for completing the Final Performance Tests and establishing Successful Completion of Performance Tests as required for Final Completion.
3. DTP-4 commissioning documentation requirements; and
4. Communication & reporting protocols.

2.4.1.2 DTP-4 Commissioning Report

a) Contractor shall prepare a final DTP-4 commissioning report: The final report shall include all DTP-4 Commissioning Process activities and the DTP-4 Functional tests performed including corresponding results for each commissioning level.

2.4.1.3 DTP-4 Commissioning Log

a) Contractor's Commissioning Manager shall develop and maintain a record of deficiencies discovered during the performance of the DTP-4 Commissioning Process, including corresponding resolutions (the "DTP-4 Commissioning Log"). The DTP-4 Commissioning Log shall include:

1. Deficiencies, issues or failures to meet the required functionality of DTP-4 systems not in accordance with the manufacturer's specifications, as discovered during the performance of the DTP-4

Commissioning Process and the DTP-4 Functional tests;

2. Resolution and disposition of such deficiencies and issues;
3. Date of final resolution for each deficiency or issue as confirmed by the Commissioning Manager.

2.4.1.4 DTP-4 Testing General Requirements

a) DTP-4 Test procedures for all DTP-4 systems to be commissioned shall comply with the following requirements:

1. DTP-4 Functional tests procedures shall provide instructions as to how equipment, systems, and integrated systems will be tested to demonstrate proper operation and performance.
2. Such DTP-4 Functional test procedures shall identify the staff that will perform such tests, any special communication devices requirements, and required instrumentation for the performance of such tests.
3. Each DTP-4 Functional test procedure shall include a DTP-4 Pre-Functional Checklist for verification that proper calibration of all required instrumentation has been verified prior to test initiation.
4. Contractor's Commissioning Manager shall examine the Design Work, develop detailed DTP-4 Pre-functional Checklists, and detailed Functional Performance Test procedures and data forms. Contractor shall verify, through the DTP-4 Pre-functional Checklists, that the DTP-4 systems follow the Construction Document DTP-4 Submittal and are fully functional. Functional Performance Tests shall only begin when the DTP-4 Pre-Functional Checklists have been completed, signed by the appropriate staff, contractors or vendors, and returned to Contractor's Commissioning Manager.

2.4.1.5 DTP-4 Functional tests

a) The DTP-4 Functional tests shall be scheduled and performed in a logical and sequential manner in compliance with Prudent District Energy Practices, and the following requirements:

1. Factory acceptance testing: testing of equipment, whether at the Campus or at the manufacturer's location, by manufacturer's staff. When relying on factory performance tests, Contractor must conform to the following:
    i. Receipt inspection checklist with written confirmation that the equipment received from manufacturers or vendors is in accordance with the equipment specification
    ii. Is free from defect or damage, and
    iii. Includes required installation, operations and maintenance manuals.
2. Installation testing activities shall consist of and comply with the following requirements:
    i. System shall be checked for proper installation, and adjusted and calibrated to verify that it is ready to function as specified;
    ii. All system elements shall be checked to verify that they have been installed properly and that all connections have been made correctly;
    iii. All discrete elements and sub-systems shall be adjusted and checked for proper operation;
3. Functional Performance Testing: activities shall consist of and comply with the following requirements:
    i. Systems shall be tested under all modes and configurations to the extent demand loads are available for the different test modes.
    ii. If not performed during Commissioning cause and effect testing, per the approved DTP-4 Commissioning Plan, to the extent possible systems shall be run through all the control system's sequences of operations and components verified to be responding as the sequences state;
    iii. Tests shall demonstrate that each complete system under test is operating and complying

with specified performance requirements; Electrical Functional Performance Testing shall verify that complete systems function interactively and throughout the full range of operating conditions (e.g. low load, design load, component failures, alarm conditions, safety interlocks including with life safety systems, etc.) and modes (e.g. normal shutdown, normal auto position, normal manual position, power failure including control power, emergency power, unoccupied, fire alarm, etc.);

iv. Temporary upsets of systems, such as distribution fault, control loss, setpoint change, equilibrium upset and component failure, shall be imposed at different operation loads to determine system stability and recovery time;

v. Functional Performance Tests shall be performed on complete systems. Each function shall be demonstrated to satisfy all requirements of the written test procedure;

2.4.1.6 DTP-4 Acceptance

a) All DTP-4 Functional tests shall be completed and accepted as a condition of Substantial Completion.

b) Contractor shall submit the final Commissioning Report including all test results after completion of the DTP-4 Commissioning Process.

c) All DTP-4 systems shall be tested for compliance with the test procedures and each separate DTP-4 Functional test procedure and results shall be documented individually.

d) Corrective Measures: If acceptable performance cannot be achieved, the cause of the deficiency shall be identified. If it is determined that the deficiency was caused by the Work or by any the system or component not being installed in accordance with the manufacturer's recommendations or the Project Documents, the necessary corrective measures shall be carried out by Contractor. Every check or test for which acceptable performance was not achieved must be repeated after the necessary corrective measures have been completed.

3. THERMAL DISTRIBUTION LOOP COMMISSIONING AND FUNCTIONAL TESTING REQUIREMENTS

a) Prior to Substantial Completion, Contractor shall perform commissioning and functional testing to assure the structural integrity of the thermal distribution piping. The functional testing shall be a hydrostatic test of the newly installed thermal distribution piping sections and performed in accordance with ASME B31.1 Power Piping Code. Such testing may be performed by a predetermined section of the thermal distribution loop (e.g. - from valve to valve). Other sections of the hydrostatic tests will not be performed until such time that all sections of the thermal distribution loop are complete.

b) Contractor shall prepare and document the hydrotesting plan which may be self-performed or performed by an experienced subcontractor.

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX P-11

PROJECT DESIGN AND CONSTRUCTION REQUIREMENTS

NEXTGEN ENERGY PROGRAM

RFP NO. 98166-K
PROJECT DESIGN AND CONSTRUCTION REQUIREMENTS

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NEXTGEN ENERGY PROGRAM

PROJECT DESIGN AND CONSTRUCTION REQUIREMENTS

PART 1: GENERAL PROVISIONS

1.1 INTRODUCTION.

1.1.1 These Project Design and Construction Requirements implement Article 10 and other relevant provisions of the Base Concession Agreement to govern the design and construction of Capital Improvements throughout the Term.

1.1.2 Capital Improvements will be completed for Projects that are proposed and approved in accordance with the Base Concession Agreement. Each Project will have its own Project Schedule, Project Documents, and Project Price. A Project may include any number of discrete Capital Improvements but typically, will be limited to Capital Improvements for a single Energy System.

1.2 CONSTRUCTION REQUIREMENTS IMPLEMENTATION AND INTERPRETATION.

1.2.1 *APPLICATION.* These Construction Requirements apply to specific obligations of the Concessionaire for design, engineering, construction, testing, and commissioning Capital Improvements and do not address all of Concessionaire's obligations under the Base Concession Agreement for which it remains fully responsible.

1.2.2 *APPROVALS AND CONSENTS.* Approvals or consents by UMD under these Construction Requirements shall be governed by Section 1.4 of the Base Concession Agreement.

1.2.3 *AMENDMENTS*. Unless otherwise stated herein, any modification or change to these Construction Requirements shall be governed by Section 1.4 of the Base Concession Agreement.

1.2.4 *SUCCESSORS.* Any references to a governmental entity, industry standard organization, or UMD department or administrative office or official shall include any successor to such entity, organization, department, or Person.

1.2.5 *INTERPRETIVE PRINCIPLES.* These Construction Requirements shall be interpreted according to the principles set forth in Section 1.3 of the Base Concession Agreement.

1.2.6 *COORDINATION WITH INSURED LOSS RESTORATION*. These Construction Requirements apply to the Restoration of the Energy Systems after a loss covered by a policy of Required Insurance only to the extent that they do not conflict with any provision of Section 18.10 of the Base Concession Agreement.

1.3 ORDER OF PREFERENCE.

1.3.1 To resolve any conflicts among various Project Documents or portions thereof that may remain after applying principles set forth in Section 1.3 of the Base Concession Agreement, priority and order of precedence shall be given to the Project Documents (or portion thereof) as follows: (i) any Change Orders entered into in accordance with the Base Concession Agreement; (ii) the Base Concession Agreement; (iii) the Design Criteria; (iv) Applicable Industry Standards; and, (v) the Project's Plans and Specifications.

1.3.2 If a conflict remains after applying this order of precedence, Concessionaire shall resolve the conflict in favor of the option that best achieves long-term reliability, resiliency, efficiency, and sustainability within the Project Price.

1.4 DEFINITIONS.

1.4.1 Unless otherwise noted, capitalized terms have the definitions set forth in Appendix A, which are incorporated herein by reference.

1.4.2 The following additional definitions apply for this Appendix P-11 only:

(a) "A/E Agreement" means the Agreement for Architectural and Engineering Services by and between UMD and Concessionaire dated March 4, 2024.

(b) "Final Deliverable" means all or a portion of a Project's Plans and Specifications deliverable by Concessionaire to UMD that incorporates agreed UMD comments on a Preliminary Deliverable and has reached a level of design sufficient to be issued for construction.

(c) "Final Plans and Specifications" means a Final Deliverable that incorporates agreed UMD comments.

(d) "Preliminary Deliverable" means all or a portion of a Project's Plans and Specifications deliverable (with all supporting documents and information) by Concessionaire to UMD that has reached a 95% level of design or development and is ready for review and comment by the University.

PART 2: GENERAL RESPONSIBILITIES

2.1 UMD GENERAL RESPONSIBILITIES

2.1.1 *Project Site.* By entering into the Ground Lease and the Easement Agreement, UMD is furnishing the Project Site, the rights-of-way, and easements for access thereto, and such other lands required by Concessionaire to complete each Project.

2.1.2 Information or services under UMD's control pertaining to a Project shall be furnished to Concessionaire with reasonable promptness to avoid delay in the Project's orderly progress. UMD shall not furnish Concessionaire with any confidential or privileged information that is subject to protection from disclosure under the Law.

2.1.3 UMD shall communicate with the Concessionaire through the UMD Program Manager. Verbal instructions shall be confirmed in writing and delivered to Concessionaire in accordance with Section 2.2.9 hereof.

2.2 CONCESSIONAIRE'S GENERAL RESPONSIBILITIES.

2.2.1 Concessionaire shall complete each Project within the time specified in the applicable Project Schedule and within the Project Price specified in Appendix P for the Phase I Capital Improvement Projects and in the Change Order or Concession Agreement amendment authorizing any Additional Capital Improvement.

2.2.2 Concessionaire shall furnish, or cause the Key Construction Contractor to furnish, Subcontractors, materials, services, temporary utility services, implements, machinery, Equipment, tools, supplies, transportation, labor, and all other items and services necessary or incidental to the completion of each Project in compliance with the applicable Project Documents.

2.2.3 Concessionaire shall supervise and direct each Project, using its best skill and attention, and shall comply with the Law, all Governmental Authorizations, and the Design Criteria. Concessionaire must coordinate piping and ductbank installation and all other Campus work with Facility Management's Building and Landscape Services Department and UMD's Architectural/Landscape Review Board and comply with all architectural requirements and landscaping protection measures during construction. Concessionaire shall restore landscaping to a "like new" condition upon a Project's completion.

2.2.4 Subject to UMD's right to require changes pursuant to Section 16.4 of the Base Concession Agreement, Concessionaire shall be solely responsible for the design, means, methods, techniques, sequences, or procedures of construction, the safety precautions, and programs incident thereto and for complying with all Laws applicable to each Project.

2.2.5 Concessionaire shall prepare all Preliminary Design Documents and all Plans and Specifications to reflect accurate information and locations.

2.2.6 Concessionaire shall be responsible for the correction of all omissions and errors in the Plans and Specifications, Shop Drawings, As-Built Documents, and other Project Documents for which it is responsible hereunder. In addition, Concessionaire shall be responsible for coordinating design and resolving discrepancies, conflicts, and errors occurring therein during construction.

2.2.7 Subject to its right to request issuance of a Change Order pursuant to Article 21 of the Base Concession Agreement, Concessionaire shall not be relieved from its obligations to complete each Project in accordance with the applicable Project Documents either by the activities or duties of the NextGen Procurement Officer or the UMD Program Manager in reasonably administering this Agreement or by inspections, tests, or approvals required or performed by Persons other than the Concessionaire in compliance with this Agreement.

2.2.8 Concessionaire shall confine construction to the Leased Property and shall not unreasonably encumber the Leased Property or any other portion of the Campus with materials or Equipment.

2.2.9 *CUTTING AND PATCHING*.

(a) Concessionaire shall not damage, endanger, or alter any portion of a project or work conducted by UMD or any of its contractors, except with prior written consent of UMD, which consent shall not be unreasonably withheld.

(b) UMD and its contractor shall not damage, endanger, or alter any Project or portion thereof or any other work performed by Concessionaire, a Key Contractor, or a Subcontractor without Concessionaire's prior written consent, which consent shall not be unreasonably withheld.

(c) Except as otherwise specifically provided herein, Concessionaire shall communicate with UMD through the UMD Program Manager. Verbal communications that have a material effect upon the Project or

Concessionaire's performance of its responsibilities hereunder shall be confirmed in writing and delivered to the UMD Program Manager.

PART 3: PROJECT DOCUMENTS

3.1 DESIGN CRITERIA. Concessionaire shall perform these Construction Requirements in compliance with the Design Criteria, subject to the following conditions:

3.1.1 The Design Criteria establish minimum architectural and engineering standards for work performed on UMD's campus. Pursuant to Section 9.3 of the Operating Requirements, Concessionaire may propose changes to the applicable Design Criteria that it believes would enhance the operational efficiency or reliability of a Project, reduce its Project Price, or confer other benefits on UMD. Upon UMD's approval of any change, the Parties shall amend the Project Documents as necessary to reflect the change.

3.1.2 Concessionaire shall not be required to comply with a Design Criteria standard if either (a) such standard is explicitly contradicted by the Concession Agreement, provided that Concessionaire notifies the UMD Program Manager of the conflict and the UMD Program Manager does not object to Concessionaire's approach within 5 Business Days following its receipt of such notice, or (b) such standard is not applicable to the subject Project as established by the Change Order approving such Project or, in the case of the Phase I Capital Improvements, Appendices P-2 through P-5.

3.1.3 In the event two or more applicable Design Criteria standards for a Project conflict, Concessionaire shall notify UMD of the existence of such conflict, shall recommend the standard most appropriate in accordance with Industry Standards for Comparable Energy Systems, and shall explain its recommendation. UMD's review of, and decision on, such recommendation shall be completed promptly, but in no case more than 5 Business Days from its submission.

3.1.4 For the purposes of the Phase I Capital Improvements, Concessionaire shall comply with the Design Criteria in effect at the BAFO Deadline. For all Additional Capital Improvements, Concessionaire shall comply with the Design Criteria in effect on the date of the Change Order or Concession Agreement amendment authorizing the Project.

3.2 INDUSTRY STANDARDS. Concessionaire shall perform its design and construction obligations under the Concession Agreement in accordance with Industry Standards, unless otherwise required by the Project Documents or the Law.

3.2.1 For the Phase I Capital Improvements, Concessionaire shall comply with the Industry Standards and Laws that are in effect on the BAFO Date. For all Additional Capital Improvements, Concessionaire shall comply with the Industry Standards and Laws in effect on the date of the Change Order or Concession Agreement amendment authorizing the Project.

3.2.2 If 2 or more applicable Industry Standards establish conflicting requirements for a Capital Improvement, Concessionaire shall comply with the Industry Standard that, in Concessionaire's opinion, best conforms to the principles set forth in Section 1.3 of the Base Concession Agreement. Concessionaire shall notify the UMD Program Manager of the existence of such conflict and provide a detailed explanation of its selection. UMD's review of, and decision on, such recommendation shall be completed promptly, but in no case more than 5 Business Days from its submission.

3.3 PLANS AND SPECIFICATIONS.

3.3.1 *PRELIMINARY DESIGN DOCUMENTS*. Immediately following the Initial Financial Closing for each Phase I Capital Improvement Project and immediately upon its receipt of a Notice to Proceed for all other Projects, Concessionaire shall prepare the Preliminary Design Documents necessary to secure all Governmental Authorizations. Concessionaire shall furnish such Preliminary Design Documents to, and review them with, the UMD Program Manager and the UMD Engineer.

3.3.2 *PLANS AND SPECIFICATIONS.*

(a) *[intentionally omitted]*;

(b) All Plans and Specifications must be:

(1) Prepared in compliance with the Agreement, Industry Standards, the Design Criteria, and all applicable Laws;

(2) Prepared so that all Capital Improvements as constructed and installed are capable of providing Full Requirements Energy Services in accordance with the applicable KPIs; and,

(3) Prepared by qualified architects and engineers employed or engaged by Concessionaire, the Key Construction Contractor, or a Subcontractor and shall be stamped, sealed, and signed by

architects or engineers registered by the State to the extent required by Industry Standards.

(c) Final Plans and Specifications showing the scope, extent, and character of each Project shall be created in electronic format that is compatible with software utilized by UMD's FM Department of Planning and Construction. Specifications shall be created in Microsoft Word or other commercially standard word processing program and converted to Portable Document Format or other read-only format. In the event neither is commercially available at a reasonable price, Concessionaire shall utilize the UMD standard word processing software.

3.3.3 *REVIEW OF DELIVERABLES AND PLANS AND SPECIFICATIONS .*

(a) *Review under the A/E Agreement.* Notwithstanding the review process set forth in Section 3.3.3(b), the Plans and Specifications for the Phase I Capital Improvements for the Central Energy Plant (Project No. 1) and DTP-4 (Project No. 3) for which Concessionaire has prepared Preliminary Deliverables and Final Deliverables under the A/E Agreement shall be deemed to have been reviewed and, if identified in Exhibit XX, approved in compliance with this Agreement.

(b) *Plans and Specifications Not Reviewed under the A/E Agreement.*

(1) Concessionaire may divide a Project into phases and submit Preliminary Deliverables and Final Deliverables to UMD for approval by phase. Except for its review of Plans and Specification pursuant to Section 3.3.3(a), UMD shall complete its review of each Project's Preliminary Deliverables within 14 days from the date of its receipt of such documents. UMD shall complete its review of a Project's Final Deliverables within 10 days from the date it receives them.

(2) UMD's review of a Project's Preliminary Deliverables and Final Deliverables shall be limited to an assessment whether the Capital Improvements shown conform to the requirements for the Project set forth in the applicable Project Documents. UMD may comment on, and request changes to, the Preliminary Deliverables and Final Deliverables , provided that such comments and changes must be reasonable and focused compliance with the applicable Project Documents.

(3) If UMD requests that Concessionaire change a Project's Preliminary Deliverables and Final Deliverables , Concessionaire shall accept such change and incorporate it into the Project's Final Plans and Specifications, provided that if any such change adversely affects the Project's Project Schedule, the Project Price, the applicable Operating Requirements, or the operation of any Equipment or system, Concessionaire, prior to making such change, shall notify the UMD Program Manager and request a Change Order pursuant to Section 16.2 of the Base Concession Agreement.

(4) Concessionaire shall notify UMD of every material modification of a Project's Final Plans and Specifications occurring after completion of UMD's review thereof and shall deliver modified Final Plans and Specifications to the UMD Program Manager for UMD's review of such modifications.

(5) Final Plans and Specifications shall be incorporated into this Agreement by reference.

(6) Concessionaire shall maintain at the CEP (or at its College Park office) one complete hard copy set and one complete electronic set of the Final Plans and Specifications for all Projects. The hard copy set shall be available for inspection by UMD as provided in Section 13.2 of the Base Concession Agreement. Concessionaire shall maintain the electronic set as As-Built Documents, which Concessionaire shall update on a regular basis to record all changes in the Projects as they occur and the exact location of all Capital Improvements, including, but not limited to, all exposed and concealed pipe runs, valves, plugged outlets, cleanouts, duct banks, drains, utility service points and other control points, and other utility lines and facilities in such manner as will provide a complete, accurate "as-built" record. The location of all pipes or control points (including, those located above suspended ceilings) shall be clearly and accurately noted in the As-Built Documents. As-Built Documents shall be delivered to UMD electronically, in a format satisfactory to UMD, as a condition precedent to its issuance of its Final Completion Certificate.

3.3.4 UMD's review of a Project's Preliminary Deliverables and Final Deliverables under Section 3.3.3 shall not relieve Concessionaire of its responsibilities to complete the Project in accordance with the Project Documents.

(a) In the event Concessionaire identifies specific technical or design matters related to the compliance of a particular aspect of a Preliminary Deliverable of Final Deliverable to the Design Criteria, Concessionaire may submit such matters to UMD for review, provided that such review and approval take place within the time set by Section 3.3.3 hereof. Concessionaire shall be bound by UMD's determination. Any changes regarding such matters after UMD's approval shall be made by Change Order issued pursuant to Section 16.2 of the Base Concession Agreement.

(b) Concessionaire and all others shall look solely to Concessionaire's engineers, architects, consultants, Key Contractors, Subcontractors, and other experts regarding the accuracy, adequacy, or quality of a Project's Final Plans and Specifications for the purpose for which they were prepared, or the functionality of, and the warranties and guarantees given Concessionaire with respect to, Capital Improvements made in accordance therewith.

3.3.5 Concessionaire shall deliver Shop Drawings in an electronic format to the UMD Program Manager for UMD's information and review.

PART 4: PROJECT SITE CONDITIONS

4.1 PROJECT SITE INVESTIGATION. Concessionaire acknowledges that:

4.1.1 Concessionaire has conducted a commercially reasonable due diligence process that included visual inspection of the Energy Systems, examination of the Energy Systems' Records and other information made available by UMD, and identification of applicable legal requirements;

4.1.2 Concessionaire has satisfied itself as to the character, quality, and quantity of the surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from a visual inspection of the Project Sites and its review of other information listed in Section 4.1.1;

4.1.3 Concessionaire set the Project Prices for all Phase I Capital Improvements with such understanding of the conditions likely to be encountered while constructing such Projects as is possible with its due diligence investigation described in Section 4.1.1;

4.1.4 The Project Prices for the Phase I Capital Improvements do not rely on any understanding or representation concerning conditions of the Energy Systems or any potential Project Site made by any UMD Party unless such understanding or representation is expressly incorporated in the Concession Agreement;

4.1.5 UMD does not assume responsibility for any conclusions or interpretations made by Concessionaire on the basis of information made available by UMD; and,

4.1.6 Concessionaire will set the Project Prices for all Additional Capital Improvements, Major Repairs, Replacements, and Material Changes in compliance with this Section and relying on its own knowledge of the Energy Systems and not any understanding or representation concerning the condition of the Energy Systems or any Project Site made by any UMD Party.

4.2 DIFFERING SITE CONDITIONS.

4.2.1 Concessionaire shall accommodate all Project Site conditions in its design for, and construction of, a Project.

4.2.2 Concessionaire shall notify the UMD Project Manager immediately if, during its construction of a Project, Concessionaire encounters any Differing Site Conditions.

(a) Upon receipt of Concessionaire's notice, the UMD Program Manager shall promptly notify appropriate UMD personnel and Governmental Authorities as required.

(b) The UMD Program Manager promptly shall investigate the Project Site condition identified by Concessionaire. The Parties shall proceed in accordance with Sections 21.2.2(h) and 21.3 of the Base Concession Agreement.

(c) The Parties' responsibilities for remediating the presence of a Hazardous Substance or Environmental Matter at a Project Site shall be governed by Section 11.6 of the Base Concession Agreement.

(d) UMD shall not authorize an equitable adjustment in the Project Price or additional time for Project completion unless Concessionaire has notified the UMD Program Manager as provided in this Section 4.2.3 or unless UMD waives such notice.

(e) UMD shall not grant any requests by Concessionaire for an equitable adjustment of a Project Price after a Project's Acceptance.

PART 5: CONSTRUCTION RESPONSIBILITIES

5.1 GENERAL OBLIGATION. Concessionaire shall supervise, inspect, and direct each Project competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to complete each Project in accordance with its Project Documents.

5.2 COORDINATION OF WORK WITH OTHER CONTRACTORS.

5.2.1 *ADJACENT WORK.*

(a) Concessionaire recognizes UMD may, at any time, contract for, and/or perform work on, near, over, or under a Project. Concessionaire further recognizes that other work may be performed on, near, over, or under a Project by another Governmental Authority.

(b) Concessionaire shall cooperate fully with UMD and/or such other Governmental Authority to coordinate all Projects with such other work so long as such cooperation does not adversely affect a Project including, but not limited to, the Project Price, the Project's scope, or the Project Schedule.

5.2.2 Concessionaire agrees that UMD shall decide any and all disputes as to cooperation or coordination between Concessionaire and any contractor for UMD or other Governmental Authority. Concessionaire may request issuance of a Change Order for any inconvenience, delay, interference, or loss it experiences because of the presence and operations of other contractors.

5.3 COOPERATION WITH UTILITIES AND THE PURPLE LINE.

5.3.1 Except as otherwise provided by the Base Concession Agreement, Concessionaire recognizes that completion of a Project may affect or involve facilities, lines, and equipment other than those associated with the Energy Systems and shall include in its Project Prices and in its construction schedules all of the permanent and temporary utility appurtenances in their present or relocated positions, and that no additional compensation (time or cost will be allowed for delays, inconvenience or damage it sustains due to any interference from the said utility appurtenances, the operation of moving them, or the making of new connections thereto if required by the Project Documents.

5.3.2 At points where a Project's construction is adjacent to properties of telephone, water, and power companies, the Purple Line, the Energy Systems, or other service property, damage to which might result in expense, loss, interference, or inconvenience, Concessionaire shall not commence such construction until it has made all arrangements necessary for the protection thereof. No Project shall be undertaken around fire hydrants until provisions for uninterrupted, continued service have been approved in writing by UMD.

5.3.3 Concessionaire shall coordinate the Final Plans and Specifications for each Project with the applicable design criteria for adjacent utilities and the Purple Line. Concessionaire shall notify all affected utility companies, the Purple Line, and UMD prior to performing any work on, over, under, or near their facilities, lines, and equipment. Concessionaire shall be solely responsible for all damage to such facilities, lines, and equipment (including, but not limited to, damage to the Energy Systems) caused by Concessionaire's construction of a Project.

5.3.4 Concessionaire shall cooperate with the owners of any underground or overhead lines in their removal and rearrangement so that these operations may progress in a reasonable manner, that duplication or rearrangement work may be reduced to a minimum, and that services rendered will not be unnecessarily interrupted.

5.3.5 If service by a utility company, the Purple Line, or UMD is interrupted as a result of accidental breakage or other cause, Concessionaire shall promptly notify the proper authority and shall cooperate with such authority in the restoration of service. Concessionaire shall pay all costs incurred by UMD, the Purple Line, or any utility company to restore such services, but shall not be responsible for paying any indirect or consequential damages associated therewith.

5.4 INSPECTION OF PROJECTS

5.4.1 At all times during business hours, Concessionaire shall provide the UMD Program Manager, the UMD Engineer, and other authorized UMD personnel access to a Project for observation and inspection. Concessionaire shall cooperate with UMD in scheduling and facilitating such inspections, shall provide proper and safe conditions for such access, and shall inform UMD of its safety procedures and programs. UMD shall conduct such inspections so as not to interfere with Concessionaire's performance of its obligations under this Agreement or create unreasonable burdens or costs for Concessionaire.

5.4.2 Observations and inspections conducted by UMD are for its exclusive benefit and shall confer no rights upon Concessionaire. UMD's failure to discover Defective construction or work during such observations or inspections, shall not preclude re-inspection and rejection if such construction or work is subsequently found to be Defective.

5.4.3 If any Governmental Authority with a jurisdictional interest in a Project requires a Project to be observed, inspected, or tested, Concessionaire shall make arrangements for such observations, inspections, or tests and shall give UMD timely notice of the dates and times thereof so that UMD may observe if it so desires. Concessionaire shall bear the cost of such observations, inspections, or tests and shall provide the Governmental Authority safe conditions for such access. Any portion of a Project requiring observation, inspection, or testing that is covered or otherwise made inaccessible without the consent, where required, of the Governmental Authority requiring or making the observation, inspection, or test, shall be uncovered, or made accessible by Concessionaire at its sole cost and expense.

5.4.4 UMD may inspect any portion of a Project before it is covered. Concessionaire shall give the UMD Program Manager reasonable notice prior to each such covering by delivering progress schedules for covering activities to the UMD Program Manager during regular Project conferences held pursuant to Section 7.2 hereof and by notifying the UMD Program Manager immediately if such schedules change between conferences. If the UMD Program Manager or the UMD Engineer, after receiving proper notice, does not attend a scheduled covering, UMD shall be deemed to have waived review and inspection of the covered work by its non-attendance.

5.4.5 At any time, UMD may request for covered portions of a Project to be uncovered, observed, inspected, or tested, and Concessionaire shall uncover, expose, or otherwise make available for observation, inspection, or testing that portion of the Project identified by UMD.

(a) If it is found that the uncovered portion of the Project is Defective, Concessionaire shall pay all costs of Repair of such portion.

(b) If the uncovered portion of the Project is not found to be Defective, the NextGen Procurement Officer shall issue a Change Order to authorize an increase in the applicable Project Price or an extension of the applicable Project Schedule, or both, directly attributable to such uncovering, exposure, observation, inspection, and testing. If the Parties are unable

to agree upon the amount of such increase, the matter shall be decided by the NextGen Procurement Officer.

5.5 DEFECTIVE WORK OR CONSTRUCTION.

5.5.1 *UMD'S RIGHT TO NOTIFY CONCESSIONAIRE.*

(a) At any time during construction or testing of a Project, upon the occurrence of any of the following events, the UMD Program Manager shall notify Concessionaire to stop all or part of the work until:

(1) UMD reasonably determines that the Project contains Defective work or construction; or,

(2) UMD reasonably determines that Concessionaire has materially failed to perform the Agreement in accordance with its terms or to correct Defective work.

(b) Except in the case of a wrongful action, erroneous determination of Defective work, or mistaken determination of a failure to perform or to correct Defective work, UMD's right to notify Concessionaire under this Section 5.5 shall not give rise to either of the following duties:

(1) A duty to exercise this right for the benefit of Concessionaire, its surety, or any other person;

(2) A duty to increase a Project Price or alter a Project Schedule to compensate Concessionaire for costs or loss of time arising out of, or related to, any work stoppage.

(c) All UMD notices under this Section 5.5.1 shall be in writing and specifically identified as a Notice of Defects. Such notice shall state it is being issued pursuant to this section 5.5.1 and shall specify exactly which Project or portion thereof is subject to the notice.

(d) If correcting Defective work or construction or a performance failure requires Concessionaire to order the Key Construction Contractor to stop work, Concessionaire shall take all steps necessary and feasible to minimize the incurrence of costs allocable to the work covered by the stop work order during the period of work stoppage.

(e) To the extent reasonably possible, Concessionaire shall continue work on all portions of a Project not subject to a stop work order.

5.5.2 *CORRECTION OF DEFECTIVE WORK OR CONSTRUCTION*. Upon discovering Defective work or construction during a Project's construction or testing, or upon receipt of a notice pursuant to Section 5.5.1, Concessionaire shall correct any and all Defective work or construction, and if necessary, remove such work from the Project Site, and replace it with work or construction that is not Defective. Concessionaire shall pay all costs of correcting any Defective work or construction.

5.5.3 In lieu of requiring correction or removal and replacement of Defective work or construction under Section 5.5.2 hereof, UMD may accept the Defective work or construction, provided:

(a) Concessionaire pays all costs directly attributable to UMD's examination of such Defective work or construction; and,

(b) The NextGen Procurement Officer issues a Change Order decreasing the principal amount of the applicable Project Price to be recovered through the Availability Payment, by such amount as the Parties may agree reflects the diminished value of the Project resulting from the Defective work or condition in terms of service life, efficient operation, or similar loss.

5.6 MAINTENANCE OF PROJECT AND ENERGY SERVICES DURING CONSTRUCTION.

5.6.1 Concessionaire shall maintain each Project during its construction. Such maintenance shall be continuous and effective, prosecuted with adequate equipment and forces to the end that the Project is kept in satisfactory condition at all times and is protected from damage of all kinds in accordance with the terms of the Agreement.

5.6.2 Concessionaire shall not interrupt Energy Services during a Project's construction other than by a Planned Outage. Concessionaire shall limit each Planned Outage's scope and duration to minimize its effect on UMD's operations to the greatest extent reasonably possible, provided that any such outage shall not excuse Concessionaire from satisfying its obligations under the Agreement to provide Full Requirements Energy Services. Concessionaire shall notify the UMD Program Manager at least 21 days prior to any Planned Outage and obtain UMD's approval thereof.

PART 6: MATERIALS AND EQUIPMENT

6.1 GENERAL.

6.1.1 All materials and equipment furnished by Concessionaire for a Project shall conform to the applicable Project Documents.

6.1.2 Unless expressly stated otherwise in the Concession Agreement, Concessionaire shall furnish, or cause to be furnished, and shall assume full responsibility for, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for a Project's construction, installation of Equipment, Start-Up, testing, commissioning, and completion.

6.1.3 Concessionaire shall have full responsibility for coordinating delivery, storage, inspection or rejection, installation, and conformance with the Agreement, of all materials and equipment.

6.1.4 Material and Equipment to be incorporated into a Project that are purchased by Concessionaire in any capacity, Key Contractor, or any Subcontractor shall not be subject to any chattel mortgage, conditional sales contract, or security agreement under which an interest or lien is retained by the Supplier.

6.2 QUALITY OF MATERIAL AND EQUIPMENT

6.2.1 Concessionaire warrants that material and Equipment to be incorporated into a Project shall be new, except as otherwise provided in the Agreement, and of a quality sufficient to meet applicable Industry Standards, and in conformance with the applicable Project Documents. Warranties and guarantees specifically provided in the Agreement shall expressly run to the benefit of UMD. Material and Equipment to be incorporated into a Project shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with Manufacturer Documents and the instructions of the applicable Supplier, except as otherwise provided in the Project Documents.

6.2.2 Upon UMD's request, Concessionaire shall furnish UMD with satisfactory evidence as to the kind and quality of materials and Equipment being used in the Project.

6.3 STORAGE AND HANDLING OF MATERIALS AND EQUIPMENT.

6.3.1 Concessionaire shall store materials and Equipment to assure the preservation of their quality and fitness for incorporation into the intended Project. UMD shall have the right, but not the obligation, to witness any factory inspections of materials and Equipment by Concessionaire and to inspect stored materials and Equipment prior to their use or incorporation into the Project, even though UMD may have inspected such materials and Equipment before storage.

6.3.2 Concessionaire shall handle and store materials and Equipment in such a manner as to preserve their quality and fitness for a Project.

(a) All enclosures for Equipment storage shall be weatherproof.

(b) All valves shall be stored under a roof on pedestals, above ground.

(c) All insulation shall be stored under a cover in accordance with Manufacturer Documents and the instructions of the applicable Supplier.

(d) Concessionaire shall follow all Manufacturer Documents on oiling, protecting, and maintaining Equipment during storage.

6.3.3 Concessionaire shall limit storage of materials and Equipment for use in a Project to the CEP, a DTP, and the Laydown Site.

6.3.4 Concessionaire shall not use or store explosives in the CEP, the Laydown Site, any DTP, any UMD Building, or any other portion of the Campus.

6.3.5 All mechanical and/or electrical Equipment delivered to the site shall be stored in accordance with Manufacturer Documents and the instructions of the applicable Supplier.

6.4 TOOLS AND MACHINERY. All construction tools, equipment, and machinery furnished by Concessionaire or any Concessionaire Party solely for a Project's construction shall be removed upon the Project's completion and Acceptance. Concessionaire shall retain such tools, equipment, and machinery necessary for its management, operation, and maintenance of the Energy Systems.

PART 7: PROJECT CONSTRUCTION PROCESS

7.1 PROJECT SCHEDULE.

7.1.1 Unless delayed by a Relief Event or a Force Majeure Event, Concessionaire shall complete a Project within the time indicated by the Project's Project Schedule. Concessionaire shall develop each Project Schedule to a level of detail sufficient to satisfy UMD that the Project can be successfully completed on or before its Scheduled Substantial Completion Date.

(a) Concessionaire shall develop each Project Schedule using scheduling software based upon an interfaced logic format (Critical Path Method).

(b) Each Project Schedule shall include all activities required for the successful completion of the Project including, but not limited to, permitting, preparation and review of Preliminary Design Documents, engineering, procurement, site development, excavation, erection, Equipment installation, Start-Up, Acceptance Testing, operator training, turnover, and Acceptance.

7.1.2 Concessionaire shall develop each Project Schedule to accommodate UMD's academic and special events calendar.

(a) No later than July 1 of each Contract Year, the UMD Program Manager shall notify Concessionaire of the dates of graduations and other special events for that Contract Year, to the extent they are known.

(b) The UMD Program Manager shall notify Concessionaire promptly upon each change or addition to the dates for graduations and special events schedule that may materially delay a Project's construction in accordance with its Project Schedule. Concessionaire shall accommodate such changed or additional event or events within the existing Project Schedule, but if, after implementing commercially reasonable mitigation measures, the Project's construction cannot achieve its Scheduled Substantial Completion (as previously adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events) solely because of such changed or additional special events, Concessionaire may request a Change Order to add days to the Project Schedule or to pay the Incremental Costs associated with the delay.

7.1.3 A Project's Project Schedule shall establish the baseline schedule for its construction. Concessionaire shall submit a report to the UMD Program Manager at least monthly on the actual progress on the Project during the immediately preceding month. Along with such update, Concessionaire shall deliver a statement of all Project Schedule activities that Concessionaire anticipates will occur during the next 90 days.

7.2 PROJECT CONFERENCES.

7.2.1 *WORK INITIATION CONFERENCE.* Within 20 days after issuance of a Project's Notice to Proceed, a Work Initiation Conference shall be held between UMD and Concessionaire to establish detailed procedures for coordinating the Project's construction with UMD's operations, to establish the format and required content of progress reports, and to address other issues. Within 5 Business Days following such conference, the UMD Program Manager shall prepare and circulate to Concessionaire detailed minutes of the conference, specifically noting the Parties' agreement on each issue discussed. The minutes shall be deemed to be final unless Concessionaire objects in writing within 5 Business Days and notifies UMD of its objection.

7.2.2 *PROJECT STATUS CONFERENCES.* Project status conferences shall be held at regular intervals throughout a Project's design, construction, Start-up, and testing. Such conferences shall be held on a twice monthly basis but may be held more frequently as required by the activities underway. Concessionaire shall prepare and deliver to the UMD Program Manager, an agenda for each conference and a summary of the matters considered and the decisions reached at the conference. At the Parties' discretion, design reviews may take place during project status conferences.

7.2.3 *INFLATION REDUCTION ACT REPORT*. Subject to Sec. on 4.9.2 of the Base Concession Agreement, at each Project status conference, Concessionaire shall prepare and deliver to UMD a status report on its satisfaction of the requirements of the Inflation Reduction Act and any agency interpretations thereof, any implementing regulations (temporary and permanent), guidelines, and protocols, and other related provisions of Law issued on or before July 1, 2023 that the Parties have agreed are necessary to secure the maximum amount of any reimbursement or other payments and incentives for which the Project may qualify.

7.3 CONSTRUCTION OFFICE; RECORDS.

7.3.1 Concessionaire shall maintain a construction office at or near the CEP or at such other location on Campus as may be agreed upon by the Parties.

7.3.2 Concessionaire shall establish and maintain at its construction office all Records and Project Documents for each Project (including all Records related to Concessionaire's compliance with Environmental Laws). Concessionaire shall not destroy any such Records or Project Documents without UMD's prior written consent. Concessionaire shall provide UMD full access thereto during regular business hours for audit, inspection, verification, and copying in accordance with Section 13.2 of the Base Concession Agreement.

7.4 SAFETY AND SECURITY; EMERGENCIES.

7.4.1 Concessionaire shall develop, maintain, supervise, and train personnel on, safety precautions and programs in connection with each Project's construction.

7.4.2 Concessionaire shall take all necessary precautions and shall implement all necessary protections (including the placement of safeguards such as fences, signs, warning lights, and barricades) to prevent damage, injury, or loss to the following Persons and property:

(a) Persons on or off the Campus who may be affected by the Projects;

(b) A Project;

(c) Materials and Equipment to be incorporated in a Project, whether in storage on or off the Campus; and,

(d) Other property on the Campus or adjacent thereto, including, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of a Project.

7.4.3 Any damage, injury, or loss to, Persons or property referred to in this provision, which is caused directly or indirectly, in whole or in part, by Concessionaire, a Key Contractor, Subcontractor, a Supplier, or any other Person directly or indirectly employed by any of them or anyone for whose acts they may be liable, either jointly or separately, shall be remedied by Concessionaire at its sole cost and expense.

7.4.4 In Emergencies, Concessionaire, without special instruction or authorization from UMD, shall take all reasonable actions required to prevent threatened damage, injury, or loss, or mitigate damage, injury, or loss which has occurred. Concessionaire shall notify the UMD Program Manager immediately upon the

occurrence of an Emergency and, as soon as is reasonably possible, shall provide UMD with an analysis of the effects of such emergency on the Project affected.

7.4.5 Concessionaire's duties and responsibilities under the Agreement for safety for Persons and property and the protection of each respective Project shall continue until the Project's Acceptance.

7.5 TRAFFIC CONTROL AND PARKING DURING PROJECT CONSTRUCTION.

7.5.1 During each Project's construction, Concessionaire and all Key Contractors, Subcontractors, and Suppliers shall comply with the following traffic control requirements:

(a) Concessionaire shall comply with lane closure procedures and safety measures under each Project's Traffic Control Plan.

(b) Pedestrians shall be able at all times to exit safely, rapidly, and in mass from UMD Buildings located near the construction area. Except for circumstances where Concessionaire has obtained the prior written approval of UMD, at no time shall Concessionaire block access to a UMD Building in such a way that pedestrians must pass through a construction area.

(c) Vehicular and pedestrian traffic control devices shall meet State Highway Administration Standards including signage, barricades, lights, lane markings, steel plates, flags, and flag persons.

(d) Campus thoroughfares shall not be used as haul routes on a regular basis. Limited use of campus thoroughfares may be allowed with UMD's approval.

(e) Materials, equipment, and supplies shall not be stacked or stored on Campus thoroughfares without UMD's approval.

(f) Concessionaire must remove dirt, mud, and debris associated with a Project's construction from Campus thoroughfares on a daily basis.

(g) If a Project's construction requires a temporary roadway, Concessionaire shall provide asphalt roadways capable of bearing conventional and construction-related vehicular traffic as required to maintain traffic flow.

(h) Concessionaire shall maintain access for Emergency vehicles and fire-fighting equipment and access to all fire hydrants.

7.5.2 Prior to commencing construction of a Project, Concessionaire shall develop and submit to UMD for approval a Traffic Control Plan that shall identify the roadways, parking areas, and sidewalks to be impacted by the Project's construction and demonstrate how Concessionaire intends to comply with the requirements set forth in this Section. Such Plan shall include the following information:

(a) Drawings showing proposed closures, detour routes, changes to traffic patterns, lane shifts, narrowing of roadways, temporary roadways, and proposed haul road and site access locations;

(b) Changes in parking area access, parking patterns, parking space availability, vehicular (including Emergency vehicle) access to UMD Buildings, and pedestrian access/egress to or from UMD Buildings near the Project site, and any proposed thoroughfare closings;

(c) The location and type of all signage, barricades, lights, lane markings, steel plates, temporary roadway construction, temporary sidewalk construction, and flag persons to be utilized to effectively maintain traffic or route vehicular and pedestrian traffic through or around the impacted area during daylight and nighttime conditions;

(d) Separate drawings for daylight and nighttime conditions if traffic control will vary in any respect from day to night; and,

(e) Any other information necessary to demonstrate compliance with the requirements set forth in Section 7.5.1 hereof.

7.5.3 Parking for Concessionaire, Key Contractor, Subcontractor, and Supplier personnel and consultants shall be allowed only within the limits of the construction area for a specific stage of a Project and only during working hours, provided, however, that Concessionaire shall pay all fees and charges for such parking. If adequate space is not available within the limits of the construction area, Concessionaire shall provide off-campus parking and shuttle services for construction personnel at Concessionaire's expense. All Concessionaire, Key Construction Contractor, Subcontractor, and Supplier personnel or consultants shall comply with all UMD parking regulations.

7.6 HAZARDOUS SUBSTANCES; EROSION; NOISE POLLUTION.

7.6.1 *HAZARDOUS SUBSTANCES.*

(a) Concessionaire shall not bring any Hazardous Substance onto the Campus during a Project's construction, except as required to complete such construction or to operate and maintain the Energy Systems under Section 10.8.1 of the Operating Requirements. Concessionaire shall dispose of all Hazardous Substances in -compliance with the Law.

(b) Concessionaire shall be responsible for all Waste generated during a Project's construction and for all Waste transported to or from, moved or used, or stored upon, a Project Site by the Concessionaire or a Concessionaire Party. Concessionaire shall manage and dispose of Waste in compliance with the Law and Prudent District Energy Practices. Concessionaire and all Concessionaire Parties shall not commingle any Waste generated in Project construction with any waste generated by UMD.

7.6.2 Concessionaire shall be responsible for all sediment, silt, and erosion control, within or adjacent to a Project caused by the Concessionaire or any Concessionaire Party. If Concessionaire fails to prevent such sedimentation, erosion, or siltation, UMD may, after notifying Concessionaire and providing it an opportunity to cure of not more than 2 days, mitigate or correct such sedimentation, erosion, or siltation conditions. Concessionaire shall pay UMD an amount equal to UMD's costs and expenses promptly upon its receipt of an invoice for that amount.

7.6.3 Concessionaire shall develop and maintain a noise-abatement program and shall enforce strict discipline over all Concessionaire, Key Contractor, Subcontractor, and Supplier personnel to control noise pursuant to such program. Unless otherwise approved by the UMD Program Manager in writing, construction activities on a Project Site or any portion thereof that produces noise beyond the Project Site's boundary, including the starting and operating of construction motors and engines, the delivery of construction material, and the removal of construction debris, shall not occur during the hours from 7:00 p.m. to 7:00 a.m. on weekdays and 7:00 p.m. to 8:00 a.m. on weekends and holidays recognized by the State.

7.7 SUSPENSION OF CONSTRUCTION.

7.7.1 The NextGen Procurement Officer may order Concessionaire in writing to suspend, delay, or interrupt temporarily all or any part of a Project's construction for UMD's convenience for such period as may be appropriate under the circumstances.

7.7.2 If the performance of all or any part of a Project is suspended, delayed, or interrupted by the NextGen Procurement Officer pursuant to this Section 7.7 and such suspension, delay, or interruption extends for more than 10 Business Days, or if the aggregate of all suspensions, delays, or interruptions under this Section 7.7 impacting the Project is greater than 15 Business Days, the UMD Program Manager shall convene the Program Implementation Council to consider whether such suspension, delay, or interruption shall be continued.

7.7.3 Concessionaire may request, and UMD may approve, a Change Order to address the net adverse impacts of the suspension, delay, or interruption of a Project Schedule or a Project Price beginning on the day after the issuance of the NextGen Procurement Officer's suspension order. Any such Change Order shall take into account the extent to which the Project's construction would have been suspended, delayed, or interrupted by any other cause, including the fault or negligence of Concessionaire.

7.8 SUBSTANTIAL COMPLETION.

7.8.1 *START-UP*.

(a) Concessionaire shall notify the UMD Program Manager at least 30 days prior to the date on which Concessionaire intends to Start-Up a Project. Concessionaire shall also notify all Governmental Authorities as required by Law, as well as all interested utilities.

(b) Excluding the cost of Commodities, Concessionaire shall pay all costs (but not Consequential Damages) incurred during a Start-Up period and permitted under the Agreement.

(c) *Punch-List Work.*

(1) No later than 30 days prior to the then-scheduled date of Substantial Completion, Concessionaire shall prepare and deliver to UMD a single, proposed Punch-List setting forth all of the items of work that remain to be performed to complete the work,

provided, that, unless UMD otherwise consents in writing, such items of work on such list shall only be items that are (i) minor in nature, (ii) not related to the safe or reliable operation of the Energy Systems, and (iii) not related to the compliance of the Energy Systems with any applicable laws or permits. The proposed Punch-List shall also state the proposed time limits within which Concessionaire will complete each of such remaining work items.

(2) UMD shall review the proposed Punch-List and notify Concessionaire in writing within 15 days after its receipt of any proposed revisions (including additions) thereto.

(3) Within 10 days thereafter, UMD, Concessionaire, and the Key Construction Contractor shall meet and consult in good faith to agree upon the definitive, final, single Punch-List (including the approved time limits within which Concessionaire will perform such remaining work items).

(4) Upon the Parties' approval of the final Punch-List, Concessionaire shall promptly begin performing the items thereon

7.8.2 *ACCEPTANCE TESTS*. Concessionaire shall schedule Acceptance Tests in accordance with the applicable Project Schedule and shall conduct them in accordance with the applicable Acceptance Test protocols. Concessionaire shall notify UMD at least 5 Business Days prior to the date upon which any Acceptance Test is to be conducted. UMD shall be represented at each Acceptance Test by the UMD Program Manager, the UMD Engineer, and by such other agents and representatives as UMD deems necessary in the exercise of its sole discretion.

7.8.3 *SUBSTANTIAL COMPLETION NOTICE.*

(a) When, upon completion of all Acceptance Tests for a Project, Concessionaire anticipates the Project will be ready for its intended use, Concessionaire shall deliver to the UMD Program Manager a sworn verification of the Acceptance Test results and a letter proposing a Substantial Completion Date ("Substantial Completion Notice"). The Substantial Completion Notice will be delivered no later than 15 Business Days prior to the proposed Substantial Completion Date and shall contain the following:

(1) Concessionaire's certification that the results of the verified Acceptance Test demonstrate that the Project (or portion thereof) tested has met or exceeded applicable Industry Standards and OEM rating and is capable providing Energy Services in accordance with the KPIs;

(2) Concessionaire's certification that the Project tested has been constructed in conformance with all Project Documents;

(3) If applicable, Concessionaire's certification that the Project tested meets or exceeds the requirements of Law and all Governmental Authorizations necessary to operate the Project and that all documents required to obtain such Governmental Authorizations have been filed, accepted, and approved by the appropriate federal, state, or local Governmental Authority; and,

(4) Concessionaire's request that UMD accept the Project as tested.

(b) Within 5 Business Days following receipt of Concessionaire's Substantial Completion Notice for a Project, the UMD Program Manager and the UMD Engineer shall inspect the Project to determine the status of its completion.

(c) *Agreement with Substantial Completion Notice.* If, after completing its inspection of the Project and its review of the Substantial Completion Notice, UMD accepts the verified Acceptance Test results and Concessionaire's certifications, UMD shall notify Concessionaire of such acceptance no later than 10 Business Days following its receipt of the Notice. The date on which UMD receives Concessionaire's Substantial Completion Notice shall then be deemed as the Actual Substantial Completion Date.

(d) *Disagreement with the Substantial Completion Notice.* If UMD disagrees with any of the representations contained in the Substantial Completion Notice, UMD shall deliver to Concessionaire a written statement, along with supporting documents, specifically identifying the basis for its disagreement. No later than 20 days following the date of UMD's notice, Concessionaire shall notify the UMD Program Manager that the identified deficiencies have been addressed and that Concessionaire believes that Substantial Completion has been achieved or that Concessionaire expects to address such deficiencies by the date specified in the notice.

(e) *Disputes Regarding Substantial Completion.* In the event that any difference or disagreement arising out of, connected with or relating in any way to the achievement of Substantial Completion, the Parties shall make a diligent, good faith attempt to resolve such difference or disagreement. If the authorized representatives of the Parties are unable to resolve such difference or disagreement within 10 days after notice from one Party to the other, such difference or disagreement will be submitted promptly to the Parties' senior executive officers, who will meet in person or by telephone within 10 days after the date such difference or disagreement was submitted to them. These officers shall exchange relevant information and attempt to resolve such difference or disagreement. In the event that the senior executive officers cannot resolve such difference or disagreement within 5 Business Days after their first meeting or as the Parties may otherwise agree, then, the dispute will be resolved by the Dispute Resolution Process,

7.9 FINAL COMPLETION CERTIFICATION.

7.9.1 Concessionaire shall notify the UMD Program Manager upon completion of the Punch-List. The UMD Program Manager shall inspect the Project to confirm such completion.

7.9.2 Concessionaire shall remove all temporary facilities related to the Project's construction. Concessionaire shall also deliver all As-Built Documents for the Project to the UMD Program Manager.

7.9.3 If, on the basis of the UMD Program Manager's inspection of the Project, UMD is reasonably satisfied that the Project is completed and Concessionaire's obligations under the applicable Project Documents have been fulfilled, UMD shall issue its Final Completion Certificate.

7.10 CLEANING UP. At all times, Concessionaire shall keep the construction area, including the Laydown Site, access roads, and all storage areas, free from accumulations of Waste and prior to completion of a Project, remove all Waste from the Project site, as well as all tools, scaffolding, equipment, and materials not otherwise required to perform Concessionaire's obligations under the Concession Agreement. Upon completion of a Project, Concessionaire shall leave the Project and the Project site in a clean and neat condition satisfactory to the UMD Program Manager.

7.11 CORRECTION OF DEFECTIVE WORK.

7.11.1 *STANDARD OF PERFORMANCE*.

(a) [Reserved]

(b) At a minimum, Concessionaire shall require the Key Construction Contractor to warrant that:

(1) All Project work has been completed with that degree of skill and judgment normally exercised by recognized engineering and construction firms performing engineering and construction services of a similar nature and that the Project's construction is free from Defective work; and,

(2) All permanent plant, Equipment, and materials supplied by or through Concessionaire for a Project shall conform to the terms of the Concession Agreement, including Section 6.2 hereof, and the Project Documents, if not otherwise expressly specified in the applicable Design Criteria.

7.11.2 *REMEDIES.*

(a) Upon notice received from UMD during the Warranty Period with respect to any Defective work, Concessionaire shall without delay and in a manner satisfactory to UMD after consulting with Concessionaire, and at Concessionaire's own risk and expense:

(1) Construction: Re-perform or cause to be re-performed any construction work that is found to be Defective;

(2) Equipment and Materials: Take such steps as may be necessary to repair or replace (at Concessionaire's option) any equipment or materials, supplied by Concessionaire found to be Defective; and

(3) Other Damage: Subject to any applicable limitation of liability, repair or replace any portion of the Energy System damaged as a result of any such Defective work or damaged by any reperformance or repair.

(b) Concessionaire shall perform its obligations under this Section 7.11 in a manner that minimizes disruptions to the Energy Systems.

(c) If Concessionaire does not promptly commence to take action required under this Section 7.11 and continue to diligently take such action until the Defect or damage is remedied, UMD may proceed with any activities necessary to remedy such Defect or damage, and Concessionaire shall be liable to and shall indemnify UMD for any and all reasonable costs and expenses incurred by UMD in so doing.

7.11.3 *WARRANTY PERIOD.* Concessionaire's obligations and liabilities under this Section 7.11 with respect to a Project shall commence upon the Actual Substantial Completion Date and shall extend for 12 months thereafter; provided that any re-performance, repair, or replacement work shall be re-warranted for 12 months after the completion of such work, but in no event shall any Warranty Period be extended beyond 24 months after the Actual Substantial Completion Date, and all obligations and liabilities of the Key Construction Contractor shall cease upon expiration of such period except as provided by Law.

7.11.4 *NOTICE*. UMD shall deliver a notice of an alleged Defect not later than 30 days after actual discovery and understanding the Defect's existence. Any such notice of Defect shall state with reasonable specificity the date of occurrence or observation of the Defect and the reasons supporting UMD's belief concerning the alleged Defect. Concessionaire shall respond to any such notice not later than 20 days after receipt, or within 24 hours if the Defect prevents the Energy System from operating at its full capabilities. Concessionaire shall promptly commence the appropriate re-performance, repair, or replacement, consistent with Section 7.11.2.

7.11.5 *CONCESSIONAIRE NOTICE.* Concessionaire shall promptly advise UMD of any Defects in the work that it discovers or becomes aware of, during the Warranty Period, and Concessionaire shall promptly commence the appropriate re-performance, repair, or replacement, consistent with Section 7.11.2.

7.11.6 *UMD CAUSED DEFECT; FORCE MAJEURE*. The obligations and liabilities of Concessionaire under this Section 7.11 do not extend to any repairs, adjustments, alterations, replacements, or maintenance that may be required to the extent caused by a Force Majeure Event; to the extent caused by UMD; to the extent caused by erosion, or normal wear and tear in the operation of the Project; or to the extent caused by willful misconduct or negligent acts or omissions of UMD or UMD's employees, agents, or other contractors.

7.11.7 *NO IMPLIED WARRANTIES*. EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH IN THIS CONCESSION AGREEMENT, CONCESSIONAIRE MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR PURPOSE, RELATING TO DESIGN OR OTHER SERVICES, OR TO EQUIPMENT OR MATERIALS, TO BE SUPPLIED BY CONCESSIONAIRE UNDER THIS CONCESSION AGREEMENT OR TO THE PROJECT. THE PARTIES AGREE THAT THE REMEDIES SET FORTH IN THIS SECTION 7.11 ARE UMD'S SOLE AND EXCLUSIVE REMEDIES WITH RESPECT TO ANY DEFECT IN THE WORK.

7.11.8 *LIMITATION OF WARRANTY*.

(a) The obligations of Concessionaire under this Section 7.11 do not extend to any Defect to the extent caused by repairs, adjustments, alterations, replacements, or maintenance performed by persons other than Concessionaire, any affiliate of Concessionaire or Key Contractor or Subcontractor, or any other person at the direction of Concessionaire; provided that in emergency conditions, including periods when the Energy Systems are not capable of operating at its full capabilities, UMD or its designees shall be entitled to perform such work without such loss of warranty coverage so long as UMD or its designees perform such work in accordance with the Concession Agreement, and in accordance with Prudent District Energy Practices, Concessionaire's and any supplier's operating and maintenance manuals to the extent previously provided to UMD, any other direction from Concessionaire or the supplier of the Equipment to the extent that it is reasonably provided to UMD and direction from anyone reasonably qualified to provide such direction.

(b) In the event Concessionaire finds any errors, defects or deficiencies in the corrective work performed by a third party, Concessionaire shall notify UMD in writing and detail the errors, defects or deficiencies, and the potential impact on the Energy System, after which UMD may:

(1) Issue a Change Order to Concessionaire to perform any necessary remedial work to correct the issue;

(2) UMD may accept the work as performed in which case Concessionaire and its suppliers and subcontractors shall have no further liability for or obligation with respect to such portion of the work; or,

(3) UMD may arrange for the work to be performed by a qualified third party.

7.12 FAILURE TO COMPLETE A PROJECT BY ITS SCHEDULED COMPLETION DATE.

7.12.1 This provision applies to all Projects other than the Projects to complete the Phase I Capital Improvements.

7.12.2 The Parties recognize that it would be difficult, if not impossible, to determine with precision the amount of damages UMD may incur as the result of Concessionaire's failure to complete a Project by its Scheduled Substantial Completion Date. Therefore, in the event that Concessionaire does not complete a Project by its Scheduled Substantial Completion Date (as adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events), Concessionaire shall be liable to UMD for liquidated damages equal to a daily amount set by the Program Implementation Council on a Project-by-Project basis when it approves the Change Order, Concession Agreement amendment, or other document authorizing the Project. Such daily amount shall be based upon the additional cost of Commodities incurred by UMD, the costs associated with continued disruption of traffic and UMD activities, and other adverse impacts of the delay on UMD. The total liquidated damages shall be equal to this daily amount multiplied by the number of days between the Scheduled Substantial Completion Date (as adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events) and the Actual Substantial Completion Date.

7.12.3 Concessionaire shall not be liable to UMD for the payment of liquidated damages under this Section 7.12 for those days following the Scheduled Substantial Completion Date (as adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events) that Concessionaire provides service to UMD through the use of temporary equipment, provided that such service is equivalent to the service that Concessionaire would have provided to UMD if the Project had been completed on the Scheduled Substantial Completion Date (as adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events). In no event shall such temporary service exceed 60 days. Concessionaire shall pay damages to UMD under this Section within 30 days after UMD requests such payment in writing, but in no event later than the date of UMD's issuance of its Final Completion Certificate.

7.12.4 The Parties agree that the amounts payable pursuant to this Section 7.12 are in the nature of liquidated damages and not a penalty and are fair and reasonable

in order to compensate UMD for damages it will incur as a result of the Concessionaire's failure to meet a Project's Scheduled Substantial Completion Date (as adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events). Any amount paid pursuant to this Section 7.12 is in lieu of any and all liability of the Concessionaire otherwise and constitute UMD's sole right to damages for any and all losses, whether direct, special, or consequential, and of any nature whatsoever incurred by UMD as a result of Concessionaire's failure to meet the Scheduled Substantial Completion Date (as previously adjusted pursuant to Section 21.3 of the Base Concession Agreement for any Relief Events or Force Majeure Events).

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT
APPENDIX P-12

FINAL DELIVERABLES UNDER THE AGREEMENT FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR WHICH UMD REVIEW HAS BEEN COMPLETED

[Note to Draft: To be populated prior to the Effective Date based on current status.]

UNIVERSITY OF MARYLAND, COLLEGE PARK
NEXTGEN ENERGY PROGRAM

ENERGY SERVICES CONCESSION AGREEMENT

APPENDIX Q

ACADEMIC COLLABORATION

One of the most compelling and exciting features of the NextGen Program is the opportunity to transform the infrastructure on campus into a resource for learning and develop connections between the University and the private sector that will bolster the academic and student experience at UMD. MEIP's team members understand the magnitude of the potential for positive student outcomes and innovation that can be achieved through our partnership. Our team members are experienced at working in university settings and developing valuable student, faculty, and community engagement opportunities. Based on the success of past experiences and our understanding of UMD's student body, programs of study, extracurriculars and research expertise, our team has developed an initial set of academic collaboration initiatives that will support the academic, research, and student community at UMD with full compliance of applicable UMD academic policies such as those referenced in the RFP.

The academic collaboration plan is intended to be a plan that can adapt and develop over time with input and collaboration from key stakeholders. To turn these ideas into reality, our team will select an academic collaboration lead and develop an academic collaboration task force composed of representatives from MEIP and UMD. The task force will provide the ongoing focus and collaboration that will be required to develop and implement these programs and to bring to life new ideas and programs that will grow out of our long-term partnership. This constant communication will ensure collaboration is sustained through the full term and that new and innovating ideas have a forum to be proposed.

The graphic on the following page summarizes the key components of MEIP's proposed academic collaboration plan and demonstrates how each of UMD's and MEIP's strengths will be combined to deliver a three-tiered academic collaboration program focused on academic, research, and student community collaboration.

STRENGTHS OF UMD

- Diverse student body
- Maryland's most promising students, regardless of income
- Strong engineering programs including the Clark School of Engineering
- Large annual research budget to support research scientists, engineers, and students
- World-class research institutes and facilities on campus including the Maryland Energy Innovation Institute, the University of Maryland Energy Research Center, and the Discovery District

ACADEMIC COLLABORATION PLAN

ACADEMIC COLLABORATION PROGRAM

- Energy Systems as an experiential learning resource
- Site tours including virtual tours of other sites we operate
- Faculty Scholars program
- Enhance curricula and develop educational materials
- Guest lectures from our key personnel
- Industry-leading training programs
- Student energy efficiency competitions
- Student participation in decarbonization technology screening

RESEARCH COLLABORATION PROGRAM

- Sustainability-focused research grants
- Recurring open houses with professors and researchers to discuss how we can help advance patents and publications
- Utility system data provided to students
- Decarbonization strategy development and execution

STUDENT COMMUNITY INITIATIVES

- Ten annual scholarships during the Phase I Capital Improvement Period and Five annually following Substantial Completion
- Ten annual paid internships during construction and five annual internships following Substantial Completion
- Recruitment of students in engineering, human resources, safety, quality, and business management

STRENGTHS OF MEIP

- Experience working on campuses and developing experiential learning opportunities

DIVERSITY, EQUITY AND INCLUSION ("DEI")

Diversity, Equity and Inclusion ("DEI") is the foundation of our academic collaboration plan, and will be an area of focus for the academic, research, and student community initiatives

- Support and mentorship related to DEI
- Involvement with various organizations on campus (Minorities in Science and Engineering, Society of Women Engineers, the Women in Engineering (WIE) Program)
- Women in Construction and Engineering Leadership Seminar (Kiewit)

Figure 2.2-1: The key components of MEIP's proposed academic collaboration plan

The table below provides an overview of each initiative, its key features, and the anticipated benefits for UMD's student body, its faculty, and the broader UMD community.

Table 2.2-1: Initiative overview

ACADEMIC INITIATIVES	PROGRAMS	BENEFITS
Experiential Learning	• Energy systems as a lab • In-person and virtual site tours • Student participation in technology screening • Enhance curricula and develop educational materials for students across a broad range of fields of study	• UMD faculty and students can leverage UMD NextGen facilities as assets for learning and engagement • Students will appreciate the nuances of the energy transition and play a role in UMD's selection of energy generation technology
Faculty Engagement	• Participation in Kiewit's Faculty Scholars program • Participation in Kiewit's Faculty Open House program	• UMD faculty will have opportunities to engage directly with industry and transfer knowledge
Guest Lectures	• Lectures from MEIP key team member professionals covering the full spectrum of construction management, operations and project financing	• UMD students will gain access to insights and experience of market-leading construction, engineering, sustainability, and project finance professionals
Industry-Leading Training Programs	• Occupational safety and health administration training provided for free to students • InEight software access to be provided for free to UMD, and support for students and faculty through InEight InSchool • Women's leadership development, including student participation in Kiewit's Future Women in Kiewit Summit	• Regardless of intended career path, students and faculty can benefit from comprehensive safety education • Computer science students and others will gain access to market-leading software platforms • Female students will gain access to comprehensive leadership training opportunities
Energy Efficiency and Environmental Stewardship	• Hosting educational workshops and sustainability awareness events/competitions	• Creative and dynamic events will complement existing sustainability education efforts on campus

RESEARCH INITIATIVES	PROGRAMS	BENEFITS
Sustainability-Focused Research Grants	• A biennial grant of $50,000 for research projects	• UMD research teams will be provided with meaningful and ongoing financial support
Faculty Open Houses	• Research focused workshops with MEIP, faculty, and students to share information in an informal setting	• Transparent and collaborative open houses and workshops will facilitate productive relationships
Utility System Data	• Providing UMD-approved utility system data to students and faculty for research purposes	• Real-world data and energy system insights will allow students to model prospective solutions and alternatives
Decarbonization Strategy Development and Execution	• Collaborate with faculty and students on decarbonization solutions. This includes a selection of an Advisory Board from the UMD community that would participate in a quarterly forum with MEIP to discuss decarbonization ideas	• UMD students and faculty can help shape the future of the campus and contribute to highly impactful and lasting energy solutions
STUDENT COMMUNITY INITIATIVES	**PROGRAMS**	**BENEFITS**
Scholarships	• Annual scholarships for incoming and current UMD students. MEIP will provide ten $5,000 scholarships to UMD students annually during the Phase I Capital Improvement Period and five annually following Substantial Completion, to cover 50% tuition scholarships for full-time undergraduates qualifying as State residents	• Students from a variety of backgrounds will have the opportunity to access significant financial aid
Paid Internship Opportunities and Recruitment	• A minimum of 10 annual paid internships for UMD students during the Phase I Capital Improvement Period and 5 annual paid internships following Substantial Completion with MEIP key team member companies	• UMD students will access market-leading internship programs, accompanying support networks, and full-time opportunities
Sustainability Events and Communications	• Support and participation from MEIP at sustainability-focused events, presentations, and online forums	• Sustainability-focused groups at the UMD campus can leverage the deep experience across the MEIP team to advance awareness and adoption of sustainable practices