

# **Stormwater Pollution Prevention Plan**

## **For:**

*University of Maryland*  
1101 Main Administration Building  
7901 Regents Drive  
College Park, MD 20742  
(301) 405-1000

## **SWPPP Contact(s):**

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## **SWPPP Preparation Date:**

**July 2017**

## Table of Contents

<b>SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION .....</b>	<b>1</b>
1.1 Facility Information .....	1
1.2 Contact Information/Responsible Parties .....	2
1.3 Stormwater Pollution Prevention Team .....	2
1.4 Activities at the Facility .....	3
Drainage Area 1 .....	4
Drainage Area 2 .....	5
Drainage Area 3 .....	6
Drainage Area 4 .....	7
Drainage Area 5 .....	8
Drainage Area 6 .....	9
1.5 General Location Map .....	9
1.6 Site Map .....	9
<b>SECTION 2: POTENTIAL POLLUTANT SOURCES .....</b>	<b>10</b>
2.1 Industrial Activity and Associated Pollutants .....	10
2.2 Spills and Leaks .....	11
2.3 Non-Stormwater Discharges Documentation .....	12
2.4 Salt Storage .....	13
2.5 Visual Monitoring Summary .....	13
<b>SECTION 3: STORMWATER CONTROL MEASURES .....</b>	<b>14</b>
3.1 Minimize Exposure .....	14
3.2 Good Housekeeping .....	15
3.3 Preventative Maintenance .....	16
3.4 Spill Prevention and Response .....	18
3.5 Erosion and Sediment Controls .....	19
3.6 Management of Runoff .....	20
3.7 Salt Storage Piles or Piles Containing Salt .....	20
3.8 12-SW Sector-Specific Non-Numeric Effluent Limits .....	20
3.9 Employee Training .....	21
3.10 Potable Water Discharges .....	22
3.11 Non-Stormwater Discharges .....	22
<b>SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING .....</b>	<b>23</b>
<b>SECTION 5: INSPECTIONS .....</b>	<b>24</b>
5.1 Routine Facility Inspections (Quarterly Site Inspection) .....	24
5.2 Quarterly Visual Inspection (Quarterly Water Sampling) .....	24
5.3 Comprehensive Site Compliance Evaluation (Annual Site Inspection) .....	25
5.4 Corrective Actions .....	25
<b>SECTION 6: SWPPP CERTIFICATION .....</b>	<b>27</b>
<b>SECTION 7: SWPPP MODIFICATIONS .....</b>	<b>28</b>

## **Appendices:**

Appendix A            **General Location Map**

Appendix B            **Site Map**

Appendix C            **University of Maryland's 12-SW Permit**

Appendix D            **Notice of Intent (NOI)**

Appendix E            **Exposed Materials**

Appendix F            **Quarterly Visual Monitoring**

Appendix G            **Routine Quarterly Facility Inspection**

Appendix H            **Comprehensive Site Investigation**

Appendix I            **Previous Years Annual Inspection**

Appendix J            **Spill Record**

Appendix K            **Training Materials**

Appendix L            **Industrial Stormwater Monitoring and Sampling Guide**

Appendix M            **Corrective Actions**

Appendix N            **Best Management Practices (BMPs) Fact Sheets**

## SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

### 1.1 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

State Discharge Permit Registration Number: 08-DP-2618

State Municipal Separate Storm Sewer System Permit: 05-SF-5501

State Stormwater Discharge Permit: 12-SW-

Latitude:

38.9847 ° N (decimal)

Longitude:

- 76.9662 ° W (decimal)

Estimated area of industrial activity at site exposed to stormwater: 22.5 acres

Primary SIC Code or 2-letter Activity Code: 8221 (Colleges, Universities, and Professional Schools)

Identify your applicable sector and subsector: AD.b: School Bus Maintenance Facilities

Name and 8 digit identifier of the receiving water body: 02140205 (Anacostia River)

Are any of your discharges directly into any segment of an "impaired" water? ☒ Yes ☐ No

If Yes, identify name of the impaired water (and segment, if applicable): Anacostia River

Identify the pollutant(s) causing the impairment: Bacteria (Enterococcus), Biochemical oxygen demand (BOD), Ions (chlorides, sulfates), Nutrients (nitrogen, phosphorus), Polychlorinated Biphenyls (PCBs), Pesticides (Heptachlor Epoxide), Stream Modifications (channelization, lack of riparian buffer), Debris/Floatables/Trash, Sediments (total suspended solids).

For pollutants identified, which do you have reason to believe will be present in your discharge? None

For pollutants identified, which have a completed TMDL? BOD, Debris/Floatables/Trash, Enterococcus, Nitrogen, Phosphorus, PCBs, Total Suspended Solids (TSS).



Do you discharge into a high quality receiving water designated as a Tier 2 water? ☐ Yes ☒ No

## ***1.2 Contact Information/Responsible Parties***

### **Facility Operator (s):**

Name: University of Maryland, College Park  
Address: 1101 Main Administration Building, 7901 Regents Drive  
City, State, Zip Code: College Park, MD 20742

### **Facility Owner (s):**

Name: University System of Maryland - Maureen Kotlas, Executive Director, Department of Environmental Safety, Sustainability & Risk  
Address: Seneca Building, 4716 Pontiac Street  
City, State, Zip Code: College Park, MD 20742  
Telephone Number: 301-405-3960  
Email address: mkotlas@umd.edu

### **SWPPP Contact:**

Name: Jason Baer, Assistant Director of Environmental Affairs  
Telephone number: 301-405-3163  
Email address: jbaer123@umd.edu

## ***1.3 Stormwater Pollution Prevention Team***

<b>Staff Names</b>	<b>Individual Responsibilities</b>	<b>Contact Info</b>
Jason Baer, Assistant Director of Environmental Affairs, UMD	Verify that the SWPPP is up to date; Ensure that all permit requirements and BMPs are being correctly implemented at the Environmental Services Building and all of DA-1.	301-405-3163; jbaer123@umd.edu
Michael Carmichael, Stormwater Management & Maintenance Inspector, UMD	Ensure that all permit requirements and BMPs are being correctly implemented at the UMD Landscaping Vehicle and Equipment Storage, Salt Dome, Vehicle and Equipment Maintenance in DA-2.	301-314-1824; mmcarmic@umd.edu
Peter Agustin, Manager, UMD	Ensure that all permit requirements and BMPs are being correctly implemented at the University Bus Facility Parking, Fueling, and Maintenance area in DA-3.	301-314-7267; pedawg@umd.edu

Jerry Romanow, Coordinator, UMD	Ensure that all permit requirements and BMPs are being correctly implemented at the Art School Smelting and Scrap Metal Storage in DA-4.	301-405-1447; jromanow@umd.edu
Larry Brookman, Facilities Manager, UMD	Ensure that all permit requirements and BMPs are being correctly implemented at the Severn Building in DA-5 with the exception of vehicle fueling & maintenance.	301-226-8613; lbrookma@umd.edu
Leigh Remz, Manager, UMD	Ensure that all permit requirements and BMPs are being correctly implemented at the vehicle fueling & maintenance in DA-5.	301-405-5483; lremz@umd.edu
Philip Riggs, Operations Manager, College Park Energy LLC	Ensure that all permit requirements and BMPs are being correctly implemented at the Steam Electric Plant and Oil Storage in DA-6.	301-405-8025; Philip.Riggs@na.engie.com
Kaitlyn Peterson, Environmental Specialist, UMD	Verify that the SWPPP is up to date; Quarterly Visual monitoring, site inspections, SWPPP updates, and annual pollution prevention (P2) team training.	301-405-8604; Kpeter13@umd.edu

#### ***1.4 Activities at the Facility***

The University of Maryland (UMD) is located at 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. 05-SF-5501. UMD is exempt from the 12-SW Chesapeake Bay Restoration requirements since it is owned by an entity that is permitted as an MS4. This exemption is described in Part III.A of the 12-SW permit.

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 Paint Branch Creek. Water from these discharge points ultimately flow to the

Anacostia River and to the Chesapeake Bay. UMD treats some of its stormwater discharges using various BMPs, including oil-water separators, retention ponds, swales, and stormceptors. A site vicinity map is attached as Appendix A.

The site is broken into six (6) regulated drainage areas that are covered by the 12-SW permit and contains thirteen (13) sheet flow outfalls for their SWPPP monitoring. Runoff from the drainage areas is conveyed into stormwater inlets across campus and is discharged off site to the aforementioned waterways. UMD has approximately ninety (90) stormwater outfalls, but only thirteen (13) outfalls are subject to the requirements of the 12-SW permit.

UMD's primary classification under the permit is industrial Sector AD.b: School Bus Maintenance Facility. Other applicable sectors include Sector F: Primary Metals; Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities; Sector O: Steam Electric Generating Facilities; Sector P: Land Transportation and Warehousing; and Sector AD.a: Department of Public Works and Highway Maintenance Facilities. The following subsections describe each drainage area including their general activities and potential contributors to stormwater pollution.

### ***Drainage Area 1***

<b>Facility:</b>	Environmental Services Building
<b>Primary Activities:</b>	Hazardous Waste Storage and Transportation
<b>Industrial Activity:</b>	Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities
<b>Imperviousness:</b>	High
<b>Associated Outfalls:</b>	Outfall #001 SW
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~0.55

Drainage Area 1 (DA-1) is located on the northwestern side of the UMD campus and includes the Environmental Service Facility (Building #344), employee parking area, a loading and unloading area, and storage of new empty 55-gallon drums. It is bound to the south by Drainage Area 2 (DA-2). Within the facility is the indoor storage of hazardous waste generated on campus and offices for personnel employed with the Department of Environmental Safety, Sustainability, and Risk (ESSR). This facility is covered by the Resource Conservation and Recovery Act (RCRA) permit number MDD980829873 for hazardous waste storage and treatment operations.

The 55-gallon drums located at the Environmental Service Building are new/unused and are stored within a three-sided enclosed area in DA1; therefore, they are not expected to be a source of pollutants or exposed to stormwater. Hazardous waste from the campus, particularly the University's labs, is collected, transported, and stored onsite in accordance with UMD's RCRA permit until it is transported off-site for disposal/destruction. Loading and unloading of hazardous materials at the Environmental Service Building are completed at the loading/unloading areas on either the southern end or the southeastern end of the building. An

awning extends from both loading/unloading areas to shield the hazardous waste from stormwater. All hazardous waste is delivered in closed containers within secondary containment. Stormwater in DA-1 drains southeast by sheet flow to Outfall #001SW, at the edge of the drainage area's southeastern end. BMPs for this drainage area include the storing and consolidation of all hazardous material/wastes indoors and stationing a spill kit at loading/unloading area.

## ***Drainage Area 2***

<b>Facility:</b>	Building & Landscape Maintenance Facility
<b>Primary Activities:</b>	UMD Landscaping Vehicle and Equipment Storage, Salt Dome, Vehicle and Equipment Maintenance
<b>Industrial Activity:</b>	AD.a: Department of Public Works and Highway Maintenance Facilities
<b>Imperviousness:</b>	High
<b>Associated Outfalls:</b>	Outfall #002SW, Outfall #003SW and #004SW (Substantially Identical)
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~2.55

Drainage Area 2 (DA-2) is located on the northwestern side of the UMD campus and includes the Wye Oak Building (Building #428), Grounds Material & Equipment Building (Building #124), Grounds Operations & Maintenance Building (Building #328), Heavy Equipment Building (Building #426), Ground Storage Building (Building #327), vehicle and equipment storage, chemical storage, sand/gravel stock piles, a salt storage dome, and a small yard waste storage area. DA-2 is bound to the northwest by DA1, to the north by Landscape Lane, and to the south and east by Terrapin Trail.

DA-2 contains one 1,000-gallon double-walled gasoline aboveground storage tank (AST), one 1,500-gallon double-walled diesel fuel AST, one 550-gallon waste oil AST in secondary containment; and one 520-gallon double-walled diesel fuel AST. All four ASTs in DA-2 are adjacent to Building #328 and are equipped with spill kits and are inspected monthly in accordance with the UMD Spill Prevention, Control, and Countermeasure (SPCC) Plan.

Landscaping equipment, such as lawnmowers, are stored in the southern portion of the drainage area. Maintenance of landscaping equipment generally is performed outdoors; in the event of precipitation it is moved within Building #328. Heavy equipment storage and maintenance occurs adjacent to and within Building #426. The salt dome is in the southwestern corner of the drainage area. The salt is protected from stormwater by the dome, which is enclosed on three sides with one open entrance equipped with a berm to prevent runoff from entering. Approximately 600 tons of rock salt are stored within the salt dome, which is typically delivered in the fall for storage until it is needed in the winter months. Additional salt may be ordered on an as needed basis. Current best management practices (BMPs) in place at the salt dome include loading and unloading within the dome structure and sweeping excess rock salt back into the

dome. Gravel and sand stockpiles are located adjacent to Building #124 on its north side. There is a small area with yard waste (tree branches, leaves, etc.) storage adjacent to Building #124. Current BMPs in place at the gravel/sand stockpiles and yard waste storage include the strategic placement of hay bales to prevent sediment from entering the stormwater system, and concrete walls on three sides to contain the stockpiles. Chemical and small equipment storage is located indoors around the perimeter of DA-2 within the enclosed structures.

Stormwater in DA-2 drains by sheet flow to three stormwater inlets within the drainage area where it enters UMD's stormwater conveyance system. Outfall #002SW is located adjacent to the inlet at the southwestern corner of building #124; Outfall #003SW is located in the northeastern portion of the drainage area; and Outfall #004SW is located at the southeastern corner of the drainage area. Since the stormwater leaving this drainage area is similar in effluent, Outfalls #002SW, #003SW, and #004SW are considered substantially identical. Therefore, they will be monitored in accordance with Part III.C.5.b.iv of the 12-SW Permit (Appendix C).

### ***Drainage Area 3***

<b>Facility:</b>	Shuttle Bus Facility
<b>Primary Activities:</b>	University Bus Facility Parking, Fueling, and Maintenance
<b>Industrial Activity:</b>	AD.b: School Bus Maintenance Facility
<b>Imperviousness:</b>	High
<b>Associated Outfalls:</b>	Outfall #005SW and #006SW (Substantially Identical)
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~3.0

Drainage Area 3 (DA3) is located on the northeastern side of the UMD campus and includes the Shuttle Bus Facility (Building #424), University Bus parking and maintenance, and fueling operations. DA3 is bound to the west by Paint Branch Drive and to the south by the University's Field Hockey and Lacrosse Complex (Building #414). Wooded areas bound DA3 to the north and east. A stormwater pond is located at the southeastern corner of the drainage area. Another stormwater retention pond is situated just east of the drainage area.

DA3 includes one (1) 20,000-gallon double-walled diesel AST in the southeast corner of the drainage area; one (1) 550-gallon waste oil AST and (1) one 550-gallon motor oil AST in secondary containment on the south side of Building #424; five (5) 55-gallon drums within Building #424; two (2) 55-gallon drums of used antifreeze, one (1) 330-gallon IBC tote of diesel exhaust fluid, and four (4) 55-gallon drums are contained outside of Building #424. There are two (2) 1,600-gallon oil/water separators in DA3. The oil/water separator in the southeast corner drains to a stormwater pond adjacent to the 20,000-gallon double-walled diesel AST. The oil/water separator south of Building #424 drains to the sanitary sewer lines. Two (2) spill kits are located within DA3 and the ASTs are inspected in accordance with the UMD SPCC plan. There is also a small scrap metal storage area on the west side of Building #424. Current BMPs in place for the metal storage include covering the materials with a tarp to prevent contact with stormwater.

University bus washing and maintenance operations are conducted within DA3. University buses are stored on the parking lot in this drainage area. The BMPs in place include drip pans being placed underneath buses during storage and proper fueling procedures. A stockpile of tires are stored along the south perimeter against the drainage area's fence. Current BMPs in place for the tire storage include covering the materials with a tarp to prevent contact with stormwater. DA3 contains two (2) zipper drains surrounding Building #424 and one stormwater drain inlet adjacent to the 20,000-gallon double-walled diesel AST.

Stormwater in DA3 drains offsite by sheet flow or into the stormwater drain. Outfall #005SW is located in the southeast corner of the drainage area; Outfall #006SW is located in the northeastern corner of the drainage area. Since all of the stormwater leaving this drainage area is similar in effluent, Outfalls #005SW and #006SW are considered substantially identical. Therefore, they will be monitored in accordance with Part III.C.5.b.iv of the 12-SW Permit (Appendix C).

#### ***Drainage Area 4***

<b>Facility:</b>	Parren J. Mitchell Art-Sociology Building Smelter
<b>Primary Activities:</b>	Art School Smelter, Scrap Metal Storage
<b>Industrial Activity:</b>	Sector F: Primary Metals
<b>Imperviousness:</b>	Low to Medium
<b>Associated Outfalls:</b>	Outfall #007 SW
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~0.25

Drainage Area 4 (DA4) is located on the southwestern portion of the UMD campus and includes metal storage and a smelter. This metal is feedstock for the smelter and used for the production of art. DA4 is bound to the west by Alumni Drive, to the south by Campus Drive, and to the east by Parren J. Mitchell Art-Sociology Building (Building #146).

One (1) roll-off dumpster is located within the drainage area and contains municipal solid waste and discarded metal. The scrap metal storage and smelting operations are contained within a fenced area with a locked gate. Access to the drainage area is only permitted to art students and University faculty/staff. The entire drainage area is considered pervious being situated on grass and gravel. The entire smelting operations and storage of metals is exposed to stormwater. BMPs include covering exposed metal and emptying and covering the roll-off dumpster during rain events.

Stormwater in DA4 drains by sheet flow, predominately to the southern end of the drainage area towards Outfall #007SW, which is located on the southern side of the drainage area, adjacent to the fence and sidewalk.

### ***Drainage Area 5***

<b>Facility:</b>	Severn Building
<b>Primary Activities:</b>	Loading and Unloading of Materials, University Vehicle Fueling
<b>Industrial Activity:</b>	Sector P: Land Transportation and Warehousing
<b>Imperviousness:</b>	High
<b>Associated Outfalls:</b>	Outfall #008SW and Outfall #009 SW (Substantially Identical); Outfall #010SW
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~13.2

Drainage Area 5 (DA5) is separated by approximately one half mile from the main UMD campus by Baltimore Avenue and residential properties. DA5 is bound to the north by Route 193 (Greenbelt Road), to the east by a train track right-of-way, and to the west and south by residential properties. DA5 encompasses the Severn Building (Building #810) and contains a fueling area in the northeastern portion of the facility with two (2) 10,000-gallon double-walled gasoline ASTs and one (1) 10,000-gallon double-walled E-85 gasoline AST. The fueling area contains zipper drains that flow to an oil water separator and then to the storm drain system. In the southeastern portion of the drainage area, there is one (1) 12,000-gallon double-walled fuel oil AST. Spill kits are located within DA5 and the ASTs are inspected monthly in accordance with the UMD SPCC plan. There are multiple loading/unloading docks along the north side of the Severn Building. A maintenance shop is located at the northern most portion of the maintenance facility. All vehicle maintenance is conducted within the shop. There is a scrap metal dumpster and a construction/demolition debris (C&D) dumpster outside the north side of Building #810. BMPs for the metal and C&D include covering the materials with a tarp to prevent contact with stormwater.

Stormwater in DA5 drains by sheet flow either off-site or into the stormwater drains. Outfall #009SW is located in the southeastern most corner of the drainage area. Outfall #008SW is located at the southwestern portion of the southern parking lot. Outfall #010SW is located in the northeastern corner of the drainage area. Since the stormwater leaving the southern end of the drainage area is similar in effluent, Outfalls #008SW and #009SW are considered substantially identical. Therefore, they will be monitored in accordance with Part III.C.5.b.iv of the 12-SW Permit (Appendix C).



## ***Drainage Area 6***

<b>Facility:</b>	Combined Heat & Power Facility
<b>Primary Activities:</b>	Steam Electric Plant, Oil Storage
<b>Industrial Activity:</b>	Sector O: Steam Electric Generating Facilities
<b>Imperviousness:</b>	High
<b>Associated Outfalls:</b>	Outfall #011SW; Outfall #012SW and #013SW (Substantially Identical)
<b>Outfall Monitoring:</b>	Visual
<b>Acreage:</b>	~2.95

Drainage Area 6 (DA6) is separated from the main UMD campus by Route 1 (Baltimore Avenue). DA6 is bound to the south by Rossborough Lane, to the west by Baltimore Ave. and the east by Campus Drive. Diamondback Drive dissects DA6. DA6 encompasses employee parking, the Service Building (Building #003), Energy Plant (Building #001), Plant Operations & Maintenance Shops (Building #006), and a fuel unloading area containing one (1) 8,000-gallon diesel AST in a diked containment that is surrounded by two (2) zipper drains to the sanitary sewer. There are two (2) 250,000-gallon fuel oil ASTs in a diked containment area in the southern portion of the drainage area. The ASTs in DA5 are inspected in accordance with the UMD SPCC plan and Oil Operations Permit #2014-OPT-3522. The operations of the steam electric generation are conducted inside the Energy Plant. Additives for the steam are stored in 55-gallon drums located outside within a contained pad on the northwestern end of the Energy Plant.

Stormwater in DA5 drains by sheet flow either off-site or into the stormwater drains. Outfall #011SW is located at the southeastern end of the drainage area, just below the fuel unloading area. Outfall #012SW and #013SW are on either side of the Energy Plant (Building 001). Since the stormwater leaving the center of the drainage area is similar in effluent, Outfalls #012SW and #013SW are considered substantially identical. Therefore, they will be monitored in accordance with Part III.C.5.b.iv of the 12-SW Permit (Appendix C).

### ***1.5 General Location Map***

A general location map showing the vicinity of the entire site in respect to the surrounding area is located in Appendix A.

### ***1.6 Site Map***

A site map, included as Appendix B, shows the topographic features of the whole site including, but not limited to, buildings, drainage areas, outfalls, associated features and drainage arrows.

## SECTION 2: POTENTIAL POLLUTANT SOURCES

Based on the site visit and discussions with facility personnel, UMD has the potential to discharge pollutants from the following activities:

- Accidental Spills and Leaks
- Fueling Activities
- Aboveground Storage Tanks (ASTs)
- Loading/Unloading of Materials
- Loading/Unloading of Hazardous Materials
- Storage of Hazardous Materials
- Storage of Scrap Metal
- Steam & Electric Generation

### *2.1 Industrial Activity and Associated Pollutants*

The United States Environmental Protection Agency (USEPA) SWPPP Guidance defines “significant materials” from 40 CFR 122.26(b)(12) as substances related to industrial activities such as process chemicals, raw materials, fuels, pesticides, and fertilizers. A copy of the 12-SW permit can be found in Appendix C and the UMD’s Notice of Intent (NOI) can be found in Appendix D. An inventory of significant materials exposed to weather (i.e., located outdoors) was developed and is included in Appendix E. This list is primarily based upon visual inspections conducted during the development of this plan.

<b>Industrial Activity</b>	<b>Associated Pollutants</b>
Accidental Spills and Leaks	Diesel Fuel, Motor Oil, Used Oil, Gasoline
Fueling Activities	Diesel Fuel, Fuel Oil, Gasoline
Loading and Unloading Materials	Sediments, Metal, Fuel (coke)
Storage of Scrap Metal	Metal, metal slag
Loading, Unloading, and Storage of Hazardous Materials	Associated Hazardous Pollutants
Steam/Electric Plant	Chlorine, Boiler Additives, Sulfuric Acid, Used Oil

## 2.2 *Spills and Leaks*

### Areas of Site Where Potential Spills/Leaks Could Occur

Location	Outfalls (SW)
Equipment and Vehicle Maintenance (DA2, DA3, DA5)	002, 003, 004, 005, 006, 008, 009, 010
Fueling Areas (DA2, DA3, DA5, DA6)	002, 003, 004, 005, 006, 008, 009, 010, 011
Hazardous Materials (DA1, DA6)	001, 012, 013
UMD Bus/Vehicle Traffic and Parking	All Outfalls

### Description of Historical Outdoor Spills/Leaks Over Prior 3 Year Period

Date	Description (Type and Location)
05/02/2014	Diesel fuel spill at Roadway leading to Building #344
06/05/2014	Hydraulic fluid at Building #215
06/18/2014	Brake fluid at Parking Lot 1b, spot #531
06/26/2014	Automotive fluids at 6903 Preinkert Drive
09/23/2014	Oil at Mowatt Lane & Preinkert Drive intersection
12/04/2014	Petroleum product at Ellicott Dining Hall & Valley Drive
03/30/2015	Antifreeze at parking lot JJ Tawes Fine Arts Building
05/11/2015	Hydraulic fluid at loading dock at Bioscience Research Building
05/22/2015	Antifreeze at Campus Drive (gate house to "M Circle") by Physics Bldg.
09/09/2015	Diesel fuel at rear outside of Maryland Stadium
11/07/2015	Sewage at Stadium Drive near Entrance E
11/11/2015	Transmission fluid at Shuttle Bus Facility
05/20/2016	Transmission fluid at Xfinity Center parking lot
08/12/2016	Transformer oil at Tau Kappa Epsilon Fraternity house
11/02/2016	Diesel fuel spill from leaking fuel tank traveling from Fieldhouse Drive to Regents Drive to MD Route 193 to Boteler Lane
05/15/2017	Diesel fuel leak at the Calvert Residence Hall
05/31/2017	Cooking oil/grease spill at Union Lane and Fieldhouse Drive

### **2.3 *Non-Stormwater Discharges Documentation***

The 12-SW Permit requires the completion of an annual “Non-Stormwater Discharges Evaluation” in order to identify and eliminate any non-stormwater discharges. The list below summarizes the previous evaluations performed and describes procedures for future evaluations.

- **Date of evaluation:** 8/25/2016, 10/10/2016, 10/11/2016  
Future evaluations are to be done and logged with the Comprehensive Annual Inspection by a member of the P2 team or other authorized party.
- **Description of the evaluation criteria used:** Visual inspections of components of the stormwater conveyance system are performed during periods of no precipitation. These inspections are performed to ascertain the existence and possible sources of non-stormwater discharges. The visual inspection is to be done annually with the comprehensive evaluation. Areas of interest include possible sources of contamination (i.e. fueling area, scrap metal storage, equipment storage, etc.).
- **List of the outfalls or onsite drainage points that were directly observed during the evaluation:**
  - Outfalls #001 through #005, #007, #010, #012, #014, #016, #018, and #019 associated with NPDES Permit No. MD0063801.
  - SWPPP Outfalls #001SW through #013SW.
- **List of the outfalls or onsite drainage points that will be directly observed during future evaluations:**
  - Outfalls #001 through #005, #007, #010, #012, #014, #016, #018, and #019 associated with NPDES Permit No. MD0063801.
  - SWPPP Outfalls #001SW through #013SW.
  - Additionally, at least 50% of all outfalls onsite will be screened annually as part of the MS4 Illicit Discharge Detection and Elimination (IDDE) Plan.
- **Different types of non-stormwater discharge(s) and source locations:** None were observed outside the regulations of UMD’s State Discharge Permit No. 08-DP-2618 (NPDES Permit No. MD0063801).
- **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, or an NPDES permit application was submitted for an unauthorized cooling water discharge:** Several actions have been taken as part of

the University's IDDE Plan. These records are stored in the IDDE Plan at the Environmental Services Building.

## ***2.4 Salt Storage***

The salt storage facility is located in DA2 and can be seen on the site map in Appendix B. A description of the salt storage area as well as BMPs in place there can be found in Section 1.4 of this plan.

## ***2.5 Visual Monitoring Summary***

See Appendix F for a history of visual monitoring and summary of potential problems related to stormwater during the previous term.

## SECTION 3: STORMWATER CONTROL MEASURES

As required by the 12-SW permit for the facility, UMD has developed and implemented a series of stormwater management controls. The purpose of the stormwater management controls is to minimize the potential for stormwater to become contaminated as a result of activities performed on-site.

The following set of stormwater management controls has been developed and implemented in regards to the activities at University of Maryland.

1. Preventive Maintenance
2. Good Housekeeping
3. Spill Prevention and Response Procedures
4. Management of Stormwater Runoff
5. Inspections
6. Pollution Prevention Training
7. Recordkeeping and Internal Reporting Procedures
8. Implementation Program
9. Fueling Areas
10. Vehicle and Equipment Maintenance
11. Vehicle and Equipment Storage Areas
12. Material Storage Areas
13. Smelting Operations

### ***3.1 Minimize Exposure***

Structural BMPs and practices are utilized to minimize the exposure of industrial activities to rain, snowmelt, and runoff. All scrap metal, and hazardous materials should be covered during precipitation events to the greatest extent possible in order to minimize exposure. Vehicles and equipment stored on site should have drip pans deployed underneath them to catch any leaks or spills. Appendix N contains a BMP fact sheet.

Vehicle maintenance takes place primarily within the confines of the maintenance shops at UMD. All hazardous materials associated with daily operations, such as oils and chemicals, are stored indoors or, when stored outdoors, are covered and within secondary containment. There are zipper drains located along the entrance to the maintenance bays that drain to the sanitary sewer.

A 20,000-gallon diesel fuel AST with fuel pumps is situated in the southeastern corner of DA3. A fueling area is situated in the western portion of DA5 with two (2) 10,000-gallon gasoline ASTs and one (1) E85 10,000-gallon gasoline AST. An additional 12,000-gallon fuel oil AST is situated along the southern end of DA5. Within DA6, there is a fueling area containing one (1) 8,000-gallon diesel AST in a diked containment area that is surrounded by three (3) zipper drains. All ASTs are double walled. There are several used oil ASTs within the campus. All

ASTs are listed within the Spill Prevention, Control, and Countermeasure (SPCC) Plan and are inspected on a regular basis per the UMD SPCC Plan.

### ***3.2 Good Housekeeping***

Good housekeeping requires the maintenance of a clean, orderly facility. A clean work environment reduces the potential for pollution sources to contact stormwater. Good housekeeping practices include material management (such as storing materials indoors), limiting inventories kept in stock, storing materials according to manufacturers' directions and storing them away from heavy traffic areas. Good housekeeping also includes waste management measures such as sweeping, regular pickup and disposal of waste materials, and routine cleaning. Leak/spill prevention and response measures are also incorporated into a good housekeeping plan. Avoiding, controlling and cleaning a spill will reduce the opportunity of stormwater contamination. As part of spill prevention effort, good housekeeping measures also include awareness measures such as posting signs with instructions for facility practices such as fueling or waste disposal.

The University of Maryland practices good housekeeping with respect to:

- Upkeep of facility roads and regular sweeping;
- Hazardous material storage areas, and loading/unloading within DA1 and DA2;
- Salt storage in DA2;
- Fuel system and fueling areas within DA3 at the 20,000-gallon diesel fuel AST, within DA6 at the two (2) 10,000-gallon gasoline AST, the one (1) E85 10,000-gallon gasoline AST, and the one (1) 10,000-gallon diesel AST;
- Maintenance of vehicles and equipment in DA2;
- Scrap metal storage and smelting activities that occurs throughout DA4 and DA5;
- Vehicle maintenance within DA5;
- Chemical storage within DA2 and DA5;
- Training employees about good housekeeping practices
- Regularly inspecting of all ASTs and drums per SPCC plan
- Regularly picking up and disposing of waste materials in all drainage areas throughout the campus.



### **3.3 *Preventative Maintenance***

A preventive maintenance program involves timely inspection and maintenance of stormwater management devices, in addition to inspecting facility equipment and systems to uncover conditions that could potentially cause breakdowns or failures resulting in discharges of pollutants to surface waters.

The facility's preventive maintenance program includes the following elements:

- Visual inspections of the stormwater management systems;
- Visual inspections of mechanical equipment and systems;
- Routine inspections of the facility following the Routine Inspection Checklist included in Appendix G;
- Annual Comprehensive Site Inspection following the Annual Inspection Checklist included in Appendix H. The previous years' inspections can be found in Appendix I;
- Routine inspections of ASTs and other storage tanks per the SPCC Plan;
- Records documenting inspections; all inspection records are maintained at the UMD Environmental Affairs office.
- Records documenting maintenance and repairs; all maintenance and repair records are completed and stored by the individual maintenance shops.

#### **3.3.1 DELIVERY VEHICLES**

UMD strives to minimize contamination of stormwater runoff from delivery vehicles while on campus. This includes occasionally inspecting delivery vehicles arriving at the site and ensuring overall integrity of the body or container, and maintaining response procedures to deal with leaks or spills from vehicles or containers (such as those contained within the UMD SPCC plan). The University also maintains 24-hour spill response capabilities to deal with any leaks from delivery vehicles, as well as buses, cars, and other non-UMD vehicles on the campus.

#### **3.3.2 FUEL OIL UNLOADING AREAS**

The University actively minimizes contamination of precipitation or surface runoff from fuel oil unloading areas. Several control measures are used, including: (a) using containment curbs in unloading areas; (b) 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 (c) 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). The primary UMD fueling facilities include the Severn Building, the Combined Heat & Power Plant, and the Shuttle Bus Facility; all of which

have oil water separators that receive the drainage from the fueling areas in order to prevent the discharge of fuel or oil.

### **3.3.3 CHEMICAL LOADING AND UNLOADING**

UMD minimizes contamination of precipitation or surface runoff at chemical loading and unloading areas by one or more of the following strategies: (a) using containment curbs and/or spill kits at chemical loading and unloading areas to contain spills; (b) 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; (c) loading and unloading in covered areas and storing chemicals indoors; and (d) using vehicles stocked with spill kits to transport chemicals onsite.

### **3.3.4 MISCELLANEOUS LOADING AND UNLOADING AREAS**

UMD minimizes contamination of precipitation or surface runoff at loading and unloading areas by one or more of the following strategies: (a) covering the loading area; grading, berming, or curbing around the loading area to divert run-on; (b) locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or (c) loading and unloading in covered areas.

### **3.3.5 LIQUID STORAGE TANKS**

UMD minimizes contamination of surface runoff from aboveground liquid storage tanks by one or more of the following options: (a) protective guards around tanks, containment curbs, secondary containment, spill and overflow protection; (b) access to dry cleanup methods, and (c) regular inspections and maintenance following the schedule within UMD's SWPPP and SPCC plan.

### **3.3.6 LARGE BULK FUEL STORAGE TANKS**

UMD minimizes contamination of surface runoff from large bulk fuel storage tanks by the use of containment berms (or their equivalent), and by complying with applicable State and Federal laws, including the UMD SPCC plan requirements.

### **3.3.7 SPILL REDUCTION MEASURES**

UMD minimizes the potential for an oil or chemical spill by following the UMD SPCC plan and scheduled inspections. The scheduled inspections include visually inspecting the structural integrity of all aboveground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater. Necessary repairs identified during the inspection are initiated immediately.

### **3.3.8 RESIDUE-HAULING VEHICLES**

UMD strives to inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body.

### **3.3.9 VEHICLE AND EQUIPMENT STORAGE**

UMD minimizes the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance. One or more of the following strategies are used: (a) use of drip pans under vehicles/equipment; (b) indoor storage of vehicles and equipment; (c) installation of berms or dikes; (d) use of absorbents, roofing or covering storage areas; and (e) cleaning pavement surfaces to remove oil and grease.

### **3.3.10 FUELING AREAS**

UMD minimizes contamination of stormwater runoff from fueling areas as well as fueling loading and unloading areas by following one or more of the following strategies: (a) covering the fueling area; using spill/overflow protection and cleanup equipment; (b) minimizing stormwater run-on/runoff to the fueling area; (c) using dry cleanup methods; and (d) treating (i.e. with oil water separators) and/or recycling collected stormwater runoff.

### **3.3.11 MATERIAL STORAGE CONTAINERS**

UMD maintains all material storage containers (e.g., for used oil/oil filters, spent solvents, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., “Used Oil,” “Spent Solvents,” etc.). One or more of the following strategies are used: (a) storing the materials indoors; (b) installing berms/dikes around the areas; (c) minimizing runoff of stormwater to the areas; (d) using dry cleanup methods; and (e) treating and/or recycling collected stormwater runoff.

### **3.3.12 VEHICLE AND EQUIPMENT CLEANING AREAS**

UMD minimizes contamination of stormwater runoff from all areas used for vehicle/equipment cleaning by one or more of the following strategies: (a) performing cleaning operations indoors when possible; (b) covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the stormwater drainage system); (c) transporting the collected wash water offsite for treatment; and (d) treating and/or recycling collected washwater.

### **3.3.13 VEHICLE AND EQUIPMENT MAINTENANCE AREAS**

UMD minimizes contamination of stormwater runoff from all areas used for vehicle/equipment maintenance by: (a) performing maintenance activities indoors; (b) keeping an organized inventory of materials used in the shop; (c) draining all parts of fluid prior to disposal; and (d) using dry cleanup methods.

## ***3.4 Spill Prevention and Response***

Spill prevention and response measures focus both on spill prevention and on providing adequate measures to respond to leaks or spills to prevent surface water contamination. Areas most at risk for leaks and spills include fueling areas, equipment maintenance areas, and areas where vehicles and equipment are stored.

Spill prevention measures include:

- Proper storage practices;
- Routine inspections of potential pollutant sources;
- Regular inspections and maintenance of spill response kits, materials, and devices;
- Routine maintenance of equipment containing oil or hazardous materials; and

Spill containment and cleanup measures include:

- Identification and training of a Spill Response Team – the Environmental Affairs Unit performs 24/7 incident response;
- Maintaining spill cleanup materials in designated areas for immediate treatment;
- Using absorbent to control spills and promptly removing and properly disposing used absorbent;
- Blocking access to stormwater drainage systems;
- Contacting a licensed spill response contractor, if the spill cannot be immediately contained; the fire department may also provide containment response in emergencies;
- Contacting state, federal, and appropriate local agencies;
- Repairing equipment or tanks which caused a leak or spill to occur; and
- Maintaining records of spill occurrences for three years.

Specific spill response, notification and reporting procedures are provided in Appendix J and in the facility's SPCC Plan.

### ***3.5 Erosion and Sediment Controls***

Erosion concerns can be divided into two broad categories: (1) Erosion due to active construction projects and (2) chronic or nuisance eroding areas due to inadequate conveyance, steep slopes, or insufficient vegetative stabilization.

The first category of erosion potential is associated with various development projects being actively constructed or planned on campus areas. For construction projects disturbing more than 5,000 square feet, the Maryland Department of the Environment (MDE) will be contacted to establish an approved sediment and erosion control plan. These plans will be developed by a professional engineer and identify the specific control measures that will be in place during construction to minimize erosion and sedimentation. UMD is also responsible for obtaining a

General Discharge Permit for Stormwater Associated with Construction Activity from MDE for projects that will disturb one or more acres of earth

The second category of erosion or sedimentation problems involves areas that may experience nuisance erosion due to inadequate conveyance, steep slopes, or insufficient vegetative stabilization. Areas of erosion will be identified during the Quarterly Routine Facility Inspection and Annual Inspection. All inspection and evaluation forms are included in the appendices of this SWPPP. Maintenance will be conducted on an as needed basis.

### ***3.6 Management of Runoff***

While the UMD SWPPP encompasses only six (6) smaller drainage areas within the campus, stormwater runoff is managed throughout the entire campus. UMD maintains a system of devices to manage stormwater runoff. This system includes, but is not limited to grass swales, bioretention areas, stormwater ponds, stormwater inlets and conveyances, oil/water separators, direct connections to sanitary sewer systems, and outfalls. A considerable number of the stormwater inlets at UMD have inlet protection to minimize particulates or materials from being discharged. The stormwater management system is designated on the Site Map in Appendix B.

In conjunction with UMD's system of stormwater management, UMD implements the following: an individual permit that is specifically tailored to controlling the University's discharge of wastewater to surrounding surface waters (State Discharge Permit No. 08-DP-2618); a NPDES Phase II MS4 general permit which covers the discharge of stormwater run-off from land, pavement, building rooftops and construction sites on campus (Permit No. 05-SF-5501); a permit for the discharge of backwash from the University pools (Permit No. 12-SI-7192); a SPCC Plan; an IDDE Plan; and, as required, site-specific Sediment & Erosion Control Plans. BMPs associated with the additional permits are located in Appendix N.

### ***3.7 Salt Storage Piles or Piles Containing Salt***

As described in Section 1.4, UMD maintains a salt storage facility within DA2. The structure is walled on three sides, with one open entrance. Approximately 600 tons of rock salt are stored within the salt dome and is typically delivered in the fall for storage until it is needed in the winter months. Re-fill orders are placed on an "as-needed" basis. The salt dome has structural BMPs in place in order to divert and redirect stormwater from entering the storage area.

### ***3.8 12-SW Sector-Specific Non-Numeric Effluent Limits***

For purposes of the 12-SW Permit, UMD is primarily classified as industrial Sector AD.b: School Bus Maintenance Facilities. The other sectors associated with UMD include Sector F: Primary Metals; Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities; Sector O: Steam Electric Generating Facilities; Sector P: Land Transportation and Warehousing; and Sector AD.a: Department of Public Works and Highway Maintenance Facilities.

These sectors requires additional control measures and/or technology-based effluent limits, outlined in Appendix D of the 12-SW. These control measures include:

- Good Housekeeping has been addressed in Section 3.3 of the SWPPP
- O.4.2 Delivery Vehicles has been addressed in Section 3.3.1 of the SWPPP
- O.4.3 Fuel Oil Unloading Areas has been addressed in Section 3.3.2 of the SWPPP
- O.4.4 Chemical Loading and Unloading has been addressed in Section 3.3.3 of the SWPPP
- O.4.5 Miscellaneous Loading and Unloading Areas has been addressed in Section 3.3.4 of the SWPPP
- O.4.6 Liquid Storage Tanks has been addressed in Section 3.3.5 of the SWPPP
- O.4.7 Large Bulk Fuel Storage Tanks has been addressed in Section 3.3.6 of the SWPPP
- O.4.8 Spill Reduction Measures has been addressed in Section 3.3.7 of the SWPPP
- O.4.10 Residue-Hauling Vehicles has been addressed in Section 3.3.8 of the SWPPP
- P.3.1.1 Vehicle and Equipment Storage Areas has been addressed in Section 3.3.9 of the SWPPP
- P.3.1.2 Fueling Areas has been addressed in Section 3.3.10 of the SWPPP
- P.3.1.3 Material Storage Areas has been addressed in Section 3.3.11 of the SWPPP
- P.3.1.4 Vehicle and Equipment Cleaning Areas has been addressed in Section 3.3.12 of the SWPPP
- P.3.1.5 Vehicle and Equipment Maintenance Areas has been addressed in Section 3.3.13 of the SWPPP

### ***3.9 Employee Training***

Pollution prevention training is necessary to ensure that employees are aware of their impact to stormwater, their responsibilities to prevent pollution, and methods for controlling pollution releases. Training sessions are held annually or as needed for UMD's P2 team members.

Training topics include the following:

- Spill response
- Good housekeeping practices
- Material management practices

All training is organized and coordinated by the UMD Environmental Affairs unit. SPCC training will be performed as outline in the UMD SPCC Plan. Other training sessions will be held as needed to address specific topics of interest.

The training materials for UMD stormwater pollution prevention training sessions are included in Appendix K.

### ***3.10 Potable Water Discharges***

UMD maintains an extensive life safety program through its Facilities Management Department. Life Safety staff are responsible for the maintenance and NFPA inspections/testing of fire protection equipment including fire hydrants, fire pumps and fire sprinkler systems. However, the UMD Piped Services group of Facilities Management handles all maintenance and repairs of the fire hydrants. The NFPA testing requires flushing of the hydrants to remove accumulated solids and to ensure the equipment is operating at required pressures. As part of the required testing, Life Safety tests one third of the campus hydrants annually and will calculate flow from these discharges and maintains records of the flow rates.

In addition to the hydrant testing/maintenance, Life Safety tests sprinkler systems and their associated pumps on an annual basis. Moreover, Piped Services also performs periodic maintenance of water mains, which includes the periodic flushing as part of system maintenance.

The NPDES permit #08-DP-2618 authorizes UMD to discharge potable water from the testing/maintenance of its fire protection equipment. The permit requires the implementation of a pollution prevention plan with technology-based best management practices (BMPs). This SWPPP will satisfy the pollution prevention plan requirement and the BMPs that will be implemented include:

- Water dechlorination and/or aeration prior to discharge.
- Direct the discharge in a manner that it will not cause soil erosion.
- Prior to discharging, clean any paved area that will come in contact with the discharged water in order to reduce the amount of pollutants picked up by the discharge.
- Maintain records of all discharges, including the dates, quantity of water discharged and BMPs implemented.

A BMP fact sheet describing the details of these practices is included in Appendix N.

### ***3.11 Non-Stormwater Discharges***

Non-stormwater discharges are strictly prohibited under sector specific regulations unless covered by an additional NPDES/ State discharge permit. University of Maryland is covered by a Phase II MS4 NPDES Permit (Permit No. MD0063801 or 05-SF-5501). Please reference the non-stormwater inspection report for further information located in Section 2.3.



## **SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING**

UMD is not required to perform sector specific benchmark monitoring (12-SW permit, Appendix D, Sector AD.a, AD.b, F, K, O, and P). Visual monitoring will begin on the first full monitoring period six months after the registration acceptance of the 12-SW permit. If the visual monitoring parameters indicate the need for a corrective action, then the Environmental Affairs Unit will review the selection, design, installation, and implementation of BMPs and stormwater controls to determine if modifications are necessary to meet the effluent limits in the 12-SW Permit.

- 1. Sample Location(s).** Outfall #001SW through Outfall #013SW; substantially identical outfalls are to be sampled in accordance with Part III.C.5.b.iv of the 12-SW permit (Appendix C) regarding substantially identical outfalls.
- 2. Monitoring Schedules.** Once per outfall, per quarter.
- 3. Procedures.** Visual monitoring samples are to be collected from each outfall within 30 minutes of a measurable storm event by qualified personnel during each quarter. A measurable storm event is defined as an event where there is an actual discharge from the site that follows the preceding storm event by 72 hours. Monitoring is conducted utilizing sampling procedures consistent with 12-SW Part V. C (Appendix C) and USEPA's Industrial Stormwater Monitoring and Sampling Guide (Appendix L). Additional sampling training should be conducted along with other mandatory training and is included in Appendix K.

## **SECTION 5: INSPECTIONS**

### ***5.1 Routine Facility Inspections (Quarterly Site Inspection)***

Routine site inspections are to be conducted quarterly, with at least one inspection in a calendar year occurring during a stormwater discharge. Routine inspections are to be completed by ESSR and problem areas are identified on the inspection sheets. P2 Team members supplement these inspections by evaluating the effectiveness of stormwater management controls in their work areas. Routine inspections review the effectiveness of the SWPPP and help to maintain best management practices.

The inspection sheets include a signed certification that the Site is in compliance with this SWPPP and the 12-SW permit or else a corrective actions report (Appendix M) is to be prepared and submitted with the inspection.

A member of the Environmental Affairs Unit will conduct quarterly inspections of the six regulated drainage areas at UMD to ensure stormwater management controls are in place and functioning. In addition to the documented inspections, personnel at UMD will conduct visual inspections as part of their daily job functions to ensure areas are clean and maintained. Documentation of all Quarterly and Annual inspections is maintained in the SWPPP by the Environmental Affairs Unit and stored at the Environmental Services Building (Building #344). Sample routine inspections are available in Appendix G.

See Section 5.4 and Appendix N for further information regarding corrective actions.

### ***5.2 Quarterly Visual Inspection (Quarterly Water Sampling)***

Visual inspections of stormwater at UMD will be performed quarterly. Once each quarter, a member of the Environmental Affairs Unit will collect a stormwater sample from each regulated stormwater outfall and the sample will be visually assessed. A Quarterly Visual Monitoring Form is to be completed for each sample.

Samples will be taken from each outfall within 30 minutes of a measurable storm event by a member of the Environmental Affairs Unit. In the case of snowmelt, samples are taken during a period of measurable discharge. The completed Quarterly Visual Monitoring Forms and a time stamped photograph of each sample are to be updated and maintained in the SWPPP in Appendix F. A sample Quarterly Visual Monitoring Form and Visual Monitoring Procedures are found in Appendix F.

See Section 5.4 and Appendix N for further information regarding corrective actions.

### ***5.3 Comprehensive Site Compliance Evaluation (Annual Site Inspection)***

In addition to routine inspections, a Comprehensive Site Compliance Evaluation will be conducted annually to verify that the description of potential pollutant sources is accurate, the drainage map has been updated to reflect current conditions (Appendix B), and the controls to reduce pollutants identified in the SWPPP are being implemented and are adequate. The annual comprehensive site compliance evaluation can replace one routine quarterly inspection. Environmental Affairs personnel will conduct annual written site compliance evaluations to verify the accuracy of the information contained within this document and the effectiveness of stormwater controls. The inspection will be completed by filling out the Comprehensive Site Investigation sheet attached in Appendix H.

The Annual Comprehensive Site Compliance Evaluation includes a signed certification that the Site is in compliance with this SWPPP and the 12-SW permit or else a corrective actions report (Appendix M) is to be prepared and submitted with the inspection. The Non-Stormwater Discharge Evaluation will be performed, as described in Section 2.3, at the same time as the annual Comprehensive Site Compliance Evaluation.

Corrective action triggers and procedures are described in Section 5.4. Corrective Action Reports will be stored in the SWPPP at the Environmental Services Building. See Section 5.4 and Appendix N for further information regarding corrective actions.

### ***5.4 Corrective Actions***

Corrective Actions are mandatory modifications that are made to stormwater controls and BMPs to improve stormwater management to meet 12-SW permit conditions on-site. The 12-SW Permit Part IV requires that Corrective Actions be performed and reported when any of the following triggering conditions under A or B occurs:

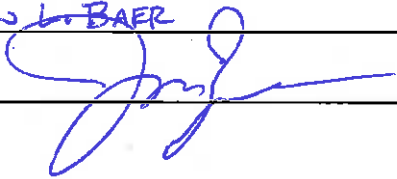
- A. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated in the future:
  - 1. an unauthorized release or discharge (e.g., spill, leak, 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. for the discharge to meet applicable water quality standards;
  - 4. an inspection or evaluation of your facility by an MDE 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. 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 four quarterly sampling results exceeds an applicable benchmark. If less than four benchmark samples have been taken, but the results are such that an exceedance of the four quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than four times the benchmark level) this is considered a benchmark exceedance, triggering this review.

For Corrective Action overview, deadlines, and reporting see Appendix N.

## SECTION 6: SWPPP 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. 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.

Name: JASON L. BAER Title: ASSISTANT DIRECTOR OF ENVIRONMENTAL AFFAIRS  
Signature:  Date: 8/3/17

## SECTION 7: SWPPP MODIFICATIONS

Revision	Date	Details / Comments
Revision 01	July 2017	SWPPP update and modification for compliance with 12-SW
Revision 02	October 2018	Alexander Galbreath replaced with Kaitlyn Peterson for contact in P2 team

# APPENDIX A

## GENERAL LOCATION MAP



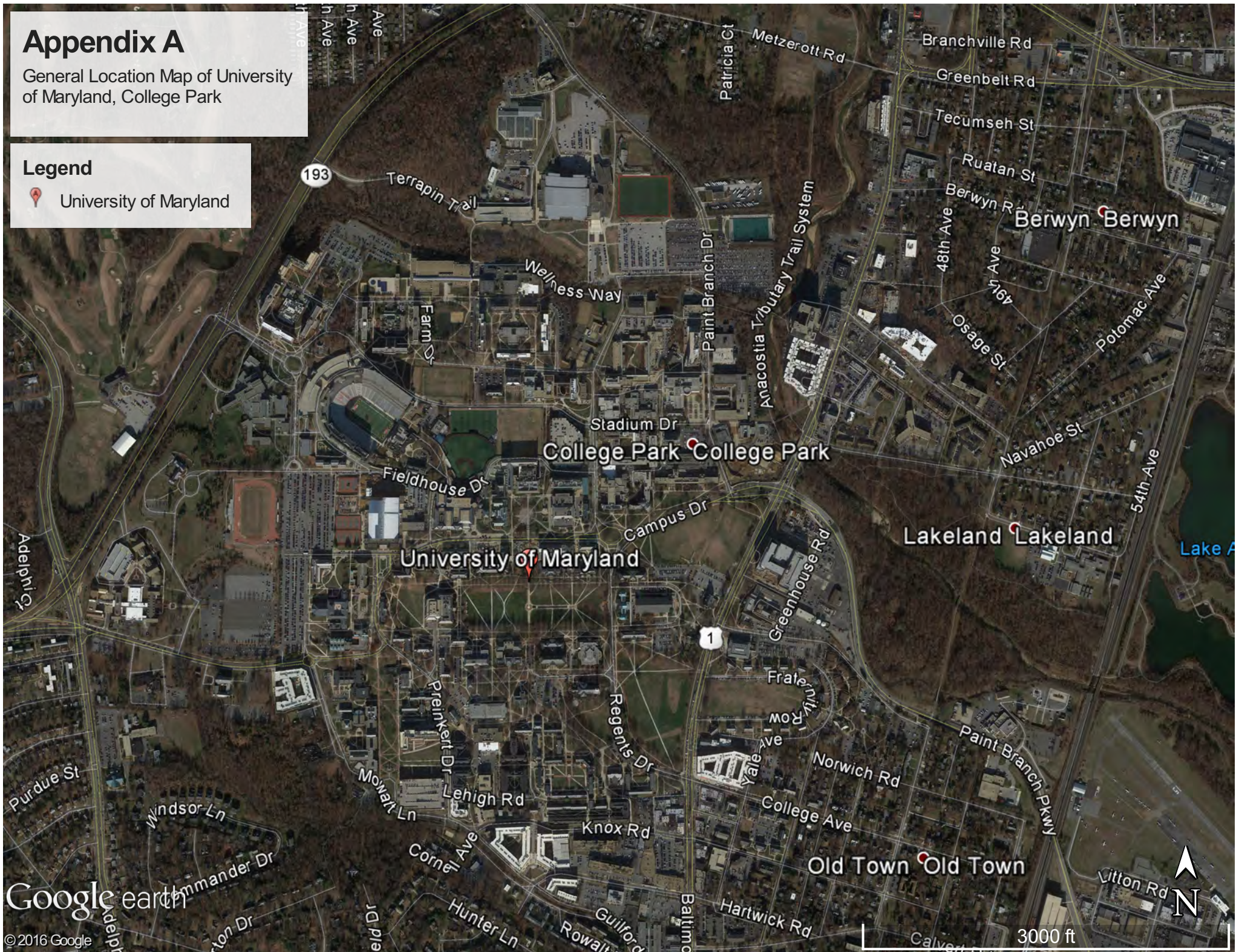
# Appendix A

General Location Map of University of Maryland, College Park

## Legend



University of Maryland



Google earth

© 2016 Google



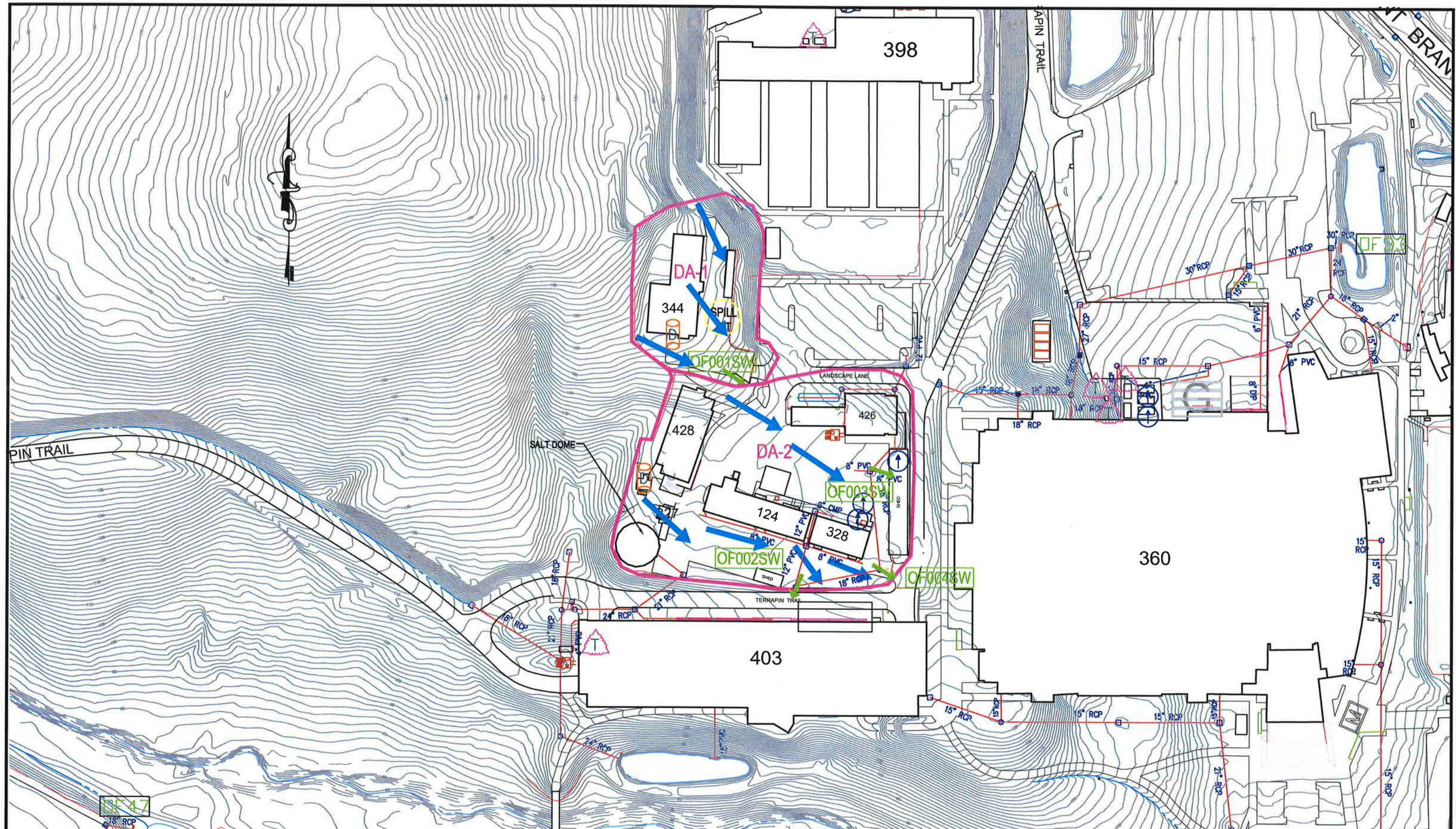
# APPENDIX B

## SITE MAPS









LEGEND

- |                   |                         |               |
|-------------------|-------------------------|---------------|
| DRUM STORAGE      | OF007SW OUTFALLS        | ZIPPER DRAINS |
| ABOVE GROUND TANK | OIL AND WATER SEPERATOR | DRAINAGE FLOW |
| TRANSFORMER       | SPILL KIT               |               |

DESIGNED	KP
DETAILED	CEN
CHECKED	JA
APPROVED	JA
DATE	12/28/18



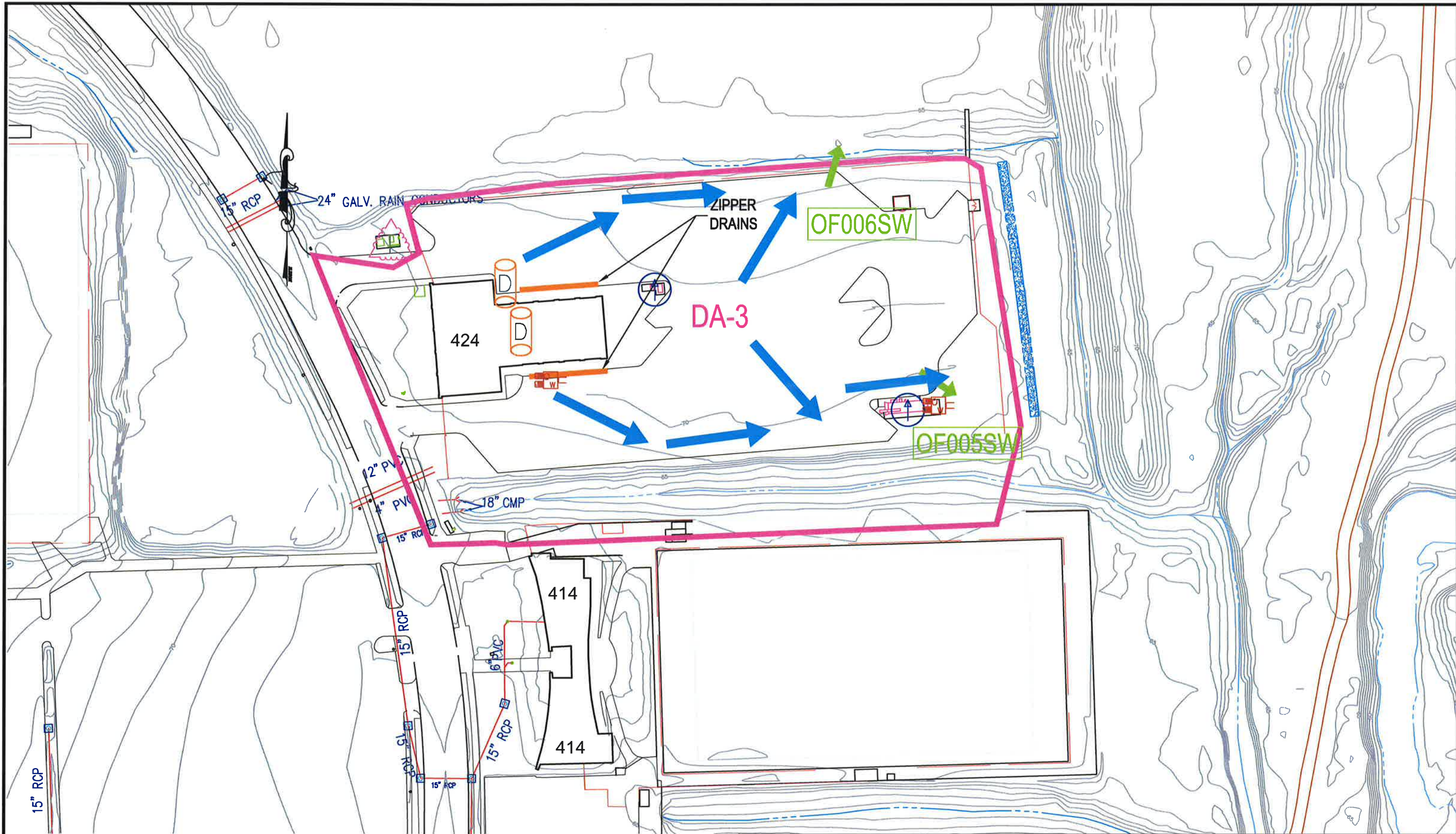
MARYLAND ENVIRONMENTAL SERVICE ENVIRONMENTAL OPERATIONS GROUP	
ROY C. MCGRATH DIRECTOR	STEVE TOMCZEWSKI GROUP DIRECTOR
TIM FORD CHIEF OF ENGINEERING	JOHN AGNOLI PROJECT MANAGER

DRAINAGE AREAS 1 & 2 MAP
SWPP MAP
UNIVERSITY OF MARYLAND

PROJECT NO.
SCALE: 1"=80'
SHEET 0 OF 0
DRAWING NO.

SITE PLAN  
SCALE 1"=80 ft





LEGEND

SITE PLAN  
SCALE 1"=80 ft

- |                   |                         |               |
|-------------------|-------------------------|---------------|
| DRUM STORAGE      | OF007SW OUTFALLS        | ZIPPER DRAINS |
| ABOVE GROUND TANK | OIL AND WATER SEPARATOR | DRAINAGE FLOW |
| TRANSFORMER       | SPILL KIT               |               |

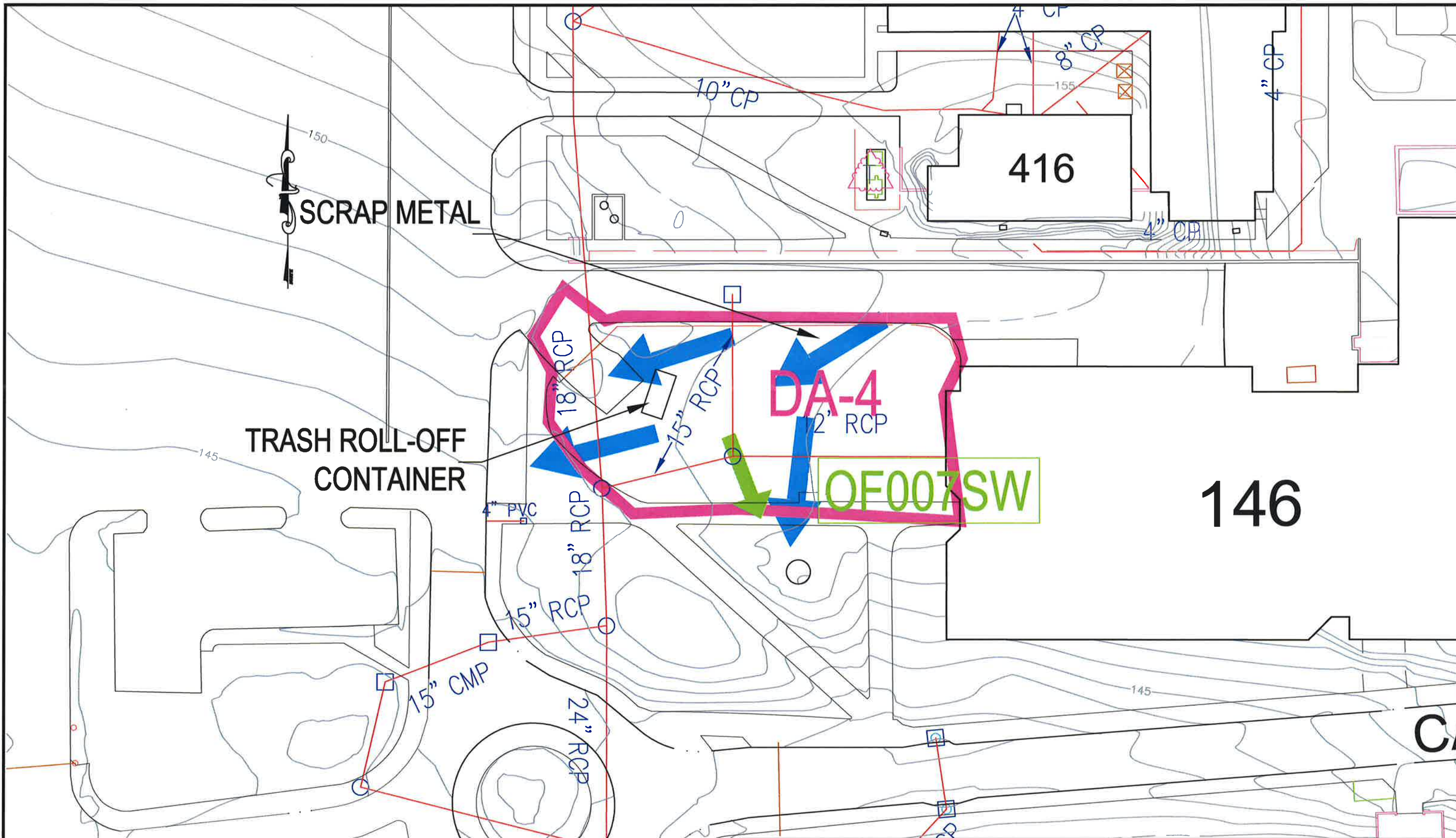
DESIGNED	KP
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CHECKED	JA
APPROVED	JA
DATE	12/28/16



MARYLAND ENVIRONMENTAL SERVICE ENVIRONMENTAL OPERATIONS GROUP	
ROY C. MCGRATH DIRECTOR	STEVE TOMCZEWSKI GROUP DIRECTOR
TIM FORD CHIEF OF ENGINEERING	JOHN AGNOLI PROJECT MANAGER

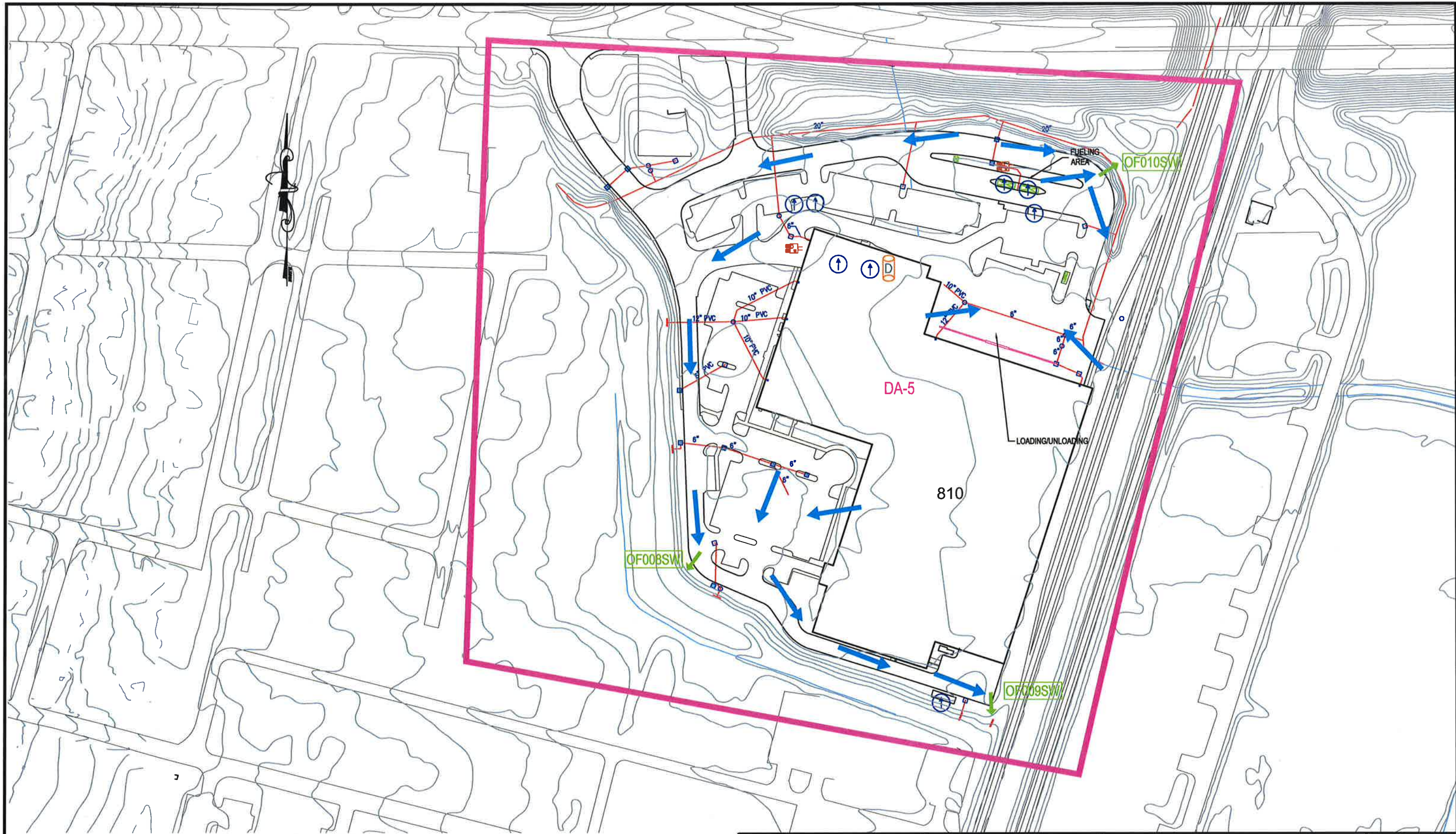
DRAINAGE AREA 3 MAP	PROJECT NO.
SWPP MAP	SCALE: 1"=80'
UNIVERSITY OF MARYLAND	SHEET 0 OF 0
	DRAWING NO.





<b>SITE PLAN</b> SCALE 1"=50 ft	<b>LEGEND</b> <div>  DRUM STORAGE          ABOVE GROUND TANK          TRANSFORMER       </div> <div>  OF007SW OUTFALLS          OIL AND WATER SEPARATOR          SPILL KIT       </div> <div>  ZIPPER DRAINS          DRAINAGE FLOW       </div>	<table border="1"> <tr><td>DESIGNED</td><td>KP</td></tr> <tr><td>DETAILED</td><td>CEN</td></tr> <tr><td>CHECKED</td><td>JA</td></tr> <tr><td>APPROVED</td><td>JA</td></tr> <tr><td>DATE</td><td>12/29/16</td></tr> </table>	DESIGNED	KP	DETAILED	CEN	CHECKED	JA	APPROVED	JA	DATE	12/29/16	<b>MARYLAND ENVIRONMENTAL SERVICE</b> MARYLAND ENVIRONMENTAL SERVICE ENVIRONMENTAL OPERATIONS GROUP ROY C. MCGRATH DIRECTOR STEVE TOMCZEWSKI GROUP DIRECTOR TIM FORD CHIEF OF ENGINEERING JOHN AGNOLI PROJECT MANAGER	PROJECT NO. SCALE: 1"=50'
			DESIGNED	KP										
DETAILED	CEN													
CHECKED	JA													
APPROVED	JA													
DATE	12/29/16													
DRAINAGE AREA 4 MAP SWPP MAP UNIVERSITY OF MARYLAND	SHEET 0 OF 0 DRAWING NO.													





LEGEND

- |                   |           |                         |               |
|-------------------|-----------|-------------------------|---------------|
| DRUM STORAGE      | OF007SW   | OIL AND WATER SEPARATOR | ZIPPER DRAINS |
| ABOVE GROUND TANK | SPILL KIT |                         | DRAINAGE FLOW |
| TRANSFORMER       |           |                         |               |

SITE PLAN  
SCALE 1"=150 ft

DESIGNED	KP
DETAILED	CEN
CHECKED	JA
APPROVED	JA
DATE	12/29/16



MARYLAND ENVIRONMENTAL SERVICE ENVIRONMENTAL OPERATIONS GROUP	
ROY C. MCGRATH DIRECTOR	STEVE TOMCZEWSKI GROUP DIRECTOR
TIM FORD CHIEF OF ENGINEERING	JOHN AGNOLI PROJECT MANAGER

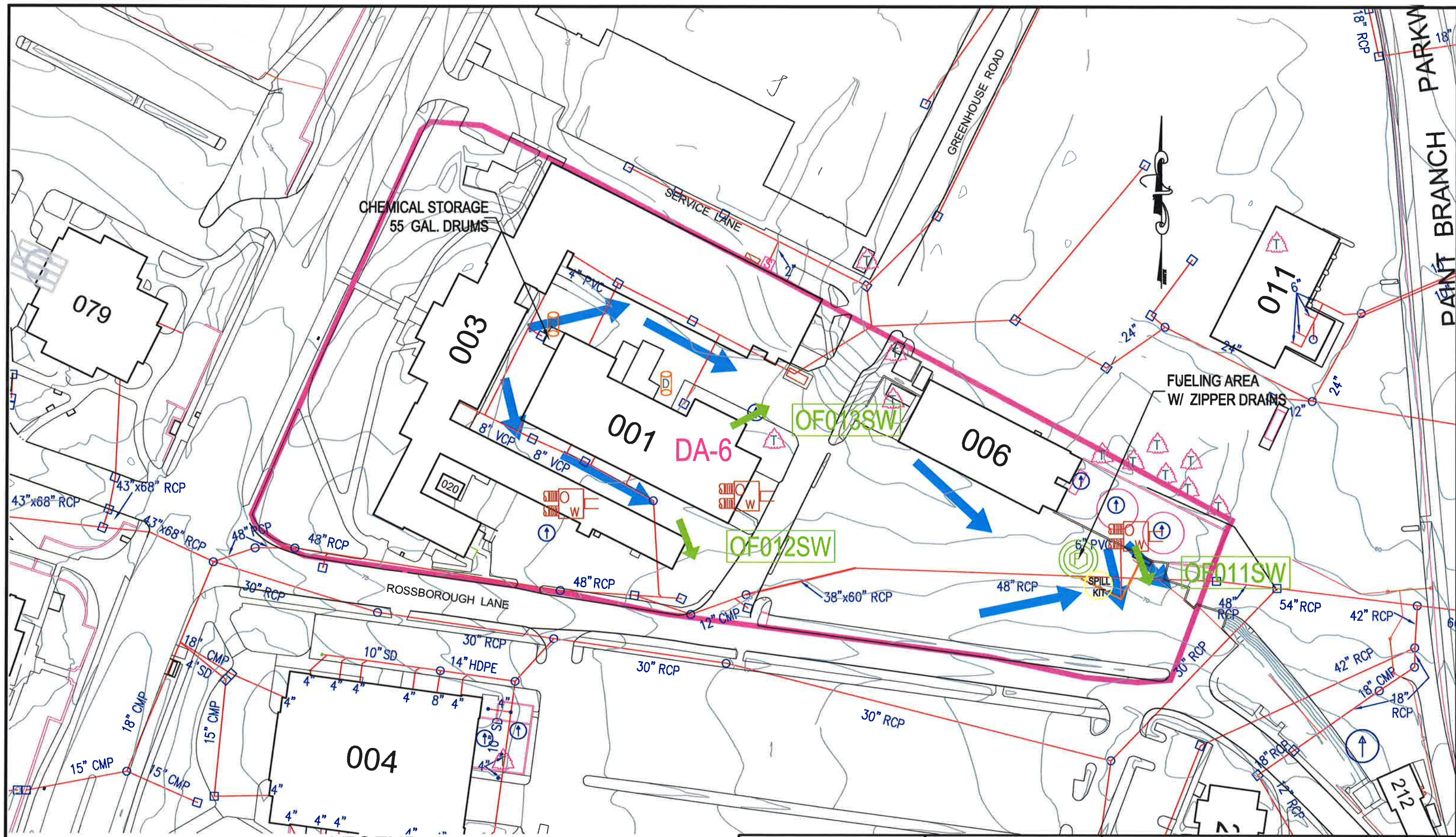
DRAINAGE AREA 5 MAP

SWPP MAP

UNIVERSITY OF MARYLAND

PROJECT NO.
SCALE: 1"=150'
SHEET 0 OF 0
DRAWING NO.





LEGEND

SITE PLAN  
SCALE 1"=80 ft

- |  |                   |  |                         |  |               |
|--|-------------------|--|-------------------------|--|---------------|
|  | DRUM STORAGE      |  | OUTFALLS                |  | ZIPPER DRAINS |
|  | ABOVE GROUND TANK |  | OIL AND WATER SEPARATOR |  | DRAINAGE FLOW |
|  | TRANSFORMER       |  | SPILL KIT               |  |               |

DESIGNED	KP
DETAILED	CEN
CHECKED	JA
APPROVED	JA
DATE	12/29/16



MARYLAND ENVIRONMENTAL SERVICE  
ENVIRONMENTAL OPERATIONS GROUP

ROY C. MCGRATH DIRECTOR	STEVE TOMCZEWSKI GROUP DIRECTOR
TIM FORD CHIEF OF ENGINEERING	JOHN AGNOLI PROJECT MANAGER

DRAINAGE AREA 6 MAP

SWPP MAP

UNIVERSITY OF MARYLAND

PROJECT NO.
SCALE: 1"=80'
SHEET 0 OF 0
DRAWING NO.



# APPENDIX C

## 12-SW PERMIT



# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore Maryland 21230  
(410) 537-3000 • 1-800-633-6101 • <http://www.mde.maryland.gov>

Martin O'Malley  
Governor

Robert M. Summers, Ph.D  
Secretary

Anthony G. Brown  
Lieutenant Governor

## GENERAL PERMIT FOR DISCHARGES FROM STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES

DISCHARGE PERMIT NO. 12-SW NPDES PERMIT NO. MDR0000

Effective Date: January 1, 2014      Expiration Date: December 31, 2018

<b>PART I. APPLICABILITY.....</b>	<b>1</b>
A.    GEOGRAPHIC COVERAGE .....	1
B.    FACILITIES COVERED .....	1
C.    LIMITATIONS ON COVERAGE .....	1
D.    PROHIBITED STORMWATER DISCHARGES .....	2
E.    ELIGIBLE DISCHARGES .....	2
F.    NO EXPOSURE CERTIFICATION .....	3
G.    ALTERNATIVE PERMIT COVERAGE.....	3
H.    CONTINUATION OF AN EXPIRED GENERAL PERMIT .....	4
<b>PART II. AUTHORIZATION UNDER THIS PERMIT .....</b>	<b>4</b>
A.    HOW TO OBTAIN AUTHORIZATION .....	4
B.    DEADLINES FOR COVERAGE .....	6
C.    REQUIRED SIGNATURES.....	7
D.    FAILURE TO NOTIFY.....	8
E.    ADDITIONAL NOTIFICATION .....	8
F.    CHANGES IN PERMIT COVERAGE.....	8
<b>PART III. STORMWATER MANAGEMENT REQUIREMENTS .....</b>	<b>9</b>
A.    CHESAPEAKE BAY RESTORATION REQUIREMENTS .....	9
B.    CONTROL MEASURES AND EFFLUENT LIMITS .....	12
C.    STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS .....	17
D.    ADDITIONAL REQUIREMENTS FOR FACILITIES SUBJECT TO SARA TITLE III, SECTION 313 REQUIREMENTS .....	21
<b>PART IV. CORRECTIVE ACTIONS.....</b>	<b>22</b>
A.    CONDITIONS REQUIRING REVIEW AND REVISION TO ELIMINATE PROBLEM .....	22
B.    CONDITIONS REQUIRING REVIEW TO DETERMINE IF MODIFICATIONS ARE NECESSARY .....	22
C.    CORRECTIVE ACTION DEADLINES .....	22
D.    CORRECTIVE ACTION REPORT.....	23
E.    EFFECT OF CORRECTIVE ACTION .....	23
F.    SUBSTANTIALLY IDENTICAL OUTFALLS .....	23
<b>PART V. INSPECTIONS, MONITORING, AND REPORTING .....</b>	<b>23</b>

<b>A.</b>	<b>SITE INSPECTIONS AND EVALUATIONS .....</b>	<b>23</b>
<b>B.</b>	<b>INDUSTRY SPECIFIC BENCHMARKS MONITORING REQUIREMENTS .....</b>	<b>25</b>
<b>C.</b>	<b>MONITORING PROCEDURES .....</b>	<b>28</b>
<b>D.</b>	<b>HAZARDOUS SUBSTANCES OR OIL IN STORMWATER DISCHARGE(S) REPORTING .....</b>	<b>30</b>
<b>E.</b>	<b>RECORDS RETENTION .....</b>	<b>30</b>
<b>PART VI. STANDARD PERMIT CONDITIONS .....</b>		<b>30</b>
<b>A.</b>	<b>COMPLIANCE WITH THIS GENERAL PERMIT AND WATER POLLUTION ABATEMENT STATUTES .....</b>	<b>30</b>
<b>B.</b>	<b>CIVIL AND CRIMINAL LIABILITY .....</b>	<b>31</b>
<b>C.</b>	<b>ACTION ON VIOLATIONS .....</b>	<b>31</b>
<b>D.</b>	<b>CIVIL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS .....</b>	<b>31</b>
<b>E.</b>	<b>CRIMINAL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS .....</b>	<b>31</b>
<b>F.</b>	<b>PENALTIES FOR FALSIFICATION AND TAMPERING .....</b>	<b>32</b>
<b>G.</b>	<b>RIGHT OF ENTRY .....</b>	<b>32</b>
<b>H.</b>	<b>PROPERTY RIGHTS/COMPLIANCE WITH OTHER REQUIREMENTS .....</b>	<b>32</b>
<b>I.</b>	<b>DUTY TO PROVIDE INFORMATION .....</b>	<b>32</b>
<b>J.</b>	<b>SUBMITTING ADDITIONAL OR CORRECTED INFORMATION .....</b>	<b>32</b>
<b>K.</b>	<b>AVAILABILITY OF REPORTS .....</b>	<b>33</b>
<b>L.</b>	<b>REMOVED SUBSTANCES .....</b>	<b>33</b>
<b>M.</b>	<b>FACILITY OPERATION AND MAINTENANCE .....</b>	<b>33</b>
<b>N.</b>	<b>TOXIC POLLUTANTS .....</b>	<b>33</b>
<b>O.</b>	<b>OIL AND HAZARDOUS SUBSTANCES PROHIBITED .....</b>	<b>33</b>
<b>P.</b>	<b>WATER CONSTRUCTION AND OBSTRUCTION .....</b>	<b>33</b>
<b>Q.</b>	<b>PERMIT MODIFICATION .....</b>	<b>33</b>
<b>R.</b>	<b>TOTAL MAXIMUM DAILY LOAD (TMDL) .....</b>	<b>34</b>
<b>S.</b>	<b>SEVERABILITY .....</b>	<b>34</b>
<b>PART VII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS .....</b>		<b>34</b>
<b>APPENDICIES</b>		
	Appendix A – Industry Sectors.....	A-1
	Appendix B – Quarterly Visual Monitoring.....	B-1
	Appendix C – Calculating Hardness in Receiving Water for Hardness Dependent Metals.....	C-1
	Appendix D – Sector-Specific Requirements for Industrial Activity.....	D-1
	Appendix E – Definitions and Acronyms.....	E-1
	Appendix F – Nutrient Reduction Progress Report.....	F-1

You are only permitted to discharge under this permit after notifying and getting approval from the Department.

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## **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,
-

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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
-

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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://bit.ly/MDE\\_NEC](http://bit.ly/MDE_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
-----------------------------------	---------------------------------------

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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.

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**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://bit.ly/MDE\\_Transfer\\_Request](http://bit.ly/MDE_Transfer_Request). 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.
-



Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

- 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

- 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).
- 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
- 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.
- 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.

- You should not include any confidential information in your submitted SWPPP, which will be a public document available for review by the public.
- 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.
  - Including a file on electronic media (CD, DVD, USB drive, or other approved media) along with your mailed copy of the NOI.
  - Emailing the file to [swppp.permit@maryland.gov](mailto: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.
  - Posting a copy of the SWPPP using your NetDMR account when you send your NOI to the Department.
  - Providing the Department a link (URL) to your document on your NOI, which provides access to your SWPPP on a publicly available company website.
  - 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.

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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

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*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).
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## 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/assets/document/permit/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.

## 2. 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

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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".
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- 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.b) at your facility unless infeasible (as defined in Appendix E, "Infeasible"). If it is infeasible to implement any or all of these practices at your facility, you may satisfy the restoration requirement by working through your local jurisdiction to implement project(s) offsite.
  - 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 consistent with any current MDE trading policy, and would satisfy a restoration requirement of the next General Permit issued by the State.
  - 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.

### 3. 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

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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.

#### **4. 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 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, in order to be eligible for any administrative extension of this permit under the conditions of Part I.H, 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. 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.

### **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

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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.

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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
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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://bit.ly/MDE\\_Sediment\\_Erosion\\_and\\_Control](http://bit.ly/MDE_Sediment_Erosion_and_Control)), 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](http://www.epa.gov/npdes/stormwater/msgp)), National Menu of Stormwater BMPs ([www.epa.gov/npdes/stormwater/menuofbmps](http://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](http://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](http://www.epa.gov/npdes/stormwater/msgp)), National Menu of Stormwater BMPs ([www.epa.gov/npdes/stormwater/menuofbmps](http://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](http://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,
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- 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.

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### 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;
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- 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

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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:
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- 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

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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 exceedance 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) (<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).

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## **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.

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#### **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. 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 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.

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## **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.
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- 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.

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**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
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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](http://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
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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
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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.
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#### 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

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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
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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

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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:

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Provides discharge authorization only upon Maryland Department of the Environment notification of registration.

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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

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
<b>SECTOR A: TIMBER PRODUCTS</b>	
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
<b>SECTOR B: PAPER AND ALLIED PRODUCTS</b>	
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
<b>SECTOR C: CHEMICALS AND ALLIED PRODUCTS</b>	
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
<b>SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS</b>	
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
<b>SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS</b>	
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
<b>SECTOR F: PRIMARY METALS</b>	
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
<b>SECTOR G: METAL MINING (ORE MINING AND DRESSING)</b>	
	(Reserved)
<b>SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES</b>	
	(Reserved)
<b>SECTOR I: OIL AND GAS EXTRACTION AND REFINING</b>	
1311	Crude Petroleum and Natural Gas
1321	Natural Gas Liquids
1381-1389	Oil and Gas Field Services
<b>SECTOR J: MINERAL MINING AND DRESSING</b>	
	(Reserved)
<b>SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES</b>	
HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
<b>SECTOR L: LANDFILLS AND LAND APPLICATION SITES</b>	
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
<b>SECTOR M: AUTOMOBILE SALVAGE YARDS</b>	
5015	Automobile Salvage Yards



SIC Code or Activity Code	Activity Represented
<b>SECTOR N: SCRAP RECYCLING FACILITIES</b>	
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.
<b>SECTOR O: STEAM ELECTRIC GENERATING FACILITIES</b>	
SE	Steam Electric Generating Facilities, including coal handling sites
<b>SECTOR P: LAND TRANSPORTATION AND WAREHOUSING</b>	
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.
<b>SECTOR Q: WATER TRANSPORTATION</b>	
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.
<b>SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS</b>	
3731, 3732	Ship and Boat Building or Repairing Yards
<b>SECTOR S: AIR TRANSPORTATION FACILITIES</b>	
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
<b>SECTOR T: TREATMENT WORKS</b>	
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 .
<b>SECTOR U: FOOD AND KINDRED PRODUCTS</b>	
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
<b>SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS</b>	
2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
3131-3199	Leather and Leather Products
<b>SECTOR W: FURNITURE AND FIXTURES</b>	
2434	Wood Kitchen Cabinets
2511-2599	Furniture and Fixtures
<b>SECTOR X: PRINTING AND PUBLISHING</b>	
2711-2796	Printing, Publishing, and Allied Industries
<b>SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES</b>	
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
<b>SECTOR Z: LEATHER TANNING AND FINISHING</b>	
3111	Leather Tanning and Finishing
<b>SECTOR AA: FABRICATED METAL PRODUCTS</b>	
3411-3499	Fabricated Metal Products, Fabricated Metal Coating and Engraving, and Allied Services.
3911-3915	Jewelry, Silverware, and Plated Ware
<b>SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY</b>	
3511-3599 (except 3571-3579 see Sector AC)	Industrial and Commercial Machinery
3711-3799 (except 3731, 3732 see Sector R)	Transportation Equipment
<b>SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS</b>	
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
<b>SECTOR AD.a: DEPARTMENT OF PUBLIC WORKS AND HIGHWAY MAINTENANCE FACILITIES</b>	
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.
<b>SECTOR AD.b: SCHOOL BUS MAINTENANCE FACILITIES</b>	
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.
<b>SECTOR AD: NON-CLASSIFIED FACILITIES</b>	
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.*

<b>Sample Location</b>					
<b>Quarter / Year:</b>		<b>Date / Time Collected:</b>		<b>Date / Time Examined:</b>	
<b>Qualifying Storm Event?</b>	Yes	No	<b>Runoff Source:</b>	Rainfall	Snowmelt
<b>Collector's Name &amp; Title</b>					
<b>Examiner's Name &amp; Title</b>					
<b>Parameter</b>	<b>Parameter Description</b>		<b>Parameter Characteristics</b>		
<b>1. Color</b>	Does the stormwater appear to have any color? <b>Yes</b> <b>No (Clear)</b>		If Yes, describe: <i>Yellow Brown Red Gray</i> <i>Other:</i>		
<b>2. Clarity</b>	Is the stormwater clear? <b>Yes</b> <b>No</b>		If not clear, which of the following best describes the clarity of the stormwater? <i>Suspended Solids Milky/Cloudy Opaque</i> <i>Other:</i>		
<b>3. Oil Sheen</b>	Can you see a rainbow effect or sheen on the water surface? <b>Yes</b> <b>No</b>		Which best describes the sheen? <i>Rainbow sheet Floating oil globules</i> <i>Other:</i>		
<b>4. Odor</b>	Does the sample have an odor? <b>Yes</b> <b>No</b>		If Yes, describe: <i>Chemical Musty Rotten Eggs</i> <i>Sewage Sour Milk Oil/Petroleum</i> <i>Other:</i>		
<b>5. Floating Solids</b>	Is there anything on the surface of the sample? <b>Yes</b> <b>No</b>		If Yes, describe: <i>Suds Oily Film Garbage</i> <i>Sewage Water Fowl Excrement</i> <i>Other:</i>		
<b>6. Suspended Solids</b>	Is there anything suspended in the sample? <b>Yes</b> <b>No</b>		Describe:		
<b>***Leave sample undisturbed for 30 minutes.***</b>					
<b>7. Settled Solids</b>	Is there anything settled on the bottom of the sample? <b>Yes</b> <b>No</b>		Describe: <i>(note type, size and material after sample is not disturbed for 30 minutes)</i>		
<b>8. Foam</b>	Does foam or material form on the top of the sample surface if you shake it? <b>Yes</b> <b>No</b>		Describe:		
<b>9. If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.</b>					

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

<b>APPENDIX TABLE OF CONTENTS</b> .....	<b>1</b>
<b>SECTOR A – TIMBER PRODUCTS</b> .....	<b>3</b>
<b>SECTOR B – PAPER AND ALLIED PRODUCTS</b> .....	<b>4</b>
<b>SECTOR C – CHEMICAL AND ALLIED PRODUCTS MANUFACTURING, AND REFINING</b> .....	<b>5</b>
TABLE 1 - SUBSECTOR C1 BENCHMARKS (AGRICULTURAL CHEMICALS FOR SIC 2873-2879).....	5
TABLE 2 - SUBSECTORS C2 (INDUSTRIAL INORGANIC CHEMICALS FOR SIC 2812-2819) AND.....	5
C3 (SOAPS, DETERGENTS, COSMETICS AND PERFUMES FOR SIC 2841 – 2844) BENCHMARKS .....	5
<b>SECTOR D – ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANT MANUFACTURING</b> .....	<b>6</b>
<b>SECTOR E – GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS</b> .....	<b>7</b>
<b>SECTOR F – PRIMARY METALS</b> .....	<b>8</b>
<b>SECTOR G – NOT CURRENTLY COVERED IN THIS PERMIT</b> .....	<b>9</b>
<b>SECTOR H – NOT CURRENTLY COVERED IN THIS PERMIT</b> .....	<b>9</b>
<b>SECTOR I – OIL AND GAS EXTRACTION</b> .....	<b>9</b>
<b>SECTOR J – NOT CURRENTLY COVERED IN THIS PERMIT</b> .....	<b>11</b>
<b>SECTOR K – HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES</b> .....	<b>11</b>
<b>SECTOR L – LANDFILLS AND LAND APPLICATION SITES</b> .....	<b>13</b>
TABLE 3 - SUBSECTOR L1 BENCHMARKS - LANDFILLS AND LAND APPLICATION SITES .....	14
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 .....	15
<b>SECTOR M – AUTOMOBILE SALVAGE YARDS</b> .....	<b>16</b>
TABLE 5 - SECTOR M BENCHMARKS (AUTOMOBILE SALVAGE YARDS) .....	17
<b>SECTOR N – SCRAP RECYCLING AND WASTE RECYCLING FACILITIES</b> .....	<b>18</b>
TABLE 6 - SUBSECTOR N1 BENCHMARKS (SCRAP RECYCLING AND WASTE RECYCLING FACILITIES EXCEPT SOURCE-SEPARATED RECYCLING).....	21
<b>SECTOR O – STEAM ELECTRIC GENERATING FACILITIES</b> .....	<b>22</b>
<b>SECTOR P – LAND TRANSPORTATION AND WAREHOUSING</b> .....	<b>25</b>
<b>SECTOR Q – WATER TRANSPORTATION</b> .....	<b>27</b>
<b>SECTOR R – SHIP AND BOAT BUILDING AND REPAIR YARDS</b> .....	<b>29</b>
<b>SECTOR S – AIR TRANSPORTATION</b> .....	<b>31</b>
<b>SECTOR T – TREATMENT WORKS</b> .....	<b>34</b>
<b>SECTOR U – FOOD AND KINDRED PRODUCTS</b> .....	<b>36</b>
TABLE 7 - SUBSECTOR U1. GRAIN MILL PRODUCTS (SIC 2041-2048).....	36
TABLE 8 - SUBSECTOR U2. FATS AND OILS PRODUCTS (SIC 2074-2079) .....	37
<b>SECTOR V – TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCTS</b> .....	<b>38</b>
<b>SECTOR W – FURNITURE AND FIXTURES</b> .....	<b>40</b>
<b>SECTOR X – PRINTING AND PUBLISHING</b> .....	<b>41</b>
<b>SECTOR Y – RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES</b> .....	<b>42</b>

<b>SECTOR Z – LEATHER TANNING AND FINISHING. ....</b>	<b>43</b>
<b>SECTOR AA – FABRICATED METAL PRODUCTS.....</b>	<b>44</b>
TABLE 9 - SECTOR AA BENCHMARKS (FABRICATED METAL PRODUCTS) .....	45
<b>SECTOR AB – TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY FACILITIES.....</b>	<b>46</b>
<b>SECTOR AC –ELECTRONIC AND ELECTRICAL EQUIPMENT AND COMPONENTS, PHOTOGRAPHIC AND OPTICAL GOODS.....</b>	<b>47</b>
<b>SECTOR AD.A – DEPARTMENT OF PUBLIC WORKS AND HIGHWAY MAINTENANCE FACILITIES. ....</b>	<b>48</b>
<b>SECTOR AD.B – SCHOOL BUS MAINTENANCE FACILITIES.....</b>	<b>49</b>
<b>SECTOR AD – STORMWATER DISCHARGES DESIGNATED BY THE DEPARTMENT AS REQUIRING PERMITS....</b>	<b>50</b>

## **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 1 and 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 <sup>1</sup>	0.082	mg/L	1/quarter	Grab
Total Iron	1.0	mg/L	1/quarter	Grab
Total Zinc <sup>1</sup>	0.12	mg/L	1/quarter	Grab
Phosphorus	2.0	mg/L	1/quarter	Grab

<sup>1</sup> 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 facilities. 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 landfiling.

**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, landfiling 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 <sup>1</sup>	0.082	mg/L	1/quarter	Grab

<sup>1</sup> 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 <sup>1</sup>	0.082	mg/L	1/quarter	Grab
Total Zinc <sup>1</sup>	0.12	mg/L	1/quarter	Grab
Total Copper <sup>1</sup>	0.014	mg/L	1/quarter	Grab

<sup>1</sup> 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 steam 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 <sub>5</sub> )	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 <sup>1</sup>	0.12	mg/L	1/quarter	Grab

<sup>1</sup> 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://bit.ly/MDE\\_Accounting\\_Guidance](http://bit.ly/MDE_Accounting_Guidance), 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://bit.ly/MDE\\_Design\\_Manual](http://bit.ly/MDE_Design_Manual).

**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 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

**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://bit.ly/MDE\\_MS4](http://bit.ly/MDE_MS4).

- 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. 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://bit.ly/MDE\\_Proprietary\\_Practices](http://bit.ly/MDE_Proprietary_Practices).

**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

**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 meet 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.**

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# APPENDIX D

## NOTICE OF INTENT (NOI)

**MARYLAND DEPARTMENT OF THE ENVIRONMENT****GENERAL PERMIT Number 12-SW for DISCHARGES from  
STORMWATER associated with INDUSTRIAL ACTIVITIES**

Notice of Intent (NOI) for Permit No. 12-SW

**DISCHARGE PERMIT NO. 12-SW****NPDES PERMIT NO. MDR000000**

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized by a State/ National Pollutant Discharge Elimination System (NPDES) permit issued for discharges from stormwater associated with industrial activities identified in Section II of this form. All information requested must be provided in order to be considered for authorization to discharge under this permit. Instructions are provided at the end of this form.

**SECTION I: Facility Operator Information****(A) Owner/Operator Name**

--

**(B) Primary Contact Name**

Title

--	--

Telephone Number

Email Address

--	--

**(C) Mailing Address**

--

City

State

ZIP Code

--	--	--

**(D) IRS Employer Identification Number (EIN)****(E) Check Below**☐

Private

☐

Federal

☐

State/Local

**SECTION II: Facility Information****(F) Name of Facility**

--

**(G) Facility Address (if different than your mailing address)**

--

City

State

ZIP Code

County

	MD		
--	----	--	--

**(H)**

Insurance Company Name

Policy Number

Worker's Compensation Insurance		
---------------------------------	--	--

Identify number of above ground storage tanks at your facility

Total volume (in gallons) of above ground storage tanks

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**NOI for Permit No. 12-SW**

**SECTION II (continued): Facility Information**

**(I)** Provide the primary four-digit SIC code that best represents the principal products or activities provided by the facility, and any co-located SIC codes.

Primary SIC: <div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>	Co-located SICs: <div style="display: flex; gap: 5px;"><div style="border: 1px solid black; width: 40px; height: 20px;"></div><div style="border: 1px solid black; width: 40px; height: 20px;"></div><div style="border: 1px solid black; width: 40px; height: 20px;"></div></div>	Description of your primary industrial activity:
---	---	--

<b>(J)</b> Latitude (in degrees decimal)	Longitude (in degrees decimal)	<b>(K)</b> <input type="checkbox"/> Check here if you a new discharger. If not a new discharger, provide the previous registration (e.g., 02SW1234)
---	-----------------------------------	--

<b>(L)</b> Total property size <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> (in acres)	<b>(M)</b> <input type="checkbox"/> Check if your facility is inactive and unstaffed.
--	---

**(N)** Identify the 8 digit identifier(s) and name(s) of the receiving water(s).  
 ,  
 ,

Identify if any of the receiving water(s) are listed as high quality (Tier 2)

Identify if any of these impairments have been identified for the receiving water(s). (Category 4a, 4b, 4c, or 5 waterbodies)	<input type="checkbox"/> Bacteria <input type="checkbox"/> Biological <input type="checkbox"/> Ions <input type="checkbox"/> Metals <input type="checkbox"/> Nutrients <input type="checkbox"/> PCBs	<input type="checkbox"/> Pesticides <input type="checkbox"/> pH <input type="checkbox"/> Stream Modifications <input type="checkbox"/> Sediments <input type="checkbox"/> Toxics <input type="checkbox"/> Trash
---	---	--

Identify your local MS4 jurisdiction or N/A if your facility is not within an MS4:

**SECTION III: Stormwater Pollution Prevention Plan (SWPPP) and Monitoring**

The 12SW permit does require you evaluate and implement specific control measures and effluent limits. It requires you to perform quarterly visual monitoring, may include numeric limits in certain watersheds, and benchmark monitoring and reporting for specific industrial sectors. It requires you to update your SWPPP to encompass the new controls required and provide this in conjunction with your NOI, and then keep an updated SWPPP onsite.

**(O)** Stormwater Pollution Prevention Plan (SWPPP) Primary Contact

Name			
Telephone Number	Email Address	SWPPP Provided (URL, email, etc)	

**(P)** Select all the sector's benchmark and electronic reporting that apply to your operations.

- ☐ None
- ☐ Subsector C1 (Agricultural Chemicals for SIC 2873-2879)
  - ☐ Subsector C2 (Industrial Inorganic Chemicals for SIC 2812-2819)
  - ☐ Subsector C3 (Soaps, Detergents, Cosmetics and Perfumes for SIC 2841 – 2844)
  - ☐ Subsector L1 – Landfill or Land Application Site with refuse disposal or marginal land permit
  - ☐ Subsector L2 – Landfill or Land Application Site with refuse disposal or marginal land permit, except MSWLF Areas Closed in Accordance with 40 CFR 258.60
  - ☐ Sector M - Automobile Salvage Yards
  - ☐ Subsector N1 - Scrap Recycling and Waste Recycling Facility not Source-Separated Recycling
  - ☐ Subsector U1 - Grain Mill Products (SIC 2041-2048)
  - ☐ Subsector U2 - Fats and Oils Products (SIC 2074-2079)
  - ☐ Sector AA - Fabricated Metal Products

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**NOI for Permit No. 12-SW**

<input type="checkbox"/>	(Q) Check here if your facility is subject to the Chesapeake Bay Restoration Requirements.		
<b>(R)</b> If you are subject to Chesapeake Bay Restoration Requirements, provide these 3 values: Total impervious surface area (square feet) ..... <input style="width: 100px;" type="text"/> Untreated impervious surface area (in square feet) ..... <input style="width: 100px;" type="text"/> Impervious surface area subject to 20% restoration requirement (in acres) ..... <input style="width: 100px;" type="text"/>			
<b>SECTION IV: Permit Fee Selection</b>			
<b>Annual Payment</b> – Select this fee structure if you prefer to pay annually. The first \$120 annual payment shall be submitted with this NOI and then paid annually by July 1 thereafter.		\$120	<input type="checkbox"/>
<b>One-Time Payment</b> – Select this fee structure if you prefer to pay one-time for the term of the permit (until December 31, 2018). Additional annual fees may apply after that time, if the permit is administratively extended. Send check for this amount with this completed NOI.		\$550	<input type="checkbox"/>
Select this if you are State or Local Government.		No Fee	<input checked="" type="checkbox"/>
<b>SECTION V: Certification</b>			
To be completed by a responsible corporate officer, proprietor, general partner, principal executive officer, or ranking elected official or their duly authorized representative, as detailed in Part II.C of the permit.			
The permit has specific control measure selection and implementation requirements. The permit has quarterly benchmark and visual monitoring requirements. The permit requires you to perform annual Comprehensive Site Compliance Evaluations, and to document the results with your SWPPP. The permit has triggers and requirements for corrective actions. You should be aware of these and other requirements by thoroughly reviewing the permit.			
<i>"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."</i>			
Signature/Certifier		Date	
		8/3/2017	
Signatory Name/Title: Typed or Printed		Telephone Number	
Maureen Kotlas		(301) 405-3099	
NOI Preparer (Complete if NOI was prepared by someone other than the certifier)			
<b>Prepared by:</b>		Jason Baer	
Telephone Number		Email Address	
(301) 405-3163		jbaer123@umd.edu	
<b>Submit completed form along with FEE (payable to Maryland Department of the Environment) to:</b> <b>Maryland Department of the Environment, P.O. Box 2057, Baltimore, MD 21203-2057</b>			
<b>For MDE use only:</b>	<b>Facility #</b>	<b>Receipt #</b>	<b>Date:</b>
PCA 13710	Comp Object 5707	Suffix 406	

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**NOI for Permit No. 12-SW, NPDES PERMIT NO. MDR0000**  
**FORM INSTRUCTIONS**

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**WHO MUST FILE**

The operator of a facility that is requesting to discharge stormwater from industrial facilities must submit a Notice of Intent (NOI) to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Discharge Permit No. 12-SW. If you have a question about whether you need this permit or any NPDES permit, contact the Maryland Department of the Environment (MDE), Wastewater Permits Program, at 410-537-3323.

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized by a State/ NPDES permit issued for stormwater discharges from industrial facilities identified in Section II of this form. Authorization to discharge begins upon notification of registration by MDE. The permit is available using this link [http://bit.ly/MDE\\_industrial\\_stormwater](http://bit.ly/MDE_industrial_stormwater) or via MDE's website.

**SECTION I: Owner/Operator Information**

- (A) Provide the legal name of the person, firm, public organization, or other entity that operates the industrial facility described in Section II of this application. An operator of a facility is a legal entity that controls the operation of the facility.
- (B) Provide the name of the Primary Contact; title of Primary Contact; Primary Contact phone number; Primary Contact e-mail address.
- (C) Provide the primary facility contact mailing address; city; state; zip. All correspondence will be sent to this address.
- (D) Provide the IRS Employer Identification Number (EIN).
- (E) Identify whether the owner/operator is private, federal or state/local government.

**SECTION II: Facility Information**

- (F) Provide the name of facility – enter “same” if the name does not differ from the information in Section I(A).
- (G) Provide the physical address; city; state; zip – enter “same” if the address does not differ from the information in Section I(C); Provide the County where the facility is located. If this is a contiguous system spanning multiple counties or cities, list all counties and cities. We now request above ground storage tank information (added 2/21/14).
- (H) Provide worker's compensation insurance information for the facility identified in this section of the application.
- (I) Provide the primary and any co-located four-digit Standard Industrial Classification (SIC) code describing the facility. Also provide a short written explanation of the industrial process category (e.g., scrap recycling of automobiles). The current Department of Labor's - Occupation, Safety and Health Administration (OSHA) website (<http://www.osha.gov/pls/imis/sicsearch.html>) provides a detailed written description of SIC codes.
- (J) Provide latitude and longitude of the discharge/outfalls requesting to be permitted. To obtain coordinates, you may use a GPS to find location within your site. There are internet options that you can also use, such as Google's Tool. A step by step method can be found at this URL: <http://www.wikihow.com/Find-the-GPS-Coordinates-of-an-Address-Using-Google-Maps>. We require the coordinates be in degrees decimal. An example of this for Maryland Department of the Environment at 1800 Washington Blvd, Baltimore, MD would be latitude of 39.276027, longitude of -76.644779.
- (K) Identify if you are a new discharger, or previously covered under another permit. Identify any previously obtained NPDES permit (general or individual) for your stormwater discharges. If applicable, include the permit number. (e.g., 02SW1234 general permit or 11DP1234)

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**NOI for Permit No. 12-SW**

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individual permit, where 1234 was the unique 4 digit designation for your coverage).

- (L) Provide the total property size at the address, including both the industrial and non-industrial portions of your property (e.g., 2 acres).
- (M) Indicate whether your facility is currently inactive and unstaffed (Part V.A.4 of the permit). Note that if your facility becomes inactive and unstaffed during the permit term, you must notify the Department immediately.
- (N) This section is to verify information about where the stormwater is discharged. Identify the name(s) and 8 digit identifier of the receiving stream or water (e.g., Gwynns Falls 02130905), using the Department's "FindMyWatershed" tool at this link <http://bit.ly/FindWatershed>. When using the "FindMyWatershed" tool type in your address, and then place your mouse at your discharge points and left-click to bring up the identifier and receiving water.

To verify if the receiving waters are designated as high quality waters, use the Department's "Tier 2" tools at this link [http://bit.ly/MDE\\_Tier2](http://bit.ly/MDE_Tier2) to locate your facility location and identify if the stream or catchment are categorized as Tier 2. The "Tier 2" tools have shaded areas that indicate where waters are designated as high quality or Tier 2 waters.

To verify if receiving waters are impaired (Category 4a, 4b, 4c, or 5 water bodies), use the Department's "Integrated Report Water Quality Assessment Maps" at this link [http://bit.ly/MDE\\_Impairments](http://bit.ly/MDE_Impairments) and review each of the impairments provided on that website (bacteria, biological, ions, metals, nutrients, PCBs, pesticides, pH, stream modifications, sediments, toxics or trash) for your facility location. When looking at each of the maps (i.e. Bacteria), you can use the Legend Button on the upper right side of the map to identify what each color or shading means. If the stream or receiving water which receives your stormwater is listed as impaired, indicate this impairment on the NOI. An alternative method is provided through Maryland's Searchable Integrated Report Database available at [http://bit.ly/MDE\\_SearchableReport](http://bit.ly/MDE_SearchableReport).

If your facility discharges to a municipal storm sewer system (MS4), you are required to contact the jurisdiction. Local storm sewer systems under NPDES permits are listed at: [http://bit.ly/MDE\\_MS4](http://bit.ly/MDE_MS4). If you are uncertain of the MS4 operator, contact your local government department of public works for that information.

**SECTION III: Stormwater Pollution Prevention Plan (SWPPP) and Monitoring**

- (O) Indicate here the main contact for the SWPPP. Also, indicate how you are providing your SWPPP to the Department, either online with appropriate URL (provide your URL in the space on the form), by email, or other methods provided in the permit. Identify the name, telephone number, and email address of the person who will serve as a contact for the Department on issues related to stormwater management at your facility. This person should be able to answer questions related to stormwater discharges, the SWPPP and other issues related to stormwater permit coverage, or have immediate access to individuals with that knowledge.
- (P) Determine which industrial sectors apply to your operations by first identifying your industrial sectors in Appendix A, and then reviewing Appendix D for applicable benchmark requirements. Verify from this list which ones apply to your facility. If these apply to your facility you will need to apply for access to NetDMR, and begin monitoring (Part V.B of the permit).
- (Q) Confirm if your facility is subject to the Chesapeake Bay Restoration Requirements (see below). You must comply with the Chesapeake Bay Restoration Requirements (Part III.A of the permit) 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

# MARYLAND DEPARTMENT OF THE ENVIRONMENT

## NOI for Permit No. 12-SW

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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.

**To determine if your property is in the Chesapeake Bay Watershed**, you can use the results from your assessment above or using the Department's "FindMyWatershed" tool at this link <http://bit.ly/FindWatershed>. Although most of the state is in the Chesapeake Bay Watershed, there are exceptions on the western and eastern sides of the state. The exceptions in western Maryland are those that drain to the Youghiogheny River (eight digit codes 05020201 and 05020202), including Deep Creek Lake (05020203), and areas that drain to the Casselman River (05020204). The exceptions in eastern Maryland are areas that drain to the Christina River (02130607), Isle of Wight Bay (02130103), Assawoman Bay (02130102), Newport Bay (02130105), Chincoteague Bay (02130106), or Sinepuxent Bay (02130104) and areas that drain directly to the Atlantic Ocean (02130101).

Whether you are within the MS4 jurisdiction (e.g. it is located in Frederick County) can be verified by contacting your local government or the Department if you are unsure.

Facilities owned by or leased from an entity that is permitted as an MS4 will perform restoration through the MS4 permit and are therefore not required to do additional work under this permit.

- (R)** These three values are part of the calculations required in the permit, for those who are subject to the Chesapeake Bay Restoration Requirements.

Total impervious surface area in square feet is determined in the permit Part III.A.2.a.

Untreated impervious surface area in square feet is determined in the permit Part III.A.2.d.

Impervious surface area subject to 20% restoration requirement in acres is determined in the Part III.A.2.e.

### **SECTION IV: Permit Fee**

Indicate the amount sent with this NOI form. The permit fee for stormwater discharges associated with industrial activity is \$120 per year if submitted with the NOI and then annually on July 1st thereafter. Alternatively, an upfront payment of \$550 (until December 31, 2018) would be an option with additional annual fees which may apply after that time, if the permit is administratively extended. The fee shall be submitted with the NOI. Local and State Government are exempt from the fee. The annual rate and application fee may change over time, so you are encouraged to check COMAR 26.08.04.09-1 (C) at the time of your application.

### **SECTION V: Certification**

Signatures and Certifications are detailed in the permit Part II.C. Individuals who discharge to waters of the State without an individual State or general State/NPDES discharge permit, are in violation of the Federal Clean Water Act and of the Environment Article, Annotated Code of Maryland, and may be subject to penalties. An original signature and date is required.

A completed form will not be processed until the fee has been paid-in-full and your SWPPP has been received.

### **HOW TO SUBMIT:**

Send the completed NOI and fee (see permit) to **Maryland Department of the Environment, P.O. Box 2057, Baltimore, MD 21203-2057** and provide the SWPPP in one of the allowed formats (Part II.A.3.b of the permit). You must ensure that the form is completely filled out and payment is enclosed, and the SWPPP follows all permit requirements and is successfully provided to the Department. Your



**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
NOI for Permit No. 12-SW

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permit application will be handled as efficiently as possible. However, if you fail to provide us with the information we request, we will be unable to process your registration for the permit.

# APPENDIX E

## EXPOSED MATERIALS

## Exposed Significant Materials

Updated June 2017

Drainage Area	Tank ID	Material	Exposure Period	Quantity	Location	Storage Method
DA - 2	52A	Gasoline	Year Round	1,000 Gallons	Adjacent to building #328	Double Walled AST
DA - 2	52B	Diesel Fuel	Year Round	1,500 Gallons	Adjacent to building #328	Double Walled AST
DA - 2	52C	Waste Oil	Year Round	550 Gallons	Adjacent to building #328	Double Walled AST in tertiary Containment
DA - 2	84	Diesel Fuel	Year Round	520 Gallons	Adjacent to building #328	Double Walled AST
DA - 2	n/a	Landscaping Equipment	Year Round	Varies	Adjacent to building #326	Covering exposed equipment during rain events
DA - 3	78B	Diesel Fuel	Year Round	20,000 Gallons	Southeast corner of the drainage area	Double walled AST
DA - 3	78C	Waste Oil	Year Round	550 Gallons	South side of building #424	AST with secondary containment
DA - 3	78A	Motor Oil	Year Round	240 Gallons	South side of building #424	AST with secondary containment
DA - 3	n/a	55-gallon drums (~4)	Varies	~220 Gallons	Outside of building #424	55-Gallon Drums
DA - 3	n/a	Used Antifreeze	Year Round	110 Gallons	Outside of building #424	55-Gallon Drums in secondary containment
DA - 3	n/a	Diesel Exhaust Fluid	Year Round	330 Gallons	Southeast corner of the drainage area	Intermediate Bulk Container (IBC) Tote
DA - 3	n/a	Scrap Metal	Year Round	Varies	Outside of building #424	55-Gallon Drums
DA - 4	n/a	Scrap Metal	Year Round	Varies	Inside fenced area within drainage area	Covering exposed scrap metal
DA - 4	n/a	Trash	Year Round	Varies	Inside fenced area within drainage area	Trash roll-off container
DA - 5	79B	Gasoline	Year Round	10,000 Gallons	Fueling Area	Double Walled AST
DA - 5	79C	Gasoline	Year Round	10,000 Gallons	Fueling Area	Double Walled AST
DA - 5	79F	E-85 Gasoline	Year Round	10,000 Gallons	Fueling Area	Double Walled AST
DA - 5	79A	Fuel Oil	Year Round	12,000 Gallons	Southern portion of the drainage area	Double Walled AST
DA - 5	n/a	Scrap Metal	Year Round	Varies	North side of building #810	Metal Dumpster
DA - 5	n/a	C&D Material	Year Round	Varies	North side of building #810	Metal Dumpster
DA - 6	1B	Diesel Fuel	Year Round	8,000 Gallons	Fuel Unloading Area	Double Walled AST in a diked containment
DA - 6	2A	Fuel Oil	Year Round	250,000 Gallons	Southern portion of the drainage area	Double Walled ASTs in a diked containment
DA - 6	2B	Fuel Oil	Year Round	250,000 Gallons	Southern portion of the drainage area	Double Walled ASTs in a diked containment
DA - 6	n/a	Steam Additives	Year Round	Varies	Northwestern end of building #001	55-Gallon drums

# APPENDIX F

## QUARTERLY VISUAL MONITORING

## Quarterly Visual Monitoring Form

*Fill out a separate form for each outfall sampled.*

<b>Sample Location</b>					
<b>Quarter / Year:</b>		<b>Date / Time Collected:</b>		<b>Date / Time Examined:</b>	
<b>Qualifying Storm Event?</b>	Yes	No	<b>Runoff Source:</b>	Rainfall	Snowmelt
<b>Collector's Name &amp; Title</b>					
<b>Examiner's Name &amp; Title</b>					
<b>Parameter</b>	<b>Parameter Description</b>		<b>Parameter Characteristics</b>		
<b>1. Color</b>	Does the stormwater appear to have any color? <b>Yes</b> <b>No (Clear)</b>		If Yes, describe: <i>Yellow Brown Red Gray Other:</i>		
<b>2. Clarity</b>	Is the stormwater clear? <b>Yes</b> <b>No</b>		If not clear, which of the following best describes the clarity of the stormwater? <i>Suspended Solids Milky/Cloudy Opaque Other:</i>		
<b>3. Oil Sheen</b>	Can you see a rainbow effect or sheen on the water surface? <b>Yes</b> <b>No</b>		Which best describes the sheen? <i>Rainbow sheet Floating oil globules Other:</i>		
<b>4. Odor</b>	Does the sample have an odor? <b>Yes</b> <b>No</b>		If Yes, describe: <i>Chemical Musty Rotten Eggs Sewage Sour Milk Oil/Petroleum Other:</i>		
<b>5. Floating Solids</b>	Is there anything on the surface of the sample? <b>Yes</b> <b>No</b>		If Yes, describe: <i>Suds Oily Film Garbage Sewage Water Fowl Excrement Other:</i>		
<b>6. Suspended Solids</b>	Is there anything suspended in the sample? <b>Yes</b> <b>No</b>		Describe:		
<b>***Leave sample undisturbed for 30 minutes.***</b>					
<b>7. Settled Solids</b>	Is there anything settled on the bottom of the sample? <b>Yes</b> <b>No</b>		Describe: <i>(note type, size and material after sample is not disturbed for 30 minutes)</i>		
<b>8. Foam</b>	Does foam or material form on the top of the sample surface if you shake it? <b>Yes</b> <b>No</b>		Describe:		
<b>9. If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.</b>					

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 G

## ROUTINE QUARTERLY SWPPP INSPECTION FORM

### Quarterly Stormwater Compliance Inspection Report

The **Quarterly** Compliance Inspection shall be sufficiently detailed to verify that the Storm Water Pollution Prevention Plan (SWPPP) accurately reflects current site conditions, all potential pollution sources at the facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices listed in the facility's SWPPP are properly operated and maintained. A visual inspection of the stormwater outfall(s) should be made to check for any sheens, turbidity, or other visual signs of contamination.

Name and Title of Person/s Conducting Inspection:

Inspection Date:

Facility Name:

Telephone #:

Is a copy of the SWPPP maintained onsite?

Yes

☐

No

☐

Does the SWPPP include a Site map indicating Drainage Areas and Outfalls?

Yes

☐

No

☐

Does the SWPPP contain a topographic map?

Yes

☐

No

☐

Has any construction or changes occurred that alters the site map, drainage conditions, or any other portion of the facilities SWPPP?

Yes

☐

No

☐

If yes, explain:

Have any changes occurred in facility personnel, pollution prevention team members, or emergency contacts? (If yes, then update on an attached sheet and in SWPPP plan.)

Yes

☐

No

☐

Does the description of the drainage areas accurately reflect Site Conditions? If no, please explain and make revisions.

Yes

☐

No

☐

Does the list of potential pollutant sources reflect Site conditions and sources? If no, please explain and make revisions.

Yes

☐

No

☐



Have any changes occurred in facility operations that could be identified as new sources for possible contamination of stormwater? Yes ☐ No ☐

Is the Inventory of Exposed Materials contained in SWPPP Appendix accurate and up to date? If no please make revisions. Yes ☐ No ☐

Have there been any spills or leaks in the past year? If yes please update the Records of Spills in the SWPPP Appendix Yes ☐ No ☐

Are inspections being completed and documented? Yes ☐ No ☐

Are copies of inspections being maintained onsite? Yes ☐ No ☐

Are follow ups or corrective actions to inspections being completed and documented? Yes ☐ No ☐

Are materials stored, handled, or disposed of as addressed in the SWPPP? Yes ☐ No ☐

Are copies of training documentation maintained onsite? Yes ☐ No ☐

Are vehicles and equipment being properly maintained? Yes ☐ No ☐

Is the maintenance being documented? Yes ☐ No ☐

Are pre-startup inspections being completed? Yes ☐ No ☐

Are above ground storage tanks being inspected accordingly with the SPCC Plan? Yes ☐ No ☐

Are the Good Housekeeping practices as part of the BMP's being implemented at the Facility? If no please explain and make revisions to the Appropriate BMP in the SWPPP Appendix. Yes ☐ No ☐

Are the Best Management Practices at the Facility and associated Good Housekeeping effective in minimizing exposure to stormwater? If No please recommend additional BMP's or Good Housekeeping. Yes ☐ No ☐

Are the Spill Prevention and Response Procedures up to date? If no please revise. Yes ☐ No ☐

Are Spill Prevention and Response Procedures posted at the appropriate locations around the facility? If not please post.	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Are spill response materials stocked at appropriate locations and are they adequate?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Is Pollution Prevention Training being conducted?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Does the Facility's SWPPP need to be amended due to any inadequacies or changes noted?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Does the Facility's SWPPP need to be amended due to any inadequacies or changes noted?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

Remarks and Notes from Visual Inspection of the Site

Maintenance Building:

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Scales:

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Fueling Areas:

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Site Perimeter:

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Sediment Trap:

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Transfer Trailer and Container Storage Areas

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Follow-ups to issues identified or assignments made:

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Inspectors:

Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

Facility Supervisor:

Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

# APPENDIX H

## EPA ANNUAL REPORTING FORM



### A. GENERAL INFORMATION

[illegible]

2. NPDES Permit Tracking No.:									
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3. Facility Physical Address:

[illegible]

b. City: | | | | | | | | | | | | | | | | | | | | | |

c. State: | |

d. Zip Code: | | | | | - | | | | |

[illegible][illegible]

Additional Inspectors Name(s): | | | | | | | | | | | | | | | | | | | | | |

\_\_\_\_\_

[illegible]

Title: | | | | | | | | | | | | | | | | | | | | | |

[illegible]

6. Inspection Date: | | | / | | | / | | |

## B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?  
☐ YES   ☐ NO

If NO, describe why not:

**NOTE:** Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☐ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☐ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☐ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☐ YES ☐ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

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**NOTE:** Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.



**NOTE:** Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA \_\_\_\_\_:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA \_\_\_\_\_:

## 1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA \_\_\_\_:

### 1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)



**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

1. Corrective Action #			of			for this reporting period.
------------------------	--	--	----	--	--	----------------------------

☐ An update on a corrective action from a previous annual report; or

☐ A new corrective action?

- ☐ Unauthorized release or discharge
- ☐ Numeric effluent limitation exceedance
- ☐ Control measures inadequate to meet applicable water quality standards
- ☐ Control measures inadequate to meet non-numeric effluent limitations
- ☐ Control measures not properly operated or maintained
- ☐ Change in facility operations necessitated change in control measures
- ☐ Average benchmark value exceedance
- ☐ Other (describe): \_\_\_\_\_

5. Date problem identified: 

--	--

 / 

--	--

 / 

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☐ Comprehensive site inspection

☐ Quarterly visual assessment

☐ Routine facility inspection

☐ Benchmark monitoring

☐ Notification by EPA or State or local authorities

☐ Other (describe): \_\_\_\_\_

9. Date corrective action initiated:     |     |     | / |     | / |     |     |

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

## 1. Compliance Certification

If NO, summarize why you are not in compliance with the permit:

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. 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.

\_\_\_\_\_

Date Signed: \_\_\_\_\_

# APPENDIX I

## PREVIOUS ANNUAL INSPECTIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

## Annual Reporting Form

## A. GENERAL INFORMATION

1. Facility Name: University of Maryland-CP

2. NPDES Permit Tracking No.: MDR003281

3. Facility Physical Address:

a. Street: 7901 Regents Drive

b. City: College Park

c. State: MD

d. Zip Code: 20742

4. Lead Inspectors Name: Kaitlyn Peterson

Title: Env. Specialist

Additional Inspectors Name(s):

5. Contact Person: Jason Baer

Title: Assistant Director

Phone: 301-405-3163 Ext. E-mail: JBaer123@umd.edu

6. Inspection Date: 10/29/2020

## B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?  
☒ YES ☐ NO

If NO, describe why not:

**NOTE:** Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☒ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

Only Visual monitoring performed. Due to COVID-19 Pandemic, staffing and resources have been limited.

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

All of the 12-SW outfalls are described as sheet flow either off of the property boundary of the drainage area, or into a storm drain inlet. There has been multiple construction projects around campus, outside of the drainage areas, which have impacted the stormwater runoff. Sediment and debris piles located within the BLM (DA-2) are left uncovered during periods of wet precipitation. The Shuttle Bus facility (DA-3) has multiple 55-gallon drums located outside without containment.

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☐ YES ☒ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

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**NOTE:** Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.

**C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS**

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

**INDUSTRIAL ACTIVITY AREA DA-1 :****1. Brief Description:**

Hazardous waste TSDF. Sector K. High impervious surface areas. Drainage Area 1 (DA-1) is located on the northwestern side of the UMD campus and includes the Environmental Service Facility (Building #344), employee parking area, a loading and unloading area, and storage of new empty 55-gallon drums.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised control measures necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**INDUSTRIAL ACTIVITY AREA DA-2 :****1. Brief Description:**

Drainage Area 2 (DA-2) is located on the northwestern side of the UMD campus and includes the Wye Oak Building (Building #428), Grounds Material & Equipment Building (Building #124), Grounds Operations & Maintenance Building (Building #328), Heavy Equipment Building (Building #426), Ground Storage Building (Building #327), vehicle and equipment storage, chemical storage, sand/gravel stock piles, a salt storage dome, and a small yard waste storage area.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised c necessary in this area? ☒ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Implement the use of hay bails or containment of the stock piles of sediment and debris. Cover the stormwater inlet on dry days. Ensure all equipment is properly stored and covered during wet weather.

**INDUSTRIAL ACTIVITY AREA DA-3 :****Brief Description:**

University Bus Facility Parking, Fueling, and Maintenance, sector AD.b: School Bus Maintenance Facility. Drainage Area 3 (DA3) is located on the northeastern side of the UMD campus and includes the Shuttle Bus Facility (Building #424), University Bus parking and maintenance, and fueling operations. DA3 includes one (1) 20,000-gallon double-walled diesel; one (1) 550-gallon waste oil AST and (1) one 550-gallon motor oil AST in secondary containment. There are two (2) 1,600-gallon oil/water separators in DA3

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised BMPs necessary in this area? ☒ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Put all of the 55-gallon drums located outside into secondary containment.



**NOTE: Copy this page and attach additional pages as necessary****INDUSTRIAL ACTIVITY AREA DA-4 :****1. Brief Description:**

Art School Smelter, Scrap Metal Storage , sector: Sector F: Primary Metals. Drainage Area 4 (DA4) is located on the southwestern portion of the UMD campus and includes metal storage and a smelter. This metal is feedstock for the smelter and used for the production of art.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**INDUSTRIAL ACTIVITY AREA DA-5 :****1. Brief Description:**

DA5 encompasses the Severn Building (Building #810) and contains a fueling area in the northeastern portion of the facility with two (2) 10,000-gallon double-walled gasoline ASTs and one (1) 10,000-gallon double-walled E-85 gasoline AST. The fueling area contains zipper drains that flow to an oil water separator and then to the storm drain system. In the southeastern portion of the drainage area, there is one (1) 12,000-gallon double-walled fuel oil AST.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**INDUSTRIAL ACTIVITY AREA DA-6 :****1. Brief Description:**

DA6 encompasses employee parking, the Service Building (Building #003), Energy Plant (Building #001), Plant Operations & Maintenance Shops (Building #006), and a fuel unloading area containing one (1) 8,000-gallon diesel AST in a diked containment that is surrounded by two (2) zipper drains to the sanitary sewer. There are two (2) 250,000-gallon fuel oil ASTs in a diked containment area in the southern portion of the drainage area.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 00 of 00 for this reporting period.

2. Is this corrective action:

- ☐ An update on a corrective action from a previous annual report; or  
☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation **exceedance**  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☐ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value **exceedance**  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

5. Date problem identified:    /    /   

6. How problem was identified:

- ☐ Comprehensive site inspection  
☐ Quarterly visual assessment  
☐ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☐ NO

9. Date corrective action initiated:    /    /   

10. Date correction action completed:    /    /    or expected to be completed.

   /    /   

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

MDR003281

**E. ANNUAL REPORT CERTIFICATION****1. Compliance Certification**

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☒ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

**2. Annual Report 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. 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.

Authorized Representative  
Printed Name:

Kaitlyn Peterson

Title:

Env. Specialist

Signature:

*Kaitlyn R. Peterson*

Date Signed: 10/29/2020

MDR003281


 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 WASHINGTON, DC 20460

## Annual Reporting Form

### A. GENERAL INFORMATION

1. Facility Name: University of Maryland - CP

2. NPDES Permit Tracking No.: MDR003281

3. Facility Physical Address:

a. Street: 7901 Regents Drive

b. City: College Park

c. State: MD d. Zip Code: 20742

4. Lead Inspectors Name: Kaitlyn Peterson

Title: Env. Specialist

Additional Inspectors Name(s):

5. Contact Person: Jason Baer

Title: Assistant Director

Phone: 301 - 405 - 3163 Ext. E-mail: JBaer@umd.edu

6. Inspection Date: 10 / 22 / 2019

### B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?

☒ YES ☐ NO

If NO, describe why not:

CHP has construction occurring w/limited access. Visually assessed area from non restricted area

**NOTE:** Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☒ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

All outfalls are sheet flows either off the property of the drainage area or into storm drain inlets. Sediment/sand stock piles were uncovered and drag out was seen flowing in storm water. Filter socks at Shuttle Bus outfalls should be replaced.

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☒ YES ☐ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

0/5

**NOTE:** Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.

**C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS**

**Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.**

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA DA1 :

1. Brief Description:

Building 344-Hazardous TSDF  
Loading and Unloading Area  
Storage of Materials

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised control measures necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA DA2 :

1. Brief Description:

Building and Landscape Maintenance. Storage of equipment. Salt stock pile; sediment/sand stock piles; fueling area

2. Are any control measures in need of maintenance or repair? ☒ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised c necessary in this area? ☒ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Stock piles need to be Covered & Contained w/ structures (ie Hay bales)  
to prevent discharge during rain events

INDUSTRIAL ACTIVITY AREA DA3 :

Brief Description:

Shuttle Bus Facility-SCHOOL BUS MAINTENANCE FACILITIES and fueling activities, oil storage

2. Are any control measures in need of maintenance or repair? ☒ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Replace filter socks @ catchfalls and around waste oil tank, Cover fire stockpiles  
Pump out OWS, Remove trash/debris from perimeter



**NOTE: Copy this page and attach additional pages as necessary**INDUSTRIAL ACTIVITY AREA DA4 :

## 1. Brief Description:

**Smelting activities, stock piles of scrap metal/radiators**2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA DA5 :

## 1. Brief Description:

**Severn Building-Land transportation and warehousing, fueling activities.**2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA DA6 :

## 1. Brief Description:

**Central Heating Plant-Steam Electric Generating Facility, oil and additive storage.**2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 01 of 06 for this reporting period.

2. Is this corrective action:

- ☒ An update on a corrective action from a previous annual report; or  
☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation exceedance  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☒ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value exceedance  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

**Oil Spills and leaks from the 20,000-gallon fuel tank. Evidence of rainbow sheen**

5. Date problem identified: 03 / 21 / 2019

6. How problem was identified:

- ☐ Comprehensive site inspection  
☐ Quarterly visual assessment  
☒ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

**Notified site manager of oil sheen and possible leak from nozzle. Asked to investigate and repair. Requested a new spill kit to be installed.**

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 03 / 21 / 2019

10. Date correction action completed: 04 / 08 / 2019 or expected to be completed:    /    /   

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

MDR003281

**E. ANNUAL REPORT CERTIFICATION****1. Compliance Certification**

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☒ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

**2. Annual Report 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. 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.

Authorized Representative  
Printed Name:

KAITLYN PETERSON

Title:

CMVS SPECIALIST

Signature:



Date Signed: 10/22/19

**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 02 of 05 for this reporting period.

2. Is this corrective action:

- ☒ An update on a corrective action from a previous annual report; or  
☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation exceedance  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☒ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value exceedance  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

Improper handling / spillage of used oil. A spillage occurred impacting soil next to waste oil tank.

5. Date problem identified: 04 / 04 / 2019

6. How problem was identified:

- ☐ Comprehensive site inspection  
☐ Quarterly visual assessment  
☒ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

Notified site manager of oil spill and included photos of oil spill Senior management was notified of oil spill. Site manager was tasked with removing the contaminated soil, purchasing and installing new spill kits at the waste oil tank in addition to the 20,000-gallon fueling tank. SPCC training to take place in the future months (May-June) to re-address proper oil storage and handling.

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 04 / 04 / 2019

10. Date correction action completed: 04 / 08 / 2019 or expected to be completed:    /    /   

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 03 of 05 for this reporting period.

2. Is this corrective action:

- ☒ An update on a corrective action from a previous annual report; or  
☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation exceedance  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☒ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value exceedance  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

Improper handling / spillage of used oil. A spillage occurred impacting soil next to waste oil tank and surrounding area

5. Date problem identified: 08 / 05 / 2019

6. How problem was identified:

- ☐ Comprehensive site inspection  
☐ Quarterly visual assessment  
☐ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☒ Other (describe): SPCC Inspection

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

Notified site manager of oil spill and included photos of oil spill, Senior management was notified of oil spill. Site manager was tasked with removing the contaminated soil, installing a new level gauge, installing an audible alarm when the tank is 3/4 fulls, and to raise the nipple installed between the tank and the locking cap to prevent overfills in the future.

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 08 / 05 / 2019

10. Date correction action completed: 09 / 13 / 2019 or expected to be completed:    /    /   

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:



**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 04 of 05 for this reporting period.

2. Is this corrective action:

- ☐ An update on a corrective action from a previous annual report; or  
☒ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation exceedance  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☒ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value exceedance  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

BLM had uncovered and unlined roll-offs with metal recycling in it, uncovered and not contained sediment stock piles, and trash and debris around their fueling area.

5. Date problem identified: 10 / 22 / 2019

6. How problem was identified:

- ☒ Comprehensive site inspection  
☐ Quarterly visual assessment  
☐ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

Stock piles will be contained with either hay bales or something similar to prevent discharge; trash and debris will be picked up and disposed of appropriately; the metal recycling roll-off will be covered during precipitation events.

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 10 / 22 / 2019

10. Date correction action completed: 10 / 28 / 2019 or expected to be completed:    /    /   

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:



**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 05 of 05 for this reporting period.

2. Is this corrective action:

- ☐ An update on a corrective action from a previous annual report; or  
☒ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge  
☐ Numeric effluent limitation exceedance  
☐ Control measures inadequate to meet applicable water quality standards  
☐ Control measures inadequate to meet non-numeric effluent limitations  
☒ Control measures not properly operated or maintained  
☐ Change in facility operations necessitated change in control measures  
☐ Average benchmark value exceedance  
☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

Shuttle Bus Facility OWS needs to be pumped out, trash and debris around the perimeter needs to be removed and disposed off properly, tire stock piles need to be covered at all times, and the used absorbent socks around the outfalls waste oil tanks need to be disposed of and replaced.

5. Date problem identified: 10 / 22 / 2019

6. How problem was identified:

- ☒ Comprehensive site inspection  
☐ Quarterly visual assessment  
☐ Routine facility inspection  
☐ Benchmark monitoring  
☐ Notification by EPA or State or local authorities  
☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

Tires will be covered with a tarp; trash and debris removed and disposed of properly; OWS is to be pumped out on 10/31; absorbent socks will be removed and replaced.

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 10 / 22 / 2019

10. Date correction action completed:    /    /    or expected to be completed: 10 / 31 / 2019

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

OWS is to be serviced on 10/31/19; Tarps for the tire stock piles have been ordered and will be implemented when delivered.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

## Annual Reporting Form

## A. GENERAL INFORMATION

1. Facility Name: University of Maryland-CP

2. NPDES Permit Tracking No.: MDR003281

3. Facility Physical Address:

a. Street: 7901 Regents Drive

b. City: College Park

c. State: MD

d. Zip Code: 20742

4. Lead Inspectors Name: Kaitlyn Peterson

Title: Environmental Specia

Additional Inspectors Name(s): Samantha Brodsky

Environmental Specia

5. Contact Person: Jason Baer

Title: Assistant Director

Phone: 301 - 405 - 3163 Ext. E-mail: jbaer@umd.edu

6. Inspection Date: / /

## B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?  
☒ YES ☐ NO

If NO, describe why not:

**NOTE:** Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☒ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

Only visual monitoring

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

Outfalls are sheet flow locations → DA-2 & DA-3 has trash & debris around site  
No evidence of entering water ways.

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☐ YES ☐ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

11

**NOTE:** Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.

**C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS**

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA D1:

1. Brief Description:

Bld 344 - Haz waste storage & load/unloading area  
Clean & materials stored properly

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised control measures necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA D2:

1. Brief Description:

Landscaping & fm maintenance bld. Trash & Debris around DA. Exposed Equipment  
BMP for stock piles not being implemented

2. Are any control measures in need of maintenance or repair? ☒ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised c necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Stock pile BMP needs to be implemented, Equipment needs to be stored  
out of precipitation/covered. Open dumpsters

INDUSTRIAL ACTIVITY AREA D3:

Brief Description:

Shuttle Bus facility  
Exposed Containers (55-gal drums)  
materials not stored out of exposure  
Exposed Dumpster

Trash in DA  
Oil Pads/rags exposed

2. Are any control measures in need of maintenance or repair? ☒ YES ☐ NO
3. Have any control measures failed and require replacement? ☐ YES ☒ NO
4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

See above  
AWS Flooded/clogged by 20,000-gal tank

NOTE: Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA D4:

## 1. Brief Description:

Smelter and scrap metal storage

2. Are any control measures in need of maintenance or repair? ☒ YES ☐ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

Cover stockpile in precipitation events  
Cover Dumpster /roll offINDUSTRIAL ACTIVITY AREA D5:

## 1. Brief Description:

Severn Bldg - Land transportation &amp; fueling

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA D6:

## 1. Brief Description:

CHP  
Construction Activity  
Temp Boiler2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO3. Have any control measures failed and require replacement? ☐ YES ☒ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

**D. CORRECTIVE ACTIONS**

**Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.**

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # 01 of 01 for this reporting period.

2. Is this corrective action:

☐ An update on a corrective action from a previous annual report; or

☒ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

☐ Unauthorized release or discharge

☐ Numeric effluent limitation exceedance

☐ Control measures inadequate to meet applicable water quality standards

☐ Control measures inadequate to meet non-numeric effluent limitations

☒ Control measures not properly operated or maintained

☐ Change in facility operations necessitated change in control measures

☐ Average benchmark value exceedance

☐ Other (describe): \_\_\_\_\_

4. Briefly describe the nature of the problem identified:

Good House Keeping measures & BMP implementation  
not being completed in DA2 & DA 3

5. Date problem identified: 11/05/2018

6. How problem was identified:

☒ Comprehensive site inspection

☐ Quarterly visual assessment

☐ Routine facility inspection

☐ Benchmark monitoring

☐ Notification by EPA or State or local authorities

☐ Other (describe): \_\_\_\_\_

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

No modifications needed, just implement current control measures  
better - Contacted PZ member in charge

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☒ NO

9. Date corrective action initiated: 11/05/2018

10. Date corrective action completed: 11/06/2018 or expected to be completed:      /      /     

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:



MDR003281

**E. ANNUAL REPORT CERTIFICATION****1. Compliance Certification**

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☒ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

**2. Annual Report Certification**

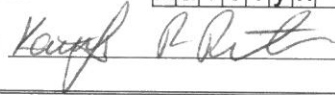
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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.

Authorized Representative  
Printed Name:

Kaitlyn Peterson

Title: Environmental Specia

Signature:



Date Signed: 11/6/18

APPENDIX J

SPILL RECORD

## Spill Record

[illegible]

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. 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

Product Name:

Waste Oil

Capacity of Vessel, Vehicle or Tank:

550 Gallons

City / Town College Park

MD County Prince Georges

Zip 20742

Container Type:

AST

(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

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.)

- ☒ Contained on Land  
☐ Entered Storm Drain or Ditch  
☐ Entered Sanitary Sewer  
☐ Is Below Ground  
☐ Entered surface waters:



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  
☒ 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: \_\_\_\_\_

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 recurrence 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 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 Kaitlyn Peterson

Digitally signed by Kaitlyn Peterson  
Date: 2019.08.07 13:43:31 -0400

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  
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24 HOUR SPILL REPORTING  
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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 omission , 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 requesting 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 K

## SWPPP TRAINING MATERIALS





# SWPPP Sampling Procedures

# 12-SW Sampling

---

- ▶ The 12-SW permit regulates stormwater discharge.
- ▶ Sites may be required to take two quarterly water samples of their discharge per outfall.
  - ▶ Benchmark: sent for lab analysis
  - ▶ Visual Monitoring: used to fill out the “Visual Monitoring Form”
- ▶ Samples are to be taken within 30 minutes after the start of a measurable storm event.
  - ▶ A measureable storm event=DISCHARGE



# How to Fill Sample Bottles

---

- ▶ Wear clean nitrile gloves while sampling.
- ▶ Use clean collection bottles.
- ▶ Keep your hands away from the bottle opening.
- ▶ Always hold the bottle with its opening facing upstream.
- ▶ Stand downstream of the sample if you need to step into the flow.



# How to Fill Sample Bottles

---

- ▶ Do **not** overflow bottles with preservatives.
- ▶ Label samples for lab immediately.
  - ▶ Facility name
  - ▶ Sample location identifier (e.g. Outfall 001)
  - ▶ Date
  - ▶ Time
- ▶ Do not set the bottle lids on the ground.
- ▶ When sampling a ditch, do not disturb the sediment on the bottom.



# Sampling Equipment

---

- ▶ Nitrile Gloves
- ▶ Clean bottleware
- ▶ Visual Inspection Monitoring Form
- ▶ Clipboard, pen, and markers
- ▶ Cooler and ice for preserving the samples



# Preparing for Samples

---

- ▶ Ensure that you have the correct bottles before a measurable storm event.
- ▶ Pay attention to weather forecasts that are likely to result in a measureable storm event.
- ▶ **Sample as early in the quarter as possible.**
- ▶ Know your monitoring personnel and how to contact them.
- ▶ Have chain-of-custody forms ready for use.





# Where to Sample

---

- ▶ At the site outfalls (shown on your site map).
  - ▶ Refer to your SWPPP map
- ▶ For a detention pond, sample the discharge out of the pond.



# When to Sample

---

- ▶ During measurable storm events
  - ▶ Any storm event with an actual discharge from outfall(s)
- ▶ Collect samples within 30 minutes of the beginning of a discharge from outfall(s).
- ▶ All sampling must be done during a storm event that is at least 3 days after the previous storm event.
  - ▶ If you miss collecting a sample from an outfall within its 30 mins, you must wait 72 hours (3days) from when the discharge stops.
- ▶ Not all outfalls need to/can be sampled on the same day.
  - ▶ Depending on the rain event, some outfalls may be delayed in their discharge or even not produce discharge till the next day.



# Snowmelt

---

- ▶ During periods with snow, one quarterly visual assessment must capture snowmelt discharge.
- ▶ Taken when there is a measureable discharge.
- ▶ Should be collected so that the samples are representative of the stormwater discharge.



# Monitoring Periods

---

- ▶ Visual and Benchmark monitoring are required on a quarterly basis, during these 3-month intervals:
  - ▶ 1<sup>st</sup> Quarter: January, February, and March
  - ▶ 2<sup>nd</sup> Quarter: April, May, and June
  - ▶ 3<sup>rd</sup> Quarter: July, August, and September
  - ▶ 4<sup>th</sup> Quarter: October, November, and December



# Comingled Discharge

---

- ▶ Comingled discharges must be sampled before the discharge mixes with other runoff or the receiving waters.



- Discharge is *not* mixed with receiving waters.

- Okay to sample.



- Discharge is mixed with receiving waters.

- Take sample at a point before the discharge mixes with the stream.

# Sampling Pole

---

- ▶ A pole may be necessary to sample hard-to-reach outfalls.





# Quarterly Visual Inspections

---

- ▶ Ensures that no visible or odorous pollutants are discharged.
- ▶ Once each quarter you must collect a stormwater sample from each outfall
  - ▶ During a precipitation event
  - ▶ Within the first 30 minutes of discharge at outfall
  - ▶ To be assessed visually
  - ▶ Take a picture to keep with your records
- ▶ The quarterly visual monitoring form should be used. (Located in your SWPPP Appendix)
- ▶ The sample must be done during a storm event that is at least 3 days after the previous storm event.



**Quarterly Visual Monitoring Form**  
*Fill out a separate form for each outfall sampled.*

<b>Sample Location</b>			
<b>Quarter / Year:</b>		<b>Date / Time Collected:</b>	<b>Date / Time Examined:</b>
<b>Qualifying Storm Event?</b>	Yes      No	<b>Runoff Source:</b>	Rainfall      Snowmelt
<b>Collector's Name &amp; Title</b>			
<b>Examiner's Name &amp; Title</b>			
<b>Parameter</b>	<b>Parameter Description</b>	<b>Parameter Characteristics</b>	
1. <b>Color</b>	Does the stormwater appear to have any color? <b>Yes</b> <b>No (Clear)</b>	If Yes, describe: <i>Yellow   Brown   Red   Gray</i> <i>Other:</i>	
2. <b>Clarity</b>	Is the stormwater clear? <b>Yes</b> <b>No</b>	If not clear, which of the following best describes the clarity of the stormwater? <i>Suspended Solids   Milky/Cloudy   Opaque</i> <i>Other:</i>	
3. <b>Oil Sheen</b>	Can you see a rainbow effect or sheen on the water surface? <b>Yes</b> <b>No</b>	Which best describes the sheen? <i>Rainbow sheet   Floating oil globules</i> <i>Other:</i>	
4. <b>Odor</b>	Does the sample have an odor? <b>Yes</b> <b>No</b>	If Yes, describe: <i>Chemical   Musty   Rotten Eggs</i> <i>Sewage   Sour Milk   Oil/Petroleum</i> <i>Other:</i>	
5. <b>Floating Solids</b>	Is there anything on the surface of the sample? <b>Yes</b> <b>No</b>	If Yes, describe: <i>Suds   Oily Film   Garbage</i> <i>Sewage   Water Fowl Excrement</i> <i>Other:</i>	
6. <b>Suspended Solids</b>	Is there anything suspended in the sample? <b>Yes</b> <b>No</b>	Describe:	
<b>***Leave sample undisturbed for 30 minutes.***</b>			
7. <b>Settled Solids</b>	Is there anything settled on the bottom of the sample? <b>Yes</b> <b>No</b>	Describe: <i>(note type, size and material after sample is not disturbed for 30 minutes)</i>	
8. <b>Foam</b>	Does foam or material form on the top of the sample surface if you shake it? <b>Yes</b> <b>No</b>	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.*

1. Color	Does the stormwater appear to have any color? Yes                      No (Clear)	If Yes, describe: <i>Yellow</i> <i>Brown</i> <i>Red</i> <i>Gray</i> <i>Other:</i>
----------	--	--

- 
- ▶ Collect the discharge in a test tube or clear sampling bottle.
  - ▶ Do not try to assess water color by looking directly into the waterway.
    - ▶ Water depth, substrate condition, and sky color can all influence your perception of the water color.



## 2. Clarity

Is the stormwater clear?

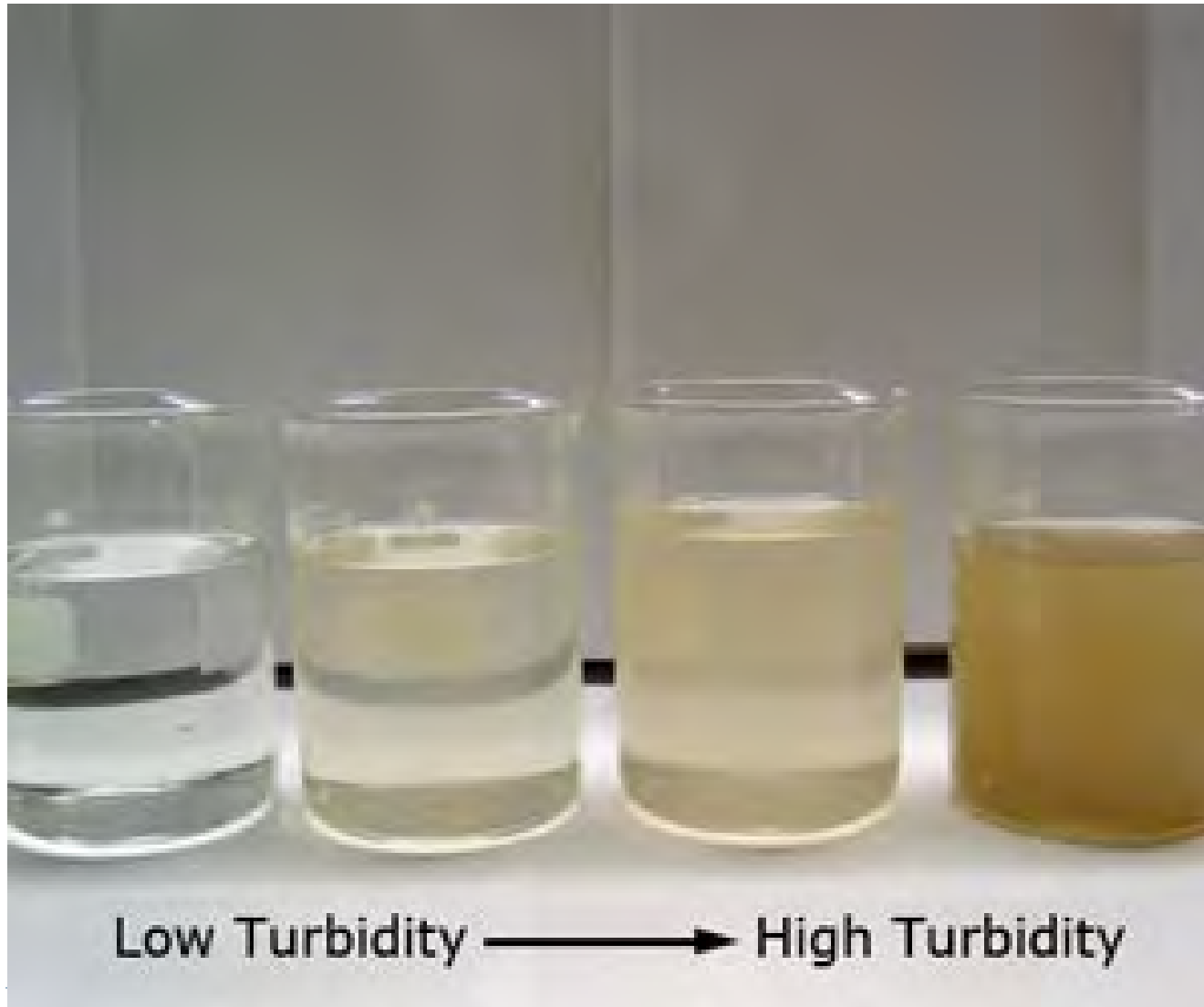
Yes

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:*



Natural sheen



Synthetic sheen



Floating oil globules



#### 4. Odor

Does the sample have an odor?

Yes

No

If Yes, describe: *Chemical* *Musty* *Rotten Eggs*  
*Sewage* *Sour Milk* *Oil/Petroleum*  
*Other:*

	Odor	General Causes
1	Rotten eggs/hydrogen sulfide (septic)	<ul style="list-style-type: none"> <li>Raw sewage, decomposing organic matter, lack of oxygen</li> </ul>
2	Chlorine	<ul style="list-style-type: none"> <li>Wastewater treatment plant discharges, swimming pool overflow, industrial discharges</li> </ul>
3	Sharp, pungent odor	<ul style="list-style-type: none"> <li>Chemicals or pesticides</li> </ul>
4	Musty odor	<ul style="list-style-type: none"> <li>Presence of raw or partially treated sewage, livestock waste</li> </ul>
5	Gasoline, petroleum	<ul style="list-style-type: none"> <li>Industrial discharge, illegal dumping of wastes, waste water</li> </ul>
6	Sweet, fruity	<ul style="list-style-type: none"> <li>Commercial wash water, wastewater</li> </ul>
7	Other (describe)	



5. Floating Solids	Is there anything on the surface of the sample?	If Yes, describe:			
	Yes	No	Suds	Oily Film	Garbage
			Sewage	Water Fowl Excrement	
			Other:		



Low severity, naturally occurring suds



High severity suds



Floating garbage

## 6. Suspended Solids

Is there anything suspended in the sample?

Yes

No

Describe:

Suspended solids



\*\*\***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)*



After leaving the sample undisturbed for 30 minutes, inspect for settled solids.



Settled solids



\*\*\**Leave sample undisturbed for 30 minutes.*\*\*\*

8. Foam

Does foam or material form on the top of the sample surface if you shake it?

Yes

No

Describe:

1. Leave the sample undisturbed for 30 minutes.
2. Shake the sample
3. Inspect for foam



# Benchmark Monitoring

---

- ▶ Once per quarter.
- ▶ Water samples are sent to the lab for analysis.
- ▶ Analyzed for parameters specified for your industrial sector.
  - ▶ e.g. Landfills are tested for total suspended solids and total iron.
  - ▶ The required bottles depend on what you are testing for.
  - ▶ Required bottle ware is located on your Chain of Custody and may vary based on lab preference.





# Chain-of-Custody (COC)

- ▶ A COC must be filled out before giving any sample to the lab.
- ▶ A copy should then be put in your SWPPP

CHAIN OF CUSTODY / SAMPLE INFORMATION FORM									
Maryland Environmental Service • 529 Najoles Rd. • Millersville, MD 21108 • (410) 729-8200 • FAX (410) 729-8340									
Lab # _____		Client Code _____		Sampler AG					
Client Name/Phone/FAX Maryland Environmental Service				Project Name Midshore II Benchmark Monitoring					
Client Address _____				Project Number 4519-2574 SUB# 1400					
Invoice Address 259 Najoles Rd. Millersville, MD 21108				Sample Turnaround Time Normal					
Station No / Sample ID	Station Location	Grab or Composite	Container Description/ Preservation Status	Matrix	# of Containers	Date	Time	Analytes Required/Comments	
1	Benchmark Sample Outfall 1	Grab	1 Liter Plastic Unpreserved	SW	1	5/20/2014	12:00	TSS	
↓	↓	↓	250 ml Plastic HNO3	↓	1	↓	↓	Total Fe	
2	Benchmark Sample Outfall 2	Grab	Same as Sample 1	SW	2	5/20/2014	12:15	Same as number 1	
3	Benchmark Sample Outfall 3	Grab	Same as Sample 1	SW	2	5/20/2014	12:30	Same as number 1	
4	Benchmark Sample Outfall 4	Grab	Same as Sample 1	SW	2	5/20/2014	13:00	Same as number 1	
Transferred by: <i>Alex Ballman</i>		Received by: <i>QC Labs</i>		Date: 5/20	Time: 15:00	Cooler Receipt Information (LAB USE ONLY)			
Transferred by: _____		Received by: _____		Date: _____	Time: _____	Sufficient ice? - Yes/No If No, temp. = _____			
Transferred by: _____		Received by: _____		Date: _____	Time: _____	Sample containers pres'd? - Yes/No If No, explain _____			
Transferred by: _____		Received by: _____		Date: _____	Time: _____	Custody Seal present/intact? - Yes/No _____			
Transferred by: _____		Received by: _____		Date: _____	Time: _____	Initials: _____ Date: _____			



# Exceptions to Sampling

---

- ▶ Adverse weather conditions

- ▶ Dangerous conditions

- ▶ Local flooding
    - ▶ High winds
    - ▶ Electrical storms (lightning)

- ▶ Inaccessibility

- ▶ Drought
    - ▶ Extended frozen conditions



- ▶ A substitute sample must be taken during the next qualifying storm event



# Exceptions to Sampling

---

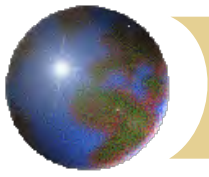
- ▶ **Inactive and unstaffed sites**
  - ▶ Only if specified in your SWPPP
- ▶ **Substantially identical outfalls**
  - ▶ Outfalls with substantially identical effluents
  - ▶ Only one of the identical outfalls needs to be sampled
  - ▶ Alternate outfalls quarterly



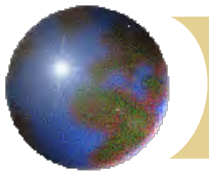
## ANNUAL SWPPP TRAINING

DATE: \_\_\_\_\_

[illegible]



*Storm Water  
Pollution Prevention Plan  
Annual Training*



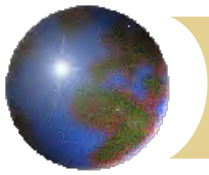
# *Regulatory Background*

## *(Part I)*

In 1972, Congress amended the Federal Water Pollution Control Act (i.e., the Clean Water Act) to prohibit the discharge of any pollutant to waters of the U.S from point sources.

The exception to this discharge prohibition is if the pollutant is authorized by a NPDES (National Pollutant Discharge Elimination System) permit.





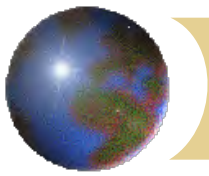
# *Important Definitions*

Pollutant: “Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, (certain) radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water...”

Taken from 40 CFR 122.2, “Definitions”



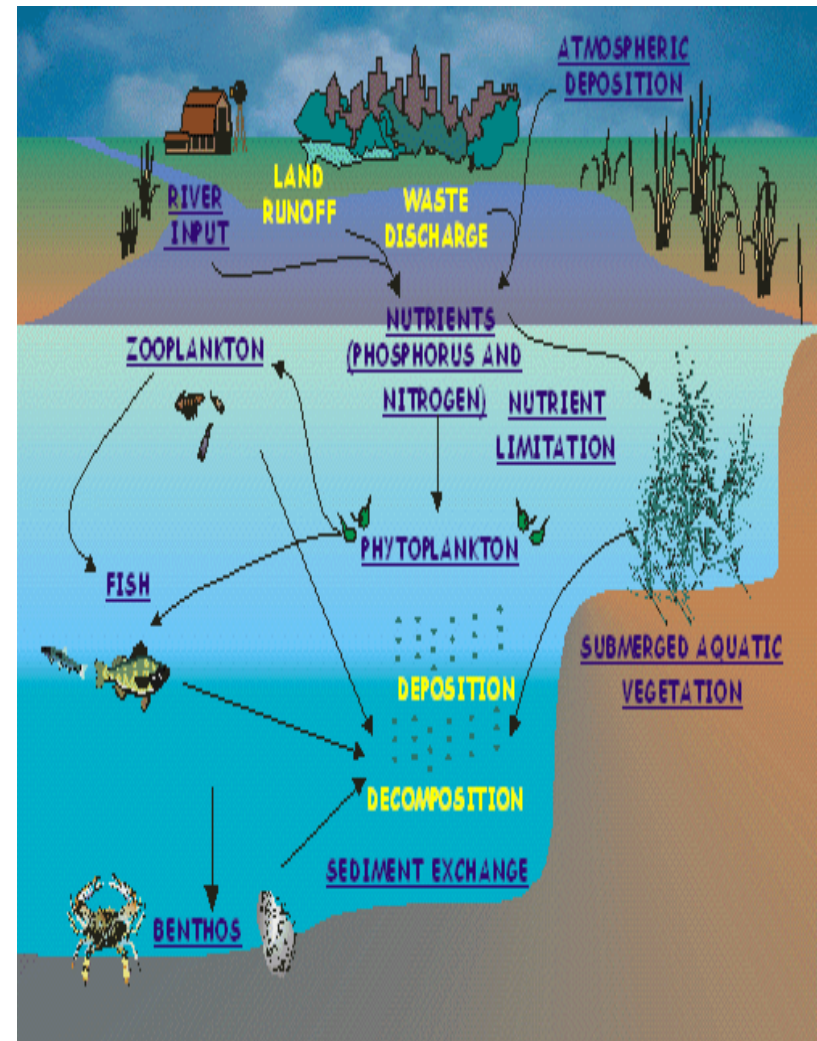


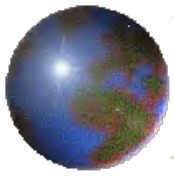


# *Important Definitions*

**Discharge of a Pollutant – (A)**  
*"Any addition of a pollutant to navigable waters from a point source". 33 USC Section 1362 (12).*

**Navigable Waters –** Defined very broadly by the Courts (U.S. v. Holland); **"Waters of the U.S."** includes wetlands, intrastate lakes, rivers, and streams (including intermittent streams); definition does not include treatment ponds/lagoons designed to meet requirements of the Clean Water Act.

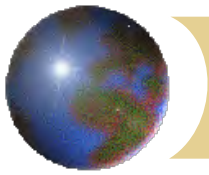




# ***Important Definitions***

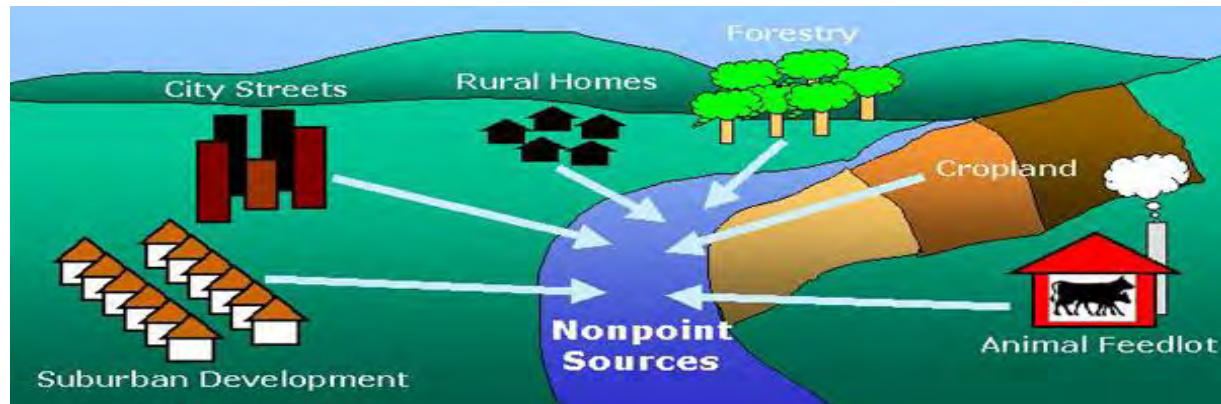
**Point Source** – *any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, Concentrated Animal Feeding Operation (CAFO), or vessel from which pollutants are or may be discharged. 33 USC Section 1362(14).*





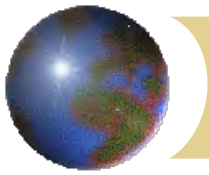
# *Regulatory Background*

## *(Part II)*



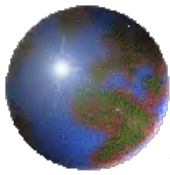
The intent of the NPDES program, prior to storm water requirements, was to target reductions in pollutants from industrial process waste water and municipal sewage.

However, as control measures for these operations improved, the focus became disperse, non-point sources. Of prime importance with such widespread and scattered sources was storm water runoff.



# *Why Do We Need Stormwater Pollution Prevention Plans?*

- Stormwater Pollution Prevention Plans (SWPPPs) are mandated by the Water Quality Act of 1987 for classes of industries and operations.
- These industries and operations have a significant potential to pollute national water resources, due to runoff from facility processes and impervious surfaces (e.g. asphalt).
- As a result, classes of industries and operations covered by general and individual NPDES permits are now required to develop pollution prevention plans.
- MD has received stormwater permitting authority from the EPA

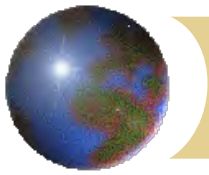


## *12-SW*

- As of January of 2014 new permit is in affect
- Many Changes and Updates
- Introduction of Chesapeake Bay Restoration Requirements!







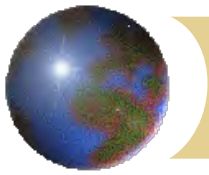
## *12-SW VS. 02-SW*

### *New Requirements*

#### ✚ Benchmark monitoring

- Quarterly samples must be taken for four consecutive quarters by a member of the Pollution Prevention team (See Pollution Prevention Team list in section 1.3 of your SWPPP)
- Can stop monitoring if ALL four quarters are below benchmark
- Each industry has different sector specific benchmarks
- Sector specific benchmarks can be found in your new **permit's appendix**



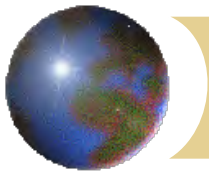


# *12-SW VS. 02-SW*

## Visual Stormwater Assessment

- Done Quarterly by a member of the Pollution Prevention team
- Sample must be taken from each outfall
- Must be taken 30 min after the beginning of a **"Measurable Storm Event"**
- No storm event 72 hours prior!!

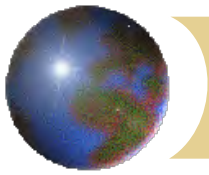




## *12-SW VS. 02-SW*

### 📍 Weekly Inspections of active and inactive areas

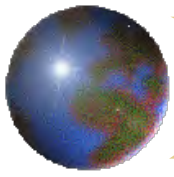
- Focus on non stabilized areas of landfill
- Areas used for storage of waste exposed to rain
- Stabilization and structural control measures
- Leachate collection system
- Ensure erosion and sediment controls are working
  
- Complete log with additional comments



# *Chesapeake Bay Restoration Requirements!*

✚ Must Meet ALL Criteria to Comply  
**UMD Does NOT**

- ✓ Facility is within Chesapeake Bay watershed
- ✓ Facility is 5 acres or greater
- ✓ 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

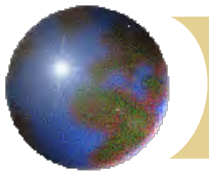


# *Chesapeake Bay Restoration Requirements*

What does it entail???

- ✚ A 20% reduction of the untreated impervious surface area at your facility
  - (Not a 20% reduction of surface, but of treatment! I.E. stormwater ponds etc.)

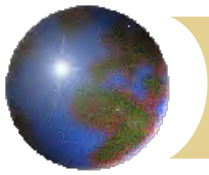




# *Chesapeake Bay Restoration Requirements*

## ⊕ HOW, WHEN ?!

- ⊕ Select, design, install and implement plan from the 2000 Stormwater Design Manual
- ⊕ The 20% reduction must be implemented within 5 years if an 02-SW is already held
- ⊕ Must be complete within 4 year for any other site
- ⊕ Use the surface area of your site from January 1<sup>st</sup> 2006 or best estimate for the 20% reduction

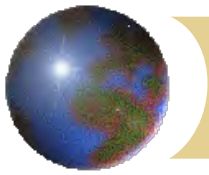


# ***Federal Register Promulgations NPDES Stormwater Permit Programs***

## ***Phase I Coverage (November 16, 1990):***

- Permits required for Municipal Separate Storm Sewer Systems (MS4s) located in areas with >100,000 people.
- Also covers 11 categories of Industrial Activity- including recycling facilities, treatment works, electric plants, and manufacturing facilities.
- Construction activities disturbing 5 or more acres are also subject.

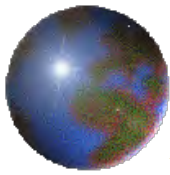




# ***Federal Register Promulgations NPDES Stormwater Permit Programs***

## ***Phase II Coverage (December 8, 1999):***

- Permits required for certain regulated Municipal Separate Storm Sewer Systems (MS4s) located in areas with < 100,000 people.
- Construction activities disturbing between 1 and 5 acres are also subject.
- Also allows for a **NO EXPOSURE EXCLUSION**, provided a demonstrable lack of water quality impact can be made.



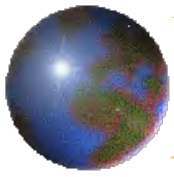
# *What Is Required by the NPDES Storm Water Permit Program?*



For Phase I and II facilities, the components are:

- Develop a (SWPPP) Storm Water Pollution Prevention Plan:
  - Conduct a site evaluation;
  - Describe the appropriate storm water Best Management Practices;
  - Develop a system of self-evaluation, monitoring, and reporting;

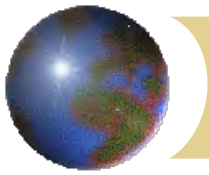




# *The SWPPP*

General and Individual Permits for industrial dischargers require the development of a Storm Water Pollution Prevention Plan.



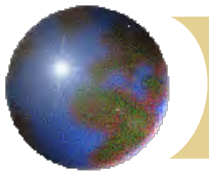


# *The SWPPP*

GOAL – Development of a SITE SPECIFIC plan tailored to site specific conditions. Sound engineering practices **are required; the need for a professional engineer's** license is at the discretion of the state or local agency.

GOAL – A SELF IMPLEMENTING PLAN. Individual facility is responsible for development, implementation, and long-term maintenance of the Plan as well as weekly, quarterly and annual inspections/ monitoring.



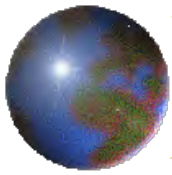


# ***SWPPP Key Components***

## 1) Creation of a Pollution Prevention Team

- ◆ Must identify staff that **comprises the facility's storm water pollution team** (names and titles).
- ◆ The staff is responsible for developing, implementing, maintaining, and revising the facility SWPPP.





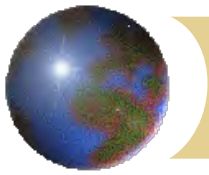
# *SWPPP Key Components*



## 2) Submittal of an accurate Site Description

- ◆ Description of the industrial activities performed
- ◆ Identify both activities and materials which may potentially **be a "significant" pollution** source into storm water discharges.

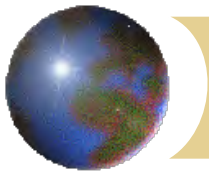




# ***SWPPP Key Components***

## 3) Site Map

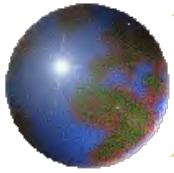
- The new 2014 12-SW Permit requires precise and detailed site map
- Changes include property size, potential pollutant sources, liquid storage tanks, impervious surfaces, historical spills (past 3 years) and Stormwater monitoring points
- Most sites will have to use multiple maps to show adequate detail.



## ***SWPPP Key Components***

- 4) **Description of “exposed” industrial activities/previous spills/leaks over last three years.** (reportable quantity – see Section 311 of CWA and section 102 of CERCLA). Significant spills may include toxic or hazardous pollutants or oil that is not in excess of reporting requirements.
- 5) Identification of non-storm water discharges, illicit connections.  
Create procedures for eliminating non-authorized discharges.

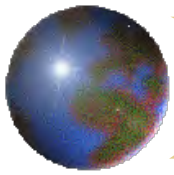




## ***SWPPP Key Components***

6) List of Possible pollutants for the past three years must be in the SWPPP.

Record keeping is an emphasized addition to the 12-SW requirements! All Spills and potential spill locations must be monitored!



# *SWPPP Key Components*

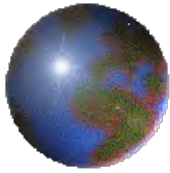


7) Description of Storm Water Management Controls

◆ Include both *STRUCTURAL* and *Non-STRUCTURAL* BMPs.



Stormwater Pollution  
Prevention Plan (SWPPP)  
Inspection

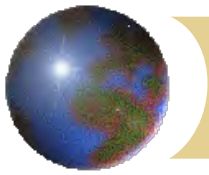


## *Structural BMPs*

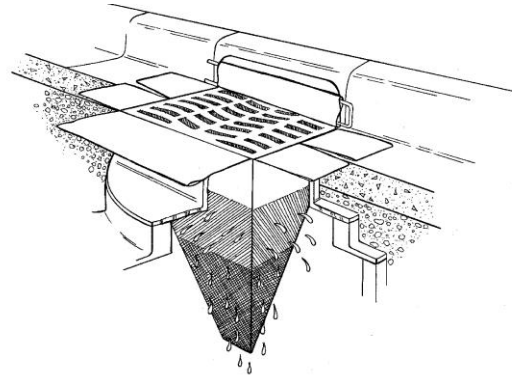


- ✓ Protective covers over curb inlets, trench drains.
- ✓ Vegetative swales/Slope diversions.
- ✓ Secondary containment devices.
- ✓ Protective booms.



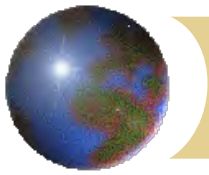


## *Structural BMP: Storm Drain Inlet Protection*

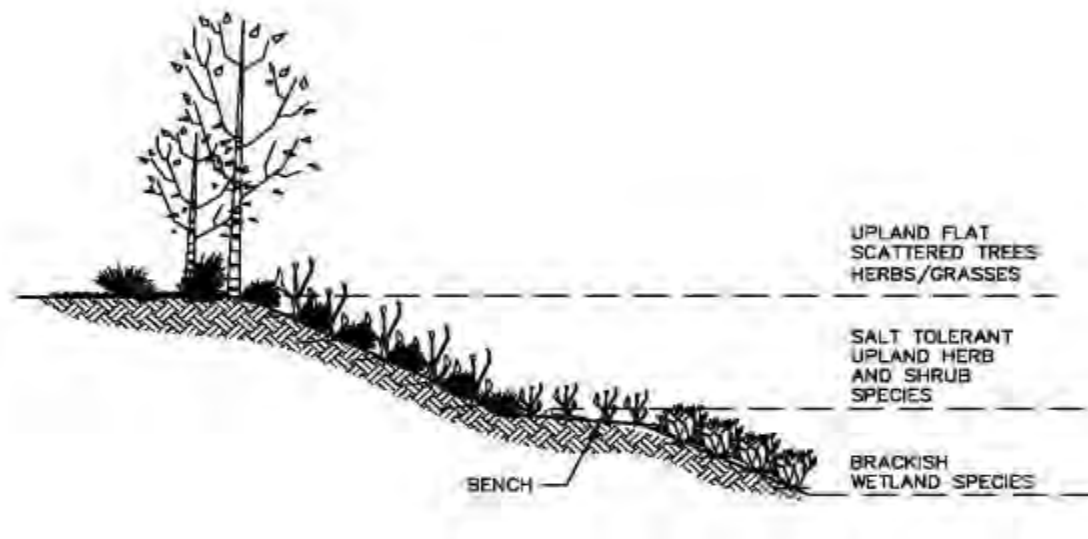


The use of filter fabric material and a grate cover that traps the sediment from directly entering the storm sewer, while allowing water to flow through. BMPs ensuring the fabric filters are cleaned out periodically must be in place.

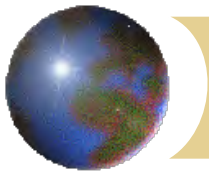




## *Structural BMP: Slope Diversions*



- Clean water diversions are land modifications that move water down slopes in a way that reduces erosion.
- Channels can be vegetated or treated, but should be designed to reduce the velocity and volume of moving water

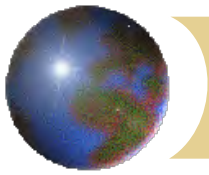


## ***Non-Structural BMPs***



- ☐ Good Housekeeping
- ☐ Proper Material Storage
- ☐ Proper Spill Response—refer to SPCC plan
- ☐ Proper Equipment Fueling and Repair
- ☐ Proper Disposal of Waste
- ☐ Preventive Maintenance
- ☐ Regular Schedule of Inspections

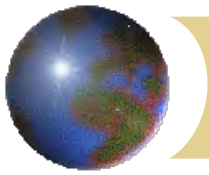




## *Non-Structural BMP: Proper Material Storage*



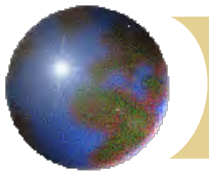
- Keeping pollutant sources covered from precipitation will reduce the potential of storm water runoff from spills.
- Employee training should emphasize proper disposal methods for oils, coolants, and other chemical compounds.



## *Non-Structural BMP: Preventive Maintenance*

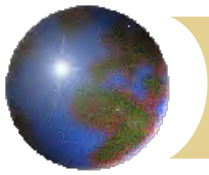


- The servicing of this vehicle is best performed under shelter to prevent runoff of vehicle fluids and brake dust.
- Solvent usage should be kept to a minimum, or less hazardous alternatives used.
- Use drip pans and draining boards to collect liquids. Clean spills promptly and dispose of all waste properly.



# ***SWPPP Implementation***

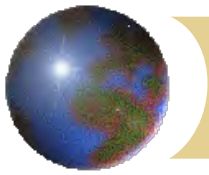
- ✚ Determine the roster of the Pollution Prevention Team.
- ✚ Assign appropriate roles and responsibilities.
- ✚ Familiarize self with requirements of the Permit.
- ✚ Familiarize self with components of the facility SWPPP.
- ✚ Maintain and update SWPPP as facility and/or personnel changes occur.
- ✚ Conduct and record inspections as detailed in facility SWPPP.
- ✚ Conduct and record all annual storm water training events.
- ✚ Maintain all records with the SWPPP.



# *Corrective Action Report*

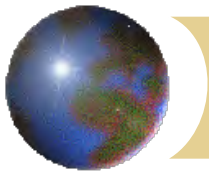
- ✚ If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ENSURE that the condition is ELIMINATED and will not be repeated in the future:





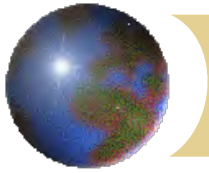
# *Corrective Action Report*

- ✦ 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;
- ✦ a discharge violates a numeric effluent limit (Benchmark);
- ✦ you become aware, or MDE determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
- ✦ an inspection or evaluation of your facility by an MDE official, determines that modifications to the control measures are necessary to meet the non-numeric effluent limits in this permit; or
- ✦ 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.



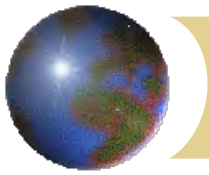
## *Corrective Action Report*

- ✚ 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 (Benchmarks) in this permit:



# *Corrective Action Report*

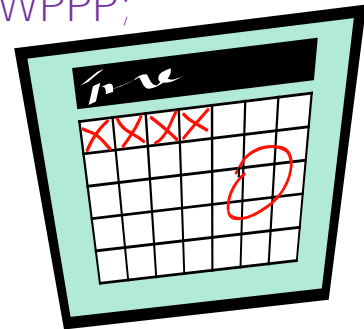
- ✚ construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged; or
- ✚ the average of four (4) quarterly sampling results exceeds an applicable benchmark. If less than four (4) benchmark samples have been taken, but the results are such that an exceedence of the four quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than four (4) times the benchmark level) this is considered a benchmark exceedence, triggering this review.

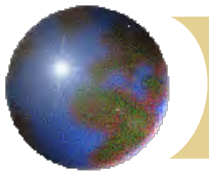


# *Corrective Action Report*

## Time Line

- Within 24 hrs
  - a) Identification of the condition triggering the need for a corrective action review on the form located in Appendix E of the SWPPP;
  - b) Description of the problem identified; and
  - c) Date the problem was identified
- Within 14 days
  - a) Summary of the corrective action taken or to be taken
  - b) Notice of whether SWPPP modifications are required as a result
  - c) Date of corrective action initiated
  - d) Date of corrective action completed





# *Corrective Action Report*



## Effect of Corrective Action

- ✓ Correcting a permit violating action does NOT remove the original violation
- ✓ Failing to report or take corrective action is an ADDITIONAL violation
- ✓ The Department will determine the enforcement response to a permit violation
- ✓ THIS RESPONSE MAY REVOKE PERMIT!!! So take corrective actions!

# APPENDIX L

## EPA MONITORING GUIDE





EPA 832-B-09-003



# Industrial Stormwater Monitoring and Sampling Guide

March 2009

***Final Draft***



## **Acknowledgements**

All photos are courtesy of Tetra Tech, Inc. Sampling illustrations in Section 2 are courtesy of Washington Department of Ecology's guide on *How To Do Stormwater Sampling: A guide for industrial facilities* (available at <http://www.ecy.wa.gov/pubs/0210071.pdf>)

## **Final Draft Prepublication Copy**

A formatted version of this guide will be available in April, 2009.

## Industrial Stormwater Monitoring and Sampling Guide

1. Introduction to Stormwater Monitoring and Sampling	1
2. Preparation for Monitoring	3
2.1 Determine Where Stormwater Is Discharged From Your Property	4
2.2 Determine Where You Will Collect Samples	5
2.3 Determine Which Types of Monitoring Requirements Apply At Each Outfall	12
2.4 Determine if Your Facility is Subject to Impaired Waters Monitoring Requirements	17
2.5 What Type of Storm Events Qualify for Monitoring	20
2.6 Select the Monitoring Team	21
2.7 Select a Laboratory to Analyze the Samples	22
2.8 Document Monitoring Procedures in Your SWPPP	23
3. Conduct Monitoring	24
3.1 What to Have In Place Prior to Collecting Stormwater Samples	24
3.2 Collect Stormwater Samples	27
3.3 Record Information for Each Monitoring Event	29
3.4 Quality Assurance Considerations	30
3.5 Conducting Visual Assessments of Stormwater Discharges	33
4. Evaluate Monitoring Results	34
4.1 Evaluating Quarterly Visual Assessment Results	34
4.2 Evaluating Benchmark Monitoring Results	35
4.3 Effluent Limitation Guideline Monitoring Results	37
4.4 Specific Pollutants and Control Measure Options	38
5. Record-Keeping and Reporting	40
5.1 Reporting Monitoring Data	40
6. Train Personnel	42
7. References	42
Appendix A – 2008 MSGP Industrial Stormwater Monitoring Form	43
Appendix B – 2008 MSGP Visual Monitoring Form	44
Appendix C – 2008 MSGP Industrial Stormwater Collection Form	45

The Industrial Stormwater Monitoring and Sampling Guide (“guide”) is a how-to primer for industrial facility operators on how to conduct visual and analytical monitoring of stormwater discharges. The target audience is operators of facilities subject to the U.S. Environmental Protection Agency’s (EPA) 2008 Multi-Sector General Permit (2008 MSGP) or a similar State-issued industrial stormwater permit. The information presented will also be useful to anyone interested in industrial stormwater monitoring. The procedures presented in this guide, specifically related to monitoring methodology and quality assurance, will help ensure that stormwater samples yield usable information.

**The 2008 MSGP covers specific industrial activities (see Appendix D of the 2008 MSGP, available at [www.epa.gov/npdes/msgp](http://www.epa.gov/npdes/msgp)) in States, territories, and Indian Country lands where EPA is the National Pollutant Discharge Elimination System (NPDES) permitting authority (i.e., in those States or territories not authorized to issue NPDES permits themselves – see Appendix C of the 2008 MSGP).**

This guide does not impose any new legally binding requirements on EPA, States, or the regulated community, and does not confer legal rights or impose legal obligations upon any member of the public. In the event of a conflict between the discussion in this document and any statute, regulation, or permit, this document would not be controlling.

***Monitoring vs. Sampling.* In this guide, “sampling” refers to the actual, physical collection and analysis of stormwater samples. The term “monitoring” refers to both sampling and visual observations of stormwater discharges, including the related preparation and documentation tasks.**

Interested parties are free to raise questions and objections about the substance of this guide and the appropriateness of the application of this guide to a particular situation. EPA and other decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from those described in this guide where appropriate.

## 1. Introduction to Stormwater Monitoring and Sampling

Most industrial stormwater permits require installation and implementation of control measures to minimize or eliminate pollutants in stormwater runoff from your facility. The control measures you choose for your facility must be documented in your facility-specific Stormwater Pollution Prevention Plan (SWPPP). The results of your stormwater monitoring will help you determine the effectiveness of your control measures, and overall stormwater management program. Evaluation of your stormwater management program will include inspections, visual assessments, and monitoring (i.e., sampling) of specified stormwater discharges. Regular stormwater inspections and visual assessments provide qualitative information on whether there are unaddressed potential pollutant sources at your site, and whether existing control measures are effective or need to be reevaluated. Stormwater sampling provides quantitative (i.e., numeric) data to determine pollutant concentrations in runoff and, in turn, the degree to which your control measures are effectively minimizing contact between stormwater and pollutant sources, and the success of your stormwater control approach in meeting applicable discharge requirements or effluent limits.

The following are the types of industrial stormwater monitoring requirements typically included in industrial general permits:

- Visual Assessments of Discharges.** Permittees are required to regularly and frequently (e.g., quarterly under the 2008 MSGP) take a grab sample during a rain event and assess key visual indicators of stormwater pollution – color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other qualitative markers of pollution. The findings of these assessments are used to trigger further facility inspections and corrective actions to modify problems found at the site.
- Indicator or Benchmark Sampling.** Stormwater samples are collected from a site’s discharge points (or outfalls) for laboratory analysis and the results are compared with benchmark pollutant concentrations as an indicator of the performance of stormwater control measures. A benchmark pollutant concentration is a level above which a stormwater discharge could adversely affect receiving water quality (and control measures must be evaluated) and, if below, the facility is not expected to have an impact on receiving water quality. This type of monitoring differs from “compliance monitoring” (see below) in that exceedances of the indicator or benchmark levels are not considered violations, but rather “red flags” that could point to a problem at the site with exposed pollutant sources or control measures that are not working correctly. For instance, the 2008 MSGP includes “benchmarks” that are based to a large degree on EPA’s aquatic life criteria. Where the average of samples taken over four consecutive quarters exceed the applicable benchmark concentration of a particular pollutant, the permittee is required to investigate whether the higher pollutant levels can be attributed to some pollutant source or faulty control measure(s), and to address such problems through corrective action and possibly further monitoring.
- Compliance Sampling.** Where a facility is subject to one of the Federal effluent limitation guidelines (ELGs) addressing limits on stormwater runoff, sampling is required to determine compliance with those limits. Table 1 provides a list of the current applicable effluent limitation guidelines.

<b>Table 1. Applicable Effluent Limitations Guidelines (2008 MSGP Part 2.1.3)</b>	
<b>Regulated Activity</b>	<b>40 CFR Part/Subpart</b>
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Part 418, Subpart A
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, or D
Runoff from hazardous waste landfills	Part 445, Subpart A
Runoff from non-hazardous waste landfills	Part 445, Subpart B
Runoff from coal storage piles at steam electric generating facilities	Part 423



These limits are required to be included in all general industrial permits. Typically, permits require corrective action and further sampling when an effluent limitation is exceeded. An exceedance of an applicable effluent limitation guideline constitutes a violation of the permit.

- **Monitoring Requirements for Discharges to Impaired Waters** - General industrial permits may have special monitoring requirements for facilities that discharge pollutants of concern into impaired waters.

**For an explanation of these monitoring requirements in the 2008 MSGP see Part 6.2. Part 8 of the 2008 MSGP includes the benchmark and effluent limitation guideline monitoring requirements for each of the industrial sectors affected by such requirements.**

## 2. Preparation for Monitoring

This section describes the information you will need before monitoring. While this guide is meant to be a general primer for anyone interested in industrial stormwater monitoring, Section 2 follows the organization of the 2008 MSGP. Many State general permits are very similar to the 2008 MSGP. It is EPA's hope that this format will be of use to permittees in most states. However, if you are subject to a State industrial general permit, you should compare your permit's monitoring requirements to the requirements reflected in this guide to ensure that you are following all applicable State requirements.

In general, preparation is critical to make sure that industrial stormwater monitoring is conducted properly and in a timely manner. Most of this information should have been collected previously for the purposes of submitting your permit application or Notice of Intent (NOI), and in developing the monitoring procedures section of your stormwater pollution prevention plan (SWPPP). However, this guide reviews some of the steps necessary to develop this information, such as the site map component of the SWPPP, in case facilities have not already done so. If you have already completed any of these steps in this section, you can skip to the next application section or subsection in this guide. For more information on how to develop a SWPPP, refer to EPA's guide *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, available on EPA's website at [www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp).

If you have already submitted your NOI, the following documents will serve as good resources for information that you will need prior to monitoring:

- A copy of your NOI or application submitted to EPA or a State, and your assigned permit registration number.
- A copy of the EPA/State response to your NOI/permit application submission if it includes specific details pertaining to your monitoring (e.g., pollutants required to be monitored, frequency of monitoring, benchmark or compliance sampling requirements, etc.).
- A copy of your applicable permit, including the accompanying fact sheet.
- A complete copy of your SWPPP, which must include a detailed site map of your facility with locations of all stormwater monitoring points, and a description of the procedures you or your



stormwater pollution prevention team will follow when conducting monitoring and visual assessments.

### 2.1 Determine Where Stormwater Is Discharged From Your Property

If you have not already done so, walk the grounds and perimeter of your facility during a storm event to identify where runoff discharges from the site (known as “outfalls”). Outfalls are locations where stormwater exits the facility property, including pipes, ditches, swales, and other structures that transport stormwater. If possible, walk outside the boundary of your facility to identify outfalls that may not be apparent from within your site.



*Stormwater discharges to the slot drain and is conveyed offsite through a valved pipe.*

You should note where:

- Concentrated stormwater exits your facility (e.g., through a pipe, ditch or similar conveyance). These outlets are usually good sampling points.
- Dispersed runoff (i.e. sheet flow) flows offsite (e.g., through a grassy area or across a parking lot). Note whether concentrated flows commingle with the sheet flow.
- Storm drain inlets or catch basins are located. Try to determine where the storm drains send your runoff (e.g., to your municipal separate storm sewer system [MS4], to a combined sewer system, to the separated sanitary sewer, or directly to a nearby waterbody).

- Authorized non-stormwater discharges commingle with stormwater prior to discharge (such commingled discharges may be covered under your permit).
- Areas where stormwater might enter your facility from neighboring facilities and commingle with your stormwater discharges.

### Terms to Know:

**Combined Sewer System:** Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies.

**MS4:** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) which are owned and operated by a ... public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes ... that discharges to waters of the United States; designed or used for collecting or conveying stormwater; which is not a combined sewer; and which is not part of a publicly owned treatment works (POTW). [40 CFR 122.26(b)(8)].

Mark these locations on your facility site map, which will be included as part of your SWPPP, and label each outfall location with unique identifiers to differentiate them. For example, you may decide to name the different outfalls according to where the stormwater is being discharged, such as MS4-1, MS4-2, etc. for outfalls discharging to the MS4 or ST-1, ST-2, etc. for outfalls discharging directly to an adjacent stream. Using unique identifiers will help you to coordinate monitoring requirements.

In addition to marking the outfalls on the map, you will need to determine the drainage area for each discharge point. If your facility is large and has significant changes in elevation, a topographic map may be necessary. However, if your facility is small and relatively flat, the best way to define the drainage area for each outfall is an on-the-ground visual assessment, preferably during a rain event. Sketch the basic drainage areas on the map for each outfall. Knowing the drainage area for each outfall is helpful when your sampling indicates problems at that outfall. You can focus your efforts on the industrial materials and activities in that drainage area, instead of the entire site, to identify what may be causing the problem.

## 2.2 Determine Where You Will Collect Samples

Now that you have determined the different points of discharge from your site, you will need to select the exact locations from which you will be collecting your stormwater samples. Note that Part 5.1.5.2 of the 2008 MSGP requires industrial operators to document in their SWPPPs the location where samples will be collected. Generally, industrial stormwater permits require that you sample stormwater discharges prior to the stormwater leaving your facility, and at a location downstream from all of your industrial materials and activities. The reason behind requiring such a location is so that the sample is

## Industrial Stormwater Monitoring and Sampling Guide

representative of your facility's discharge, taking into account the types of pollutants that may be contained in runoff from the property.

Appropriate sample locations include:

- Underground pipes that collect stormwater from drop inlets and convey stormwater to an offsite location (e.g., street, curb or MS4). Be sure you collect only the stormwater discharging from your facility and not the baseflow in the pipes that is being discharged from facilities upstream. Do not enter underground locations to collect samples. Use a pole with a sampling container attached at the end to collect the sample.



- Open ditches, gutters or swales that carry stormwater from your facility to an offsite location. If these conveyances contain runoff from another facility, it is important to note that in your SWPPP;



- Facility driveways and other street access points; and



- Outlets discharging offsite from onsite stormwater detention ponds or other types of structural control measures. It is important to sample at the **OUTLET** of your structural control measures, as opposed to the **INLET** of such structures, in order to determine the quality of the water after treatment.



### ***Where to Sample When There Are Multiple Discharge Points***

You are required to monitor all outfalls that receive stormwater discharges from your industrial activity. See Part 6.1.1 of the 2008 MSGP. If you have multiple stormwater discharge points at your facility, you need to identify which outfalls are associated with industrial materials and activities, and monitor those outfalls. Understanding the hydrologic connection between your outfalls and the parts of your facility that drain to those points, and the pollutants associated with the industrial activities in these areas, will assist you in designing a monitoring program that is representative of the pollutants being discharged from your site. Developing such an understanding will also help later on when you begin to assess your sampling results and determine where improvements could be made to your stormwater control measures. The site map you prepare (see Part 5.1.2 of the 2008 MSGP) will help you understand the correlation between your areas of potential pollutant sources, the direction of stormwater flow from those areas, and the discharge points.

Note that you are not required to monitor at outfall locations that receive stormwater flow only from unregulated areas of your site (i.e., there are no industrial materials or activities in the drainage area). For instance, a hypothetical facility may have two outfalls, one that receives discharges from an area where industrial materials are handled and stored, and a second outfall that receives discharges from an unregulated parking lot used by employees. In this scenario, the industrial permittee would only collect samples from the first outfall because it discharges stormwater associated with industrial activity. Alternatively, if the site's second outfall (e.g., the outfall receiving runoff from the parking lot) also drains areas of the facility with regulated industrial activities, then this outfall would also need to be sampled. In this situation, sampling for this outfall should be done at a location prior to where the two flows commingle so that you are capturing the industrial portion of the flow. See Part 6.1.2 of the 2008 MSGP.

### ***Where to Sample if Outfalls Are Substantially Identical***

If your facility has two or more outfalls whose discharges are “substantially identical,” some industrial stormwater permits, including the 2008 MSGP, allow you to monitor the discharge at just one representative outfall and apply the results to the other substantially identical outfalls. EPA defines “substantially identical” in the 2008 MSGP as follows:

“... 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 ....” See Part 6.1.1 of the 2008 MSGP.

The flexibility provided to permittees to sample at just one location, which is considered representative of all substantially identical outfalls, is an exception to the rule stated above that samples must be taken from all outfalls at a facility. Note that this exception does not apply to compliance monitoring (effluent limitation guideline monitoring), which must be conducted at each outfall to which the effluent guideline applies.

In choosing which of the substantially identical outfalls from which to sample, you should select the outfall that has been observed to have the most consistent flow. To use the substantially identical outfall exception, you must document in your SWPPP how the two or more outfalls are substantially identical, based on the above definition. You will need to document the following information:

- The locations of the outfalls;
- Estimated size of the drainage area (in square feet) for each outfall;
- General industrial activities conducted in the drainage area of each outfall;
- Control measures being implemented in the drainage area of each outfall;
- Why the outfalls are expected to discharge similar stormwater; and
- An estimate of the runoff coefficient of the drainage areas (0.0 no runoff potential to 1.0 all precipitation runs off).

The runoff coefficient is the ratio of excess runoff to the amount of precipitation for a given time over a given area, with a 0 (zero) runoff coefficient meaning no runoff potential and 1.0 (one) meaning a completely impervious surface and all stormwater runs off. The runoff coefficient is related to the amount of impervious surfaces (buildings, pavement, sidewalks, etc.) versus pervious surfaces (grass,

graveled areas, etc.) at the site. The more impervious surface a facility has, the larger the runoff coefficient. Light industrial facilities typically have a runoff coefficient between 0.50 and 0.80 and heavy industrial facilities typically have a runoff coefficient between 0.60 and 0.90.

Here is an example where a facility could take advantage of the “substantially identical outfalls” exception: a metal recycling facility with a large scrap metal pile has three separate outfalls that are each connected by their own drainage ditch to different portions of the same pile, and the runoff that is discharged is managed using the same type of control measure in each drainage area. In this scenario, the facility’s operator can use the “substantially identical outfall” exception because the industrial activities at the site are all the same, the runoff flows through exposed areas that presumably contribute the same type of pollutants, and the drainage area has the same or similar runoff coefficients. Note that the substantially identical outfall exception could not be used if there were in fact differences in any of the required components defined above.

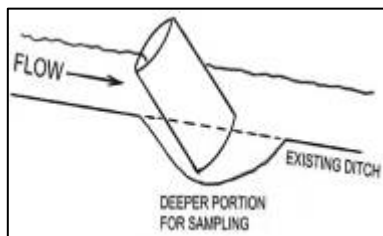
If your permit does allow you to use a substantially identical outfall exception, make sure you carefully review the type of monitoring for which this exception applies. For instance, while the 2008 MSGP allows permittees to use the substantially identical outfall exception for benchmark and visual assessment samples, the permit prohibits use of this exception for compliance monitoring (e.g., for use in showing compliance with numeric effluent limitation guidelines). Therefore, if a facility permitted under the 2008 MSGP is subject to a numeric limit based on an EPA effluent limitation guideline, it would have to monitor all outfalls at the site receiving flows from the applicable industrial activities. See Part 6.2.2.2 of the 2008 MSGP.

### ***Where to collect a sample***

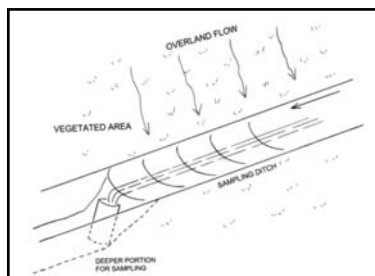
#### **Sampling Sheet Flow**

In some areas of your facility it may be difficult to obtain a sample because the runoff drains as sheet flow before it becomes concentrated enough for sampling. If the flow is too shallow to directly fill a collection bottle, you can overcome this by:

- Concentrating the sheet flow by excavating a small depression in an existing ditch or other location where stormwater runoff flows.

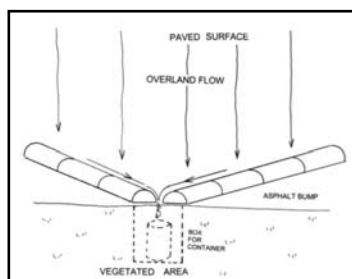


- Installing a trough, gutter or ditch to intercept and concentrate stormwater flow.





- Installing “speed” bumps to convey and concentrate a large area of sheet flow.



*Collecting a sheet flow stormwater sample.*

You should make these modifications during a period when rain is not forecast so any pollutants generated can be cleaned up before a storm hits. Also, if you dig a ditch or disturb the earth in some way, line the disturbance with concrete or plastic so that you do not contaminate your stormwater samples with sediment or other pollutants.

### Sampling from a Pipe

For runoff flowing through a pipe into a ditch or receiving water, you should sample the outflow directly from the pipe. For hard-to-reach pipes, it may be necessary to fasten a collection bottle to a pole (see Sampling from a Manhole in Table 2 below).

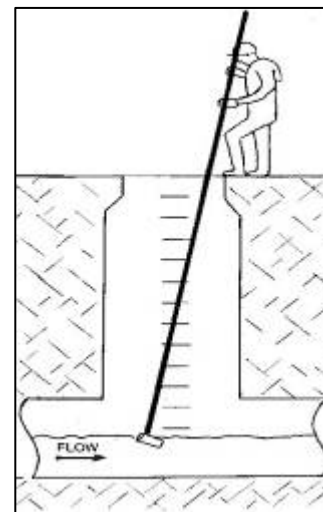
**When collecting any type of stormwater sample it is imperative that the sample is collected before the stormwater reaches the receiving water.**

### Sampling From a Drainage Ditch or Swale

If your stormwater is discharged via a drainage ditch or vegetated swale, take a grab sample from a consistently flowing part of the ditch / swale. If the ditch / swale is too small or shallow, install a barrier device in the channel or deepen a small area so you are able to sample directly into the bottles. Allow sufficient time to pass after disturbing the bottom so that any solids stirred up do not contaminate your sample.

### Sampling From a Stormwater Detention / Retention Basin or Other Treatment Device

If it is necessary for you to sample from a detention or retention basin, do so at the outfall of the structure. Collecting samples from stagnant or slowly moving water inside a pond will not yield a representative sample as the pollutants might not be adequately mixed. Stormwater basins may hold stormwater for long periods of time. Collect your sample within 30 minutes from when the pond begins to discharge.



### Potential Sampling Issues

Depending on the location of your monitoring points, you may encounter additional challenges beyond deciding which sampling technique to employ at each site. Table 2 identifies some stormwater sampling problems common to industrial facilities and guidance for how EPA suggests you address them if they occur at your site.

**Table 2. Solutions to Typical Stormwater Sampling Problems**

Problem	Solution
Run-on from Neighboring Properties	Ideally, your stormwater samples will contain only runoff from your site. However, stormwater from a neighboring facility can “run on” and commingle with your own regulated discharge, possibly adding contaminants not found at your facility. You are responsible for any and all pollutants discharged from your site irrespective of the pollutants’ origin and whether the other facility has permit coverage. This responsibility includes run-on discharges from neighboring properties if this discharge commingles with your own regulated discharge. To accommodate stormwater run-on, EPA requires as part of the SWPPP site description that you document the locations and sources of run-on. As part of this documentation, if you collect and analyze samples of the run-on, you will need to report all such findings in your SWPPP.
Stormwater from industrial areas commingles with stormwater discharges from non-industrial areas or areas not regulated under the MSGP before it reaches the surface water body or MS4.	Attempt to sample the industrial stormwater discharge before it mixes with stormwater from non-industrial areas.
Adverse Weather Conditions	High tides and high flow or flood conditions can cause stormwater conveyances to reach maximum capacity, pipes to become clogged or submerged, and other unrepresentative flow situations. High flows could also be dangerous, so you should use your best professional judgment when selecting sampling locations. In some cases you may need to sample at a point before the intended outfall location.
There are numerous stormwater outfalls in one area.	Construct an impound channel or join together flows by building a weir or digging a ditch to collect discharge at a low point for sampling purposes. This artificial collection point should be lined with plastic to prevent infiltration and the introduction of

Problem	Solution
	sediment. Or, alternatively, sample at several locations to represent total site runoff.
The outfall is inaccessible (examples include underwater discharges or unreachable discharges such as a pipe discharging out of a cliff).	Go upstream of the discharge until a sample can be taken (i.e., to the nearest manhole or inspection point). You may need to sample at several locations to best represent runoff from this discharge point if you cannot access an upstream location.
A facility has many sampling locations making it difficult to collect all of the samples during the first 30 minutes of discharge, as required by the 2008 MSGP.	Have a sampling crew ready when storms are forecast so that all outfalls can be sampled during the first 30 minutes. Also, automatic samplers may be used to collect samples within the first 30 minutes, triggered by the amount of rainfall, the depth of flow, flow volume or time.
A stormwater sample location is beneath a manhole.	For accessibility and safety, use a sampling pole to collect samples from a manhole. Before a person can enter a manhole to collect a sample, they must be trained in confined space entry.
Stormwater from more than one industry type is commingled.	You must comply with monitoring requirements for all applicable sectors and SIC codes.

## 2.3 Determine Which Types of Monitoring Requirements Apply At Each Outfall

The next step in preparing for monitoring at your site is to determine the type of monitoring requirements that correspond to each outfall. The type of monitoring requirements to which you are subject will differ according to your permit. Different monitoring requirements may also apply to individual outfalls on your property based on the type of industrial activity discharging to that point, and even the receiving water to which you are discharging. Using your permit, determine the type of monitoring requirements to which your specific facility is subject, and document in your SWPPP the specific monitoring requirements that applies to each outfall, including the frequency of monitoring and the specific parameters that must be monitored.

Recall that it is not necessary to monitor an outfall if it does not have any industrial activity associated with it (e.g., discharge from an employee parking lot that does not commingle with stormwater runoff from an area of industrial activity) or if the outfall does not drain to a surface water (i.e. the outfall drains to a sanitary sewer or combined sewer system).

The following applies to the types of monitoring required under the 2008 MSGP. If you are not subject to the 2008 MSGP, consult your State permit to determine your monitoring requirements.

- **Visual Assessments** (Part 4.2 of the 2008 MSGP) – All 2008 MSGP permittees are required to collect samples of their stormwater discharge for visual inspection. The following qualitative characteristics must be assessed:
  - color;
  - odor;
  - clarity;
  - floating solids;
  - settled solids;
  - suspended solids;
  - foam;
  - oil sheen; and

- other obvious indicators of stormwater pollution.

Visual assessments must be conducted at all outfalls, although if several outfalls are “substantially identical” then only one visual assessment must be conducted on the set of outfalls. The sampling frequency for visual assessments under the 2008 MSGP is quarterly. The monitoring quarters are: January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31.

- **Benchmark Monitoring** (Part 6.2.1 of the 2008 MSGP) – This type of analytic monitoring applies to certain industrial sectors regulated under the 2008 MSGP. Permittees subject to these requirements must take periodic grab samples of their stormwater discharge to compare the concentrations of key indicator pollutants to their corresponding benchmark concentrations. The benchmark values are based in large part on EPA’s aquatic life water quality criteria and are meant to serve as indicators of how well a facility’s stormwater control efforts are working. If a particular benchmark is exceeded, this indicates to a permittee that there may be a problem at the site, such as a spill, exposed pollutant source, or a faulty control measure, and triggers a required review of the potential problem to determine what corrective actions are necessary. For example, a total suspended solids (TSS) concentration found in a benchmark sample of greater than 100 mg/L, which is the applicable benchmark concentration for TSS, would require a facility to re-evaluate and potentially revise control measures implemented to control dust, soil erosion, or other sources of suspended solids. Note that the exceedance of the benchmark is not a violation (because benchmarks are typically not enforceable limits), but the failure to conduct the follow-up investigation and applicable corrective actions would be a violation of the permit.

**Be sure to update your SWPPP and site map whenever you change or add new control measures. Control measure maintenance activities must be documented (preferably in a log), and such records must be kept with your SWPPP and stormwater file.**

Determine whether you are subject to any benchmark monitoring requirements based on your particular industrial sector or subsector. The benchmark monitoring requirements differ based on the sector or subsector under which a particular facility falls. Note that not all sectors are subject to this type of monitoring. Appendix D in the 2008 MSGP provides the Standard Industrial Classification (SIC) code and activity codes categorized by sectors and subsectors. Use Appendix D to link your industrial activities with their associated SIC code sectors / subsectors. Your facility will have a primary industrial activity and associated SIC or activity code (which is the major determinant of your permit requirements), and, possibly, additional secondary sectors / subsectors with additional requirements for which you must comply. Next, using Part 8 of the 2008 MSGP, under your particular sector or subsector, determine whether you are subject to any benchmark monitoring requirements, and the corresponding benchmark that applies. Consider the following example: if you operate a gold mine (subsector G2) you are subject in Part 8.G.8.2 to the following benchmark monitoring requirements:

Table 3. Subsector G-2.		
Subsector (Discharges may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Cutoff Concentration
<b>Subsector G2.</b> Iron Ores; Copper Ores; Lead and Zinc Ores; Gold and Silver Ores; Ferroalloy Ores, Except Vanadium; and Miscellaneous Metal Ores (SIC Codes 1011, 1021, 1031, 1041, 1044, 1061, 1081, 1094, 1099) (Note: when analyzing hardness for a suite of metals, it is more cost effective to add analysis of calcium and magnesium, and have hardness calculated than to require hardness analysis separately)	Total Suspended Solids (TSS)	100 mg/L
	Turbidity	50 NTU
	pH	6.0-9.0 s.u.
	Hardness (as CaCO <sub>3</sub> ; calc. from Ca, Mg) <sup>1</sup>	no benchmark value
	Total Antimony	0.64 mg/L
	Total Arsenic	0.15 mg/ L
	Total Beryllium	0.13 mg/L
	Total Cadmium <sup>1</sup>	Hardness Dependent
	Total Copper <sup>1</sup>	Hardness Dependent
	Total Iron	1.0 mg/L
	Total Lead <sup>1</sup>	Hardness Dependent
	Total Mercury	0.0014 mg/L
	Total Nickel <sup>1</sup>	Hardness Dependent
	Total Selenium	0.005 mg/L
	Total Silver <sup>1</sup>	Hardness Dependent
	Total Zinc <sup>1</sup>	Hardness Dependent

Based on this table, you then know the pollutant parameter for which you must conduct benchmark monitoring, and the corresponding benchmark concentration against which you will compare each individual grab sample. Each sector or subsector subject to benchmark monitoring requirements includes a similar table in Part 8 of the 2008 MSGP.

After you have determined which (if any) benchmark sampling requirements apply, document in your SWPPP which outfalls are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed. If your facility has multiple outfalls, be aware that there may be different requirements for different outfalls depending on the type of industrial activity conducted in the drainage area of each outfall. You are only required to conduct benchmark monitoring for those outfalls with discharges from the specific sectors / subsectors that are affected by such requirements. Where an outfall includes no discharges from those sectors or subsectors for which benchmark monitoring requirements apply, then no benchmark samples need to be taken at that outfall.

The required benchmark monitoring frequency under the 2008 MSGP is quarterly. The monitoring quarters, beginning with the first quarter on April 1, 2009 are: April 1 – June 30, July 1 – September 30, October 1 – December 31 and January 1 – March 31.

*Exceptions for Inactive and Unstaffed Sites* (Part 6.2.1.3 of the 2008 MSG) – The requirement for benchmark monitoring does not apply to inactive and unstaffed facilities, providing there are no industrial materials or activities exposed to stormwater. This exception only applies to benchmark monitoring requirements and not to the other types of monitoring described above.

To claim this special exemption, you must note on the next quarterly benchmark monitoring report that your facility is inactive and unstaffed, and you must keep an inactive and unstaffed certification onsite (see Part 4.2.1.3). The requirement for conducting a quarterly visual assessment also does not apply inactive and unstaffed sites, as long as there are no industrial materials or activities exposed to stormwater. If you are invoking the exception for inactive and unstaffed sites, maintain a signed and certified 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.

*Hardness-Dependent Benchmarks* (Appendix J of the 2008 MSGP) – The benchmark values of some metals are dependent on the level of hardness in your receiving waters (see 2008 MSGP, Appendix J). Hardness is a characteristic of water that results from the presence of dissolved salts, especially calcium sulfate or bicarbonate, and is usually reported as carbonate, noncarbonate or calcium + magnesium (Ca + Mg). If you are required to monitor for a hardness-dependent pollutant, you must first determine the hardness of your receiving water before you can establish the corresponding benchmark concentration.

- **Effluent Limitations Monitoring** (Part 6.2.2 of the 2008 MSGP) – Eight of the 2008 MSGP’s 29 industrial sectors are required to monitor to determine if they comply with EPA-defined effluent limitation guidelines. These monitoring requirements are included in Part 8 of the 2008 MSGP. Effluent limitation guidelines are legally enforceable limitations that must not be exceeded in stormwater discharges.

Similar to the benchmark monitoring requirements, samples only need to be taken at those outfalls with discharges from the specific activities that are subject to effluent limitation guidelines; otherwise these requirements do not apply. As stated previously, permittees subject to these monitoring requirements must take samples at all applicable outfalls, and no exceptions are given for substantially identical outfalls. However, if you are required to monitor a pollutant both for benchmark and effluent limitation guideline purposes, you only need to take one sample for both requirements.

**When monitoring requirements overlap, e.g., TSS once per year for an effluent limit and once per quarter for benchmark monitoring, you may use a single sample to satisfy both monitoring requirements (i.e., one of your four quarterly benchmark samples would be used for your yearly effluent limit sample).**

Table 4 identifies the industrial activities that are subject to effluent limitation guideline monitoring requirements and the associated sampling parameters. Effluent limitation guideline samples must be taken once per year (see Part 8 of the 2008 MSGP for the numerical values of each effluent limit).

**Table 4. Required Monitoring for Effluent Limitations Guidelines**

Regulated Activity	Where in 2008 MSGP	Sector	Effluent Limit Parameters
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 8.A.7	A	debris, pH
Runoff from phosphate fertilizer manufacturing facilities	Part 8.C.4	C	total P, fluoride



Regulated Activity	Where in 2008 MSGP	Sector	Effluent Limit Parameters
Runoff from asphalt paving and roofing emulsion facilities	Part 8.D.4	D	total suspended solids (TSS), oil and grease, pH
Runoff from material storage piles at cement manufacturing facilities	Part 8.E.5	E	TSS, pH
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 8.J.9	J	TSS, pH
Runoff from hazardous waste landfills	Part 8.K.6	K	biochemical oxygen demand (BOD <sub>5</sub> ), TSS, ammonia, alpha terpineol, benzoic acid, p-cresol, phenol, total recoverable zinc, pH, aniline, naphthalene, pyridine, total recoverable chromium,
Runoff from non-hazardous waste landfills	Part 8.L.10	L	biochemical oxygen demand (BOD <sub>5</sub> ), TSS, ammonia, alpha terpineol, benzoic acid, p-cresol, phenol, total recoverable zinc, pH
Discharges from coal storage piles	Part 8.O.8	O	TSS, pH

Determine whether you are subject to any effluent limitation guideline monitoring requirements. Document in your SWPPP which outfalls are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed.

- Impaired Waters Monitoring** (Part 6.2.4 of the 2008 MSGP) – The 2008 MSGP requires facilities to monitor, at least in the first year of permit coverage (and yearly thereafter depending on the sample results in the first year), for the presence of any pollutant causing an impairment to their receiving water. This requirement is triggered regardless of whether the particular pollutant is used or stored at the industrial site; however the facility may be able to discontinue monitoring after the first year if the pollutant is not present in the sample and is not expected to be present in any discharge. In advance of conducting this monitoring, you should already have a good idea of whether the pollutant will be found in your discharge. When you developed your SWPPP, you conducted a complete inventory of your site to determine what pollutants or pollutant constituents could be discharged in stormwater runoff. See Section 3.1 of EPA’s guide, *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, particularly the discussion about conducting an “Inventory of Materials and Pollutants”. Using this inventory from your SWPPP, you will be able to determine if any materials stored or used at your facility could contribute to impairment of your receiving water.

The next section of this guide includes specific steps to help you determine if you are subject to impaired waters monitoring requirements. After following those steps, document in your SWPPP which outfalls are subject to impaired waters monitoring requirements, the frequency of sampling, and the parameters that must be monitored.

- State / Tribal Monitoring Requirements** (Part 6.2.3 of the 2008 MSGP) – The 2008 MSGP includes a number of additional monitoring requirements that are unique to individual States

and/or Indian Country lands. These requirements are set out in Part 9 of the permit. These requirements may include additional or more frequent benchmark monitoring requirements, alternative benchmark thresholds, or additional parameters that must be monitored to establish compliance with applicable water quality standards.

Based on the State or Indian Country land in which they are located, each 2008 MSGP permittee must consult the applicable Part 9 section to determine what, if any, additional monitoring requirements apply. If you are subject to such requirements, you must document in your SWPPP which outfalls are subject to these provisions, the frequency of applicable sampling, and the parameters that must be monitored

- **Additional Monitoring Required by EPA** – It is possible EPA may require additional monitoring (see 2008 MSGP Part 6.2.5). You will be notified by the Agency if additional monitoring is required.

### 2.4 Determine if Your Facility is Subject to Impaired Waters Monitoring Requirements

If you are required by your industrial stormwater permit to monitor for pollutants that cause impairment to your receiving water, you must first identify the receiving waters (e.g. ditch, creek, intermittent stream, lake, arroyo, etc.) into which your facility discharges stormwater and mark them on your site map. Note that you will have already identified your receiving waters if you filed an NOI to be covered by the 2008 MSGP.

#### A. Identify Your Receiving Water(s)

There are several ways to identify your receiving waters. Your receiving water may be a lake, stream, river, ocean, wetland or other waterbody, and may or may not be located adjacent to your facility. Your facility might discharge directly into its receiving water, or indirectly to the receiving water by discharging first through an MS4, ditch, or other conveyance.

**Do these monitoring requirements apply to me if I discharge into a dry ditch?**

*Yes, if the ditch eventually conveys the runoff to a waters of the United States.*

If the discharge from your facility does not discharge into an underground storm sewer system, you can use your site map and local topographic maps to pinpoint the closest waterways. Using the contours on the topographic map and your facility's outfall locations, determine the direction stormwater runoff flows from your facility. Once you know the direction of flow, you should be able to identify the receiving waters into which you discharge.



Sample section of a U.S.G.S. quadrangle map, with arrows showing direction of flow.

After identifying where your stormwater enters a waterbody, identify any additional interconnected waters for at least one linear mile downstream from the entrance point of your discharge (in case there are concerns about impacts to these downstream waters).

Resources to help you identify receiving waters:

- EPA's Water Locator Tool (available at [www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp)) allows you to locate nearby receiving waters and impaired waterbodies within a 10 mile radius of your facility.
- EPA's Enviromapper ([www.epa.gov/enviro/emef](http://www.epa.gov/enviro/emef)) enables you to find nearby waterbodies by entering your facility's zip code, address, facility name or identification number, EPA Region, watershed, or latitude/longitude data. Additional information on the location of impaired waterbodies can also be obtained.
- Topographic maps, which can be obtained from the U.S. Geological Survey (USGS) at [http://topomaps.usgs.gov/ordering\\_maps.html](http://topomaps.usgs.gov/ordering_maps.html), or through a retailer.

If your stormwater drains into an MS4, you will likely need to contact the operator of the system (e.g., the local public works department, the highway department, etc.) to identify the first receiving water your stormwater is released to after entering the MS4. Some MS4s have their storm sewer infrastructure maps available online.

**Remember, the MS4 into which your facility's stormwater discharges is NOT your receiving water. The first waterbody that the MS4 discharges to after receiving your stormwater is the receiving water for your facility.**

***B. Determine if Your Receiving Water is Impaired and Whether a TMDL Has Been Completed***

Once you have identified your receiving water(s), you will need to find out if the waterbody is impaired, and, if so, whether a total maximum daily load (TMDL) has been approved or established.

- **Water quality impairment status.** You need to determine whether your facility's receiving water is listed by your State as impaired and/or has an approved or established Total Maximum Daily Load (TMDL). EPA's Water Locator Tool (available at [www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp)) will help find impaired waters within a 10 mile radius of your facility. Another place to check is EPA's website on Water Quality Assessment and TMDL information ([www.epa.gov/waters/ir](http://www.epa.gov/waters/ir)) or you can also contact your State water agency ([cfpub2.epa.gov/npdes/contacts.cfm?program\\_id=6&type=STATE](http://cfpub2.epa.gov/npdes/contacts.cfm?program_id=6&type=STATE)).

**"Impaired waters" are streams, rivers, and lakes that do not currently meet their applicable designated uses and water quality standards. States, territories, and authorized tribes are required under the Clean Water Act to compile lists of known impaired waters, called 303(d) lists. Stormwater discharges to impaired waters may trigger additional control measures and monitoring requirements. For facilities subject to EPA's 2008 MSGP, see Part 2.2 for a more detailed discussion of water quality-based effluent limitations and conditions for discharging to impaired waters.**

If your receiving water is impaired, use EPA's Water Locator Tool or Water Quality Assessment and TMDL website, or a State agency to help you determine:

- For what pollutant(s) is the water impaired? Make a separate list of all pollutants that have caused your waterbody to be impaired.
- Has an approved TMDL been completed for each of the pollutants? Some TMDL documents include information suggesting the type of monitoring that should be conducted to improve the understanding of the impairment or to demonstrate achievement of applicable wasteload allocations (WLAs).

***C. Determine What Monitoring Requirements Apply***

Having determined the pollutants that cause the impairment, you should now consult your permit to determine the type of monitoring that must be conducted, the frequency of monitoring, and whether any exceptions apply to certain pollutants. As discussed in Section 2.3 above, this must all be documented in your SWPPP so that it is clear which requirements apply to which outfall.

The 2008 MSGP lists several exceptions to and clarifications of the requirement to monitor for each impairment pollutant. In Part 6.2.4.1 of the 2008 MSGP, the permit clarifies that no monitoring is required when a waterbody's biological communities are impaired but no pollutant is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modification, impaired hydrology, or temperature. The permit also clarifies that monitoring is only required for pollutants for which a standard analytical method exists as defined in 40 CFR Part 136. In addition, certain exceptions exist that enable the permittee to be excused from sampling after the first year if it is found either that:

- The pollutant for which the waterbody is impaired is not detected above natural background levels in the discharge, and it is documented that the pollutant is not expected to be present above natural background discharges; or
- The pollutant for which the waterbody is impaired is not present and not expected to be present in the discharge.

Both the parameters that must be sampled and the frequency of monitoring for impairment pollutants may be subject to State- or Indian Country land-specific requirements. Therefore, each 2008 MSGP permittee must also consult Part 9 of the permit when determining which impaired waters sampling requirements apply.

### 2.5 What Type of Storm Events Qualify for Monitoring

In addition to understanding which monitoring requirements apply and where, it is also critical to develop an understanding of what type of discharge event you will be sampling. Under the 2008 MSGP, two preconditions must be met before a storm or snowmelt event is considered adequate to be monitored (see Part 6.1.3 of the 2008 MSGP).

- The storm / snowmelt event must create an actual discharge from your site (“measurable storm event”). This storm event will vary based on numerous factors at your site, the most obvious being the actual size and duration of the storm event. However, the amount of impervious surface at your facility will impact this as well. If your facility is covered mostly by grass or another type of vegetation with only a small amount of paved surfaces or roofs, it will take a larger storm to create a discharge from your site than it would at a facility that is entirely paved. Another factor affecting whether and how frequently you have a measurable storm event will be how frequently rain occurs at your facility and the size of the most recent storms. Saturated soil will generate a stormwater discharge more quickly than dry soil; however, VERY dry soil can also become compacted and become nearly impervious to rain, thereby converting precipitation to runoff quickly as well. You will need to pay attention to your facility’s particular characteristics to develop an understanding of what type of rain events or snowmelt results in a discharge.
- At least 72 hours must have elapsed since the previous measurable storm event (unless you are able to document that less than a 72-hour interval is representative for local storm events during the sampling period, or if you are monitoring snowmelt consistent with Part 4.2.1 [quarterly visual assessments] or Part 6.2.1 [benchmark monitoring] of the 2008 MSGP).

In order to properly characterize rain events at your facility, it is a good idea to begin by documenting each event as part of your facility’s routine maintenance activities. You can purchase a simple rain gauge and keep a notebook handy in order to document the dates on which rain occurred and the amount of rain that fell. You should also consider documenting whether or not an actual discharge from your facility occurred for each rain event. Tracking rainfall amounts and discharge information will help you to better predict which storm events will be measureable and result in a discharge.

In order to be prepared to take advantage of storms that will result in a “measurable storm event”:

- Be familiar with local precipitation trends, storm patterns, and seasonal variations.

- Check weather forecasts so you can prepare to sample upcoming precipitation events.
- In addition to your local television news and the Weather Channel, you can get weather information online from <http://www.wrh.noaa.gov> (National Weather Service) and <http://www.weather.com>.

**Note: You should try to collect both benchmark samples and visual monitoring samples concurrently so you can compare visual observations with the laboratory results, and reduce your field activities burden.**

*What To Do If You Are Unable To Sample* – EPA acknowledges there may be times you are unable to complete required monitoring. The following are guidelines on how you should deal with such times.

- *Areas with Intermittent Stormwater Runoff* – If your facility experiences limited rainfall for extended periods of the year (i.e., in arid or semi-arid climates), or freezing conditions that often prevent runoff from occurring, then the quarterly monitoring events may be distributed during seasons when discharging does occur. If you are unable to collect four samples in one year because of insufficient runoff, document this fact in your SWPPP and continue quarterly monitoring until you have collected four samples.
- *Snowmelt Sampling* – If you are located where appreciable snow is common, one of your samples must include the capture of snowmelt discharge. If, however, you experience prolonged subfreezing temperatures, you may only be able to acquire a sample once over two quarters. You will then have to complete the monitoring requirements as above.
- *Adverse Weather Conditions* – When adverse weather prevents sampling per your monitoring schedule, you must sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, caused by such things as flooding, high winds, electrical storms or situations that otherwise make sampling impractical (e.g., drought or extended frozen conditions).

## 2.6 Select the Monitoring Team

Identify the members of your facility's pollution prevention team (which you identified in your SWPPP) who will collect samples and conduct visual assessments of discharges. To be considered as a member of the monitoring team, applicable staff must be familiar with the SWPPP, especially the site plan, the layout of the facility, potential pollutant sources, and the monitoring and reporting program. They also need to possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and be able to evaluate the effectiveness of control measures.

**Ideally, the pollution prevention team consists of at least one individual from each shift so that a team member is always present during normal operating hours.**

to

Typically, monitoring staff are based near the site to enable them to be available on short notice to sample storm events.

It is also important that monitoring staff understand and follow all quality assurance quality control (QAQC) techniques and procedures to ensure that the data is good. You should discuss these techniques with your laboratory prior to taking samples and properly train all sampling staff.



## 2.7 Select a Laboratory to Analyze the Samples

Your stormwater samples will need to be analyzed for the parameters you identified in section 2.3 by a qualified laboratory. Labs must use the approved methodologies found at 40 CFR Part 136 and return a report with chemical concentrations including data quality assurance information.

EPA recommends that you select a laboratory that is a participant in the EPA's Discharge Monitoring Report - Quality Assurance (DMRQA) Program, and, if possible, be approved by the National Environmental Laboratory Accreditation Program (NELAP). NOTE: for ELG compliance monitoring, participation in DMRQA is a minimum requirement.

### Things to discuss with the laboratory

- What type and size of bottle will be provided for each test?
- How full do I fill the bottle?
- Are there any safety concerns with materials provided by the lab?
- What is the best way to preserve the samples?
- What kind of labels will be supplied and how should I fill them out?
- Will the lab deliver the supplies or do I need to pick them up?
- What are the maximum holding times for each water quality parameter to be sampled?
- Will the lab provide pH paper? Samples need to be tested for pH within 15 minutes of collection to be valid, typically in the field.
- Will the lab pick up the samples from my facility or do I need to deliver them?
- Can you walk me through filling out the chain-of-custody forms?
- Is the quantitation limit for each parameter less than the benchmark or effluent limitation concentration?\*

\* The quantitation limit is the minimum concentration of a parameter that the lab can accurately report using a particular method.

- A comprehensive list of NELAP-approved laboratories can be found at [www.nelac-institute.org/accred-labs.php](http://www.nelac-institute.org/accred-labs.php)
- To ensure your chosen laboratory is eligible and reliable, you may want to request documentation showing they are certified to analyze environmental samples, and evidence they participate in DMRQA or other performance evaluation testing results.

You should ask the laboratory about any additional services and products they offer. Such as:

- pre-labeled bottles and pre-printed chain-of-custody forms;
- training on sample collection, documentation and data interpretation;
- sampling and courier services; and
- complete sampling kits which include bottles, packing materials, bottle labels, coolers and chain-of-custody forms; many laboratories provide free sampling kits.

## 2.8 Document Monitoring Procedures in Your SWPPP

Ensure your monitoring procedures are correctly documented in your SWPPP (see 2008 MSGP Part 5.1.5.2). The required information includes:

- The monitoring requirements that specifically apply to your facility.
- Information related to the substantially identical outfall exception, if you will use it.
- Your sampling procedures.
- Your procedures for performing quarterly visual assessments of stormwater discharges. This SWPPP element includes the routine facility inspections and comprehensive site inspections required by the 2008 MSGP (see 2008 MSGP Part 4.1 and 4.3, respectively).

Figure 1 is an example of a completed MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form. You should fill out this form (Appendix A) with the sampling locations and monitoring requirements that apply to your facility and include a copy in your SWPPP.

Benchmark Levels and ELGs									
Industry Sector	Pollutant	Benchmark Level	ELG						
			Daily Max	Monthly Average	Instant Min/Max				
D	TSS	100	23	15		Total Suspended Solids (SM 254-0D)		Oil and Grease (EPA Method 1664-A)	Iron (EPA Method 200.9)
D	Oil and Grease		15	10					
D	pH				6-9				
E2	Iron	1							
E2	TSS	100	50						
E2	pH				6-9				
Sample Summary									
Outfall Identifier	Industry Sector (SIC)	Basis	Frequency	Timing					
e.g. 001-A	Sector D (SIC 2951)	Benchmark	1/Quarter	1st wk of month	✓	✓	✓		
e.g. 001-A	Sector D (SIC 2951)	ELG	1/year	January	✓				
e.g. 001-B	Subsector E2 (SIC 3271)	Benchmark	1/Quarter	1st wk of month	✓			✓	
e.g. 001-B	Subsector E2 (SIC 3271)	ELG	1/year	January	✓	✓			

Figure 1. Example MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form with monitoring requirements, sampling locations and industry sectors.

### 3. Conduct Monitoring

This section describes sampling preparation, choosing the right storm event to monitor, how to collect stormwater samples, how to conduct quarterly visual assessments, quality control considerations, and how to report the results.

**The information contained in this section is not specific to monitoring for the 2008 MSGP or any particular general industrial permit.**

#### 3.1 What to Have In Place Prior to Collecting Stormwater Samples

Preparation is essential, especially if you are in a climate where measureable storm events are infrequent.

- ***In-Office Preparations*** – Your in-office preparations should include the following:
  - Contacting the lab well ahead of time so that you have the sample bottles before a measurable storm event.
  - Paying attention to weather forecasts so that you are tracking patterns that are likely to result in a measurable storm event.
  - Knowing who your monitoring personnel are and how to contact them when a measurable storm event is expected.
  - Having sampling gear assembled and checked for readiness.
  - Preparing sample bottle labels using waterproof ink with the following information (if not already done by the lab):
    - Facility name and address
    - Sample location identifier (e.g., Outfall 001)
    - Name or initials of sampling personnel
    - Parameter and associated analytical method (e.g., TSS, Method # 0160.2; consult with your contract laboratory for analytical method numbers)
    - Sample type (generally will be “grab” samples)
    - Sample preservation notes
    - Date and time after completing sampling event
- Having chain-of-custody forms ready for use.

**The chain of custody form is a document that travels with the sample from collection through analysis. Each individual that handles the sample will place their name, date, and time on the chain-of-custody form. The form is used to maintain the integrity of the sample by providing documentation of the control, transfer, and analysis of samples (see Section 3.4 below for a more detailed discussion of chain-of-custody).**

- **Sampling Supplies** – Collect the following supplies and keep them ready for quick use:

- Clean, sterilized sample bottles, sized appropriately for the parameter to be analyzed (many labs provide the appropriate bottles or will tell you what size to get).  
Glass must be used for oil and grease samples; plastic containers can be used for other parameters. Use Teflon or aluminum-lined caps.
- If bottles are new but not pre-cleaned, they must be pre-conditioned before use by filling with water for several days (the duration can be reduced by using a dilute solution of hydrochloric acid).
- Additional glass or clear plastic bottles suitable for visual assessments.
- Visual monitoring forms (see example in Appendix B).
- Clipboard and site-specific monitoring checklist.
- If needed, a pole (sold at field supply stores) on which to attach sample bottles and attachment clips or strapping tape to secure the bottle to the pole.
- Safety equipment, including first aid kit.
- Hand sanitizer solution.
- Carrying case for sampling equipment or backpack for carrying equipment to remote locations.
- Powder-free disposable nitrile or latex gloves (sold by medical and laboratory suppliers or may be provided by your contract laboratory). Do *not* use powdered gloves as they may contaminate your samples.
- Indelible pens / markers that can write on wet surfaces.
- Foul-weather gear including footwear appropriate for the conditions at your sampling locations (e.g., non-slip boots).
- Sturdy cooler and ice or ice packs for stowing and preserving your samples en route to the lab (the lab may provide an appropriate container).
- Field notebook or field forms for your sampling records (waterproof notebooks are available at office supply stores).
- pH paper and appropriate chemical preservatives for adding to sample bottles (obtain from your laboratory).

**For rinsing sample bottles,  
use only distilled water**



*Preparing sampling supplies.*

- **Optional or as-needed supplies:**
  - Sodium bicarbonate (for safety reasons if using acid preservative additives)
  - A graduated stick to measure water depth for determining safe / wade-able sampling access locations (if a sampling pole will be used, you can modify it with depth markings)
  - Mosquito repellent
  - Flashlight in case of sudden loss of light or darkness under storm conditions
  - Flagging tape for marking access to remote or overgrown locations
  - Camera, used for:
    - Recording evidence of potential pollutants or sampling conditions.
    - Especially useful if different people will do the sampling throughout the permit term.
    - Pictures of sample appearance along with the visual inspection records can help “normalize” visual assessments.
    - Pictures of the sampling location can help you find the same spot for subsequent sampling events.

**Develop a stormwater sampling checklist to ensure consistency and continuity across sampling events. Since stormwater sampling is not a regular part of a facility's workload, a checklist of things to have prepared before sampling, sampling activities, and sampling locations will help you remember from quarter to quarter. You can make the checklist by noting the things you did for the first sampling event to remember for future sampling events. Keep the checklist updated as you gain experience with sampling.**

### 3.2 Collect Stormwater Samples

Contact the lab prior to collecting stormwater samples so they know to expect the samples and have adequate staff available to conduct the analyses within the applicable holding times (the lab may offer courier service). Inform them of the pollutant parameters for which your samples will be analyzed.



*A stormwater grab sample is collected directly into the sample container.*

Follow the protocol below to obtain an accurate grab or manual sample. A grab sample is a single sample “grabbed” by filling up a container, either by hand or attached to a pole. Obtaining accurate data is vital to your ability to assess how your stormwater control measures are performing.

- Wear disposable powder-free gloves for sampling; never touch the inside of the lid or bottle.
- For oil and grease: fill the glass sample bottle directly from the discharge; never collect in a container first and then transfer to the sample bottle because oily residue will collect along the inside of the first collection bottle and make the sample inaccurate.

**Remember, oil and grease must be collected directly into the glass sample bottle.**



## Industrial Stormwater Monitoring and Sampling Guide

- If you have problems accessing the stormwater discharge point (e.g., access is too far or dangerous), use a pole or other appropriate sampling apparatus.
- Sample only stormwater discharging from your facility (i.e., do not sample from puddles, ponds or retention basins).
- Sample from a turbulent section in the central part of the flow; avoid touching the bottom or sides of the stormwater conveyance.
- Fill the sample bottle nearly to the top (meniscus almost at the rim) by holding the opening into the flow of water; do not rinse or overfill the bottles.



*Sample bottles labeled with location, date, time, sample collector, analysis, and preservative type.*

While stormwater samples are typically grab samples, in some situations the use of an automatic sampler may be appropriate. Automatic samplers are mechanical devices that monitor site conditions and collect a sample when needed. The automatic sampler can be set up well in advance of a storm, or set up as a permanent installation, and the technician can retrieve the sample after the storm when conditions are favorable. Advantages of automatic samplers include low labor costs, convenience, and safety – personnel are not out in the storm trying to collect one or more samples. The major disadvantage is cost; automatic samplers are expensive. Secondly, the automatic sampler cannot collect visual observations, and they cannot be used for collection of certain measurements.

After the samples have been collected:

- Place the samples in a sturdy cooler partially filled with ice. As a general rule, samples should be kept at approximately 39°F (4°C) until the cooler is delivered to the lab.
- Put a completed chain-of-custody form enclosed in a re-sealable plastic bag inside the cooler. If you have several

**pH has a 15 minute holding time; therefore, the sample must be analyzed within 15 minutes of collection.**

coolers complete a separate chain of custody form for each cooler.

- Deliver the samples to the lab (e.g. drive, arrange same-day pick-up by the lab, or use an express / overnight service) as soon as possible, bearing in mind the holding times for each parameter sampled.



*Stormwater samples packed for delivery to the lab, note the chain of custody forms attached to the lid.*

### 3.3 Record Information for Each Monitoring Event

For each individual sample collected, you should note the following information:

- The sample / outfall identifier.
- The duration between the storm event you sampled and the end of the previous storm event that resulted in a discharge of stormwater from your site (i.e., a “measurable storm event”).
- The date and duration of the storm event sampled.
- Rainfall measurement or estimate (in inches).
- Estimate of the total volume of the discharge sampled from the outfall.

You should record this information on a Stormwater Collection Form (see appendix C for an example).

### 3.4 Quality Assurance Considerations

The following actions must be followed explicitly. Quality assurance (QA) helps maintain the accuracy and integrity / legal defensibility of your monitoring results by documenting the stewardship of your samples, by minimizing biases in sampling and lab procedures, and by helping to assess the accuracy and precision of the lab's analyses.

#### ***Holding Times and Sample Preservation***

Samples that cannot be delivered to the lab on the same day may need to be preserved, often by cooling to 4°C (i.e., in an ice bath) and/or with added chemical preservatives (laboratory-supplied bottles may already include preservatives). If your samples need to be analyzed for more than one parameter you may need to bottle more than one sample at an outfall using different preservatives. In addition, you should be aware of the maximum holding time allowed for a particular parameter before which the sample must be analyzed. Following is a table with typical preservation and holding requirements for benchmark parameters and additional potential pollutants of concern (the latter will not have a numeric value in parentheses). Work with your laboratory service providers to develop a list of containers to optimize “sharing” of containers across different parameters. Not all laboratories provide the same container types for the different parameters. Laboratories frequently provide pre-completed custody records and seals, and will provide pre-labeled sample bottles for ease of use in the field as part of their routine “value-added” services. Pre-completed custody records and labels require only time, date, and samplers’ initials in order to complete this critical documentation. Your laboratory may also have additional sampling, sample handling, or shipping instructions helpful to your sample collection personnel. NOTE: Whenever possible, minimize the amount of lead time sample containers / kits are outside of the laboratory. Extended storage of pre-preserved containers for some analytes may present opportunity for blank contamination, even under ideal storage conditions.

**Table 5. Sample Preservation and Hold Times**

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4°C?	Additional		
Aluminum, Total Recoverable (0.75)	N	HNO <sub>3</sub> (nitric acid) to pH <2	6 months	500 mL HDPE
Ammonia (2.14)	Y	H <sub>2</sub> SO <sub>4</sub> (sulfuric acid) to pH <2	28 days	500 mL HDPE
Antimony, Total Recoverable (0.64)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Arsenic, Total Recoverable (0.15)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Beryllium, Total Recoverable (0.13)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Biological Oxygen Demand, BOD <sub>5</sub> (30)	Y	None	48 hours	1L HDPE or glass
Cadmium, Total Recoverable (0.0005 – 0.0053)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Chemical Oxygen Demand, COD (120.0)	Y	H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days	100 mL HDPE or glass
Chromium (0.58 – 3.82)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE

# Industrial Stormwater Monitoring and Sampling Guide

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4° C?	Additional		
Copper, Total Recoverable (0.0038 – 0.0332)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Cyanide, Total (0.022)	Y	NaOH (sodium hydroxide) to pH >12, refrigerate in dark	14 days; 24 hours if sulfide present	1 L HDPE
Fluoride		None	28 days	100 mL HDPE
Hardness (as CaCO <sub>3</sub> )		HNO <sub>3</sub> or H <sub>2</sub> SO <sub>4</sub> to pH <2 (method dependent)	6 months	100 mL HDPE
Iron, Total Recoverable (1.0)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Lead, Total Recoverable (0.014 – 0.262)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Magnesium, Total Recoverable (0.064)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Mercury, Total Recoverable (0.0014)	N	HNO <sub>3</sub> to pH <2	28 days	500 mL HDPE
Nickel, Total Recoverable (0.15 – 1.02)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Nitrate + Nitrite Nitrogen (0.68)	Y	H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days	200 mL HDPE
Oil and Grease	Y	HCl or H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days	1L Boston round glass
pH (6.0 – 9.0 s.u.)	N	None	15 min (Field test)	50 mL
Phenols, Total Recoverable	Y	H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days	500 mL HDPE
Phosphorous, Total (2.0)	Y	H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days	500 mL HDPE
Radium, Total Recoverable		HNO <sub>3</sub> to pH <2	6 months	1L HDPE
Radium, dissolved		Field-filtered HNO <sub>3</sub> to pH <2; if not field filtered - none	Field filtered, preserved 6months; if not field filtered, filter on receipt, preserve to pH <2 6 months	1L HDPE
Selenium, Total Recoverable (0.005)	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Silver, Total Recoverable (0.0007 – 0.0183)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
Total Suspended Solids, TSS (100)	Y	None	7 days	200 mL HDPE
Turbidity (50 NTU)	Y	store in the dark	48 hrs	100 mL HDPE
Uranium		HNO <sub>3</sub> to pH <2	6 months	500mL HDPE
Zinc, Total Recoverable (0.04 – 0.26)*	N	HNO <sub>3</sub> to pH <2	6 months	500 mL HDPE
<b>Landfill Parameters</b>				
Alpha Terpineol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Aniline	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Benzoic Acid	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Napthalene	Y	NA	7 days to extraction	1L Amber glass

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4° C?	Additional		
			40 days to analysis	
p-Cresol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Pyridine	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass

\*These values are hardness dependent.

### **Field Blanks**

Field blanks are distilled or de-ionized water samples prepared when you are collecting stormwater samples. Field blanks are prepared, in the field, after cleaning the sampling equipment but before collection of water quality samples. Blanks are prepared by pouring distilled de-ionized water into each scoop, dipper, etc. used for sample collection and then into sample bottles as if they were actual field samples. The field blanks are processed and analyzed in an identical manner as the stormwater samples. If the lab detects any contamination in the blanks, your sampling results could be considered tainted (either from contamination or errors in sampling or analysis). Collection and analysis of field blanks is not required by the 2008 MSGP; however, field blanks are used for quality control to assess whether contamination was introduced during sampling, and may prove useful in interpretation of results.

### **Chain of Custody Forms and Procedures**

Samples must be traceable from the point of collection until the sampling results are reported. To do this, document who is in possession of the samples using the chain of custody procedures below. One person should be responsible for the care and custody of the samples, and for generating the chain of custody record until the samples are properly transferred or relinquished to the laboratory. Chain of custody tasks include:

- Ensure that the sample labels are properly filled in.
- Complete the chain of custody form with the date, time, parameter and sample locations for each sample, and sign the form.
- During the transfer of custody of the samples, both the persons relinquishing and receiving the cooler (including lab personnel) must record the date and time on the chain of custody form and sign it.
- Record the shipping method, courier name(s), and other pertinent information as remarks on the chain of custody form.
- The original chain of custody form remains with the samples and a copy must be provided to the facility for inclusion in project records.

Chain of custody records are critical to ensure that no tampering occurs between sample collection and analysis. Your analytical service provider may provide training or written instructions to assist in your completion of accurate custody records. This is another key area where many laboratories invite the opportunity to work with their clients as part of their value-added services.

### 3.5 Conducting Visual Assessments of Stormwater Discharges

All facilities covered by the 2008 MSGP must perform quarterly visual assessments, irrespective of benchmark monitoring.

Visually inspecting stormwater samples from a measurable discharge at your sampling outfalls is an inexpensive way of assessing the performance of your control measures. The sample should be collected and analyzed in a colorless glass or plastic bottle. It is recommended that you take photographs of the discharges at the time of observation in case more than one person is doing the assessments and because photos can be helpful in determining the effectiveness of your control measures and any need to make changes to control measures.

Assess the general appearance, as an indicator of contaminants, of your discharges for these characteristics:

- **Color** – If the discharge has an unusual color, such as reddish, brown, or yellow hue, this may indicate pollutants or suspended sediment.
- **Odor** – If the discharge has a noticeable odor, for instance if it smells like gasoline fumes, rotten eggs, raw sewage, or solvents odor, or has a sour smell, this could be indicative of pollutants in the discharge.
- **Clarity** – If the discharge is not clear, but is instead cloudy or opaque, this could indicate elevated levels of pollutants in the discharge.
- **Floating solids** – If you observe materials floating at or near the top of the bottle, take note of what the materials appear to be.
- **Settled solids** – You should wait about a half hour after collection, then note the type and size of materials that are settled at the bottom of the bottle.
- **Suspended solids** – Particles suspended in the water will affect its clarity, and color and could be attributable to pollutant sources at your facility.
- **Oil sheen** – You should check the surface of the water for a rainbow color or sheen; this would indicate the presence of oil or other hydrocarbons in the discharge.
- **Foam** – You should gently shake the bottle and note whether there is any foam.
- **Other obvious indicators of stormwater pollution.**

To record your visual monitoring results you can use the optional “Quarterly Visual Monitoring Form” in Appendix B (or a comparable one of your own).



## 4. Evaluate Monitoring Results

The primary purpose of any industrial stormwater monitoring program, consisting of analytic chemical monitoring and visual assessments, is to provide feedback on the performance of your selection and implementation of control measures. Visual evidence of pollution in a stormwater sample, a spike in the concentration of a benchmark pollutant, or the exceedance of a numeric effluent limitation provides an indicator that modifications or additions to the site's control measures need to be considered to improve the effectiveness of your stormwater program.

The following will aid you in interpreting your monitoring results and revising your control measures, if necessary.

### 4.1 Evaluating Quarterly Visual Assessment Results

For anything but colorless and odorless stormwater in your discharge, you should investigate what area of your site or what specific pollutant sources are contributing to the contamination of your site's runoff. To search for the source of pollutants, you should move upstream from the discharge point. You should scrutinize your exposed industrial materials and activities (material handling equipment, industrial machinery, raw materials, finished product, wastes, or products that are stored, used or created onsite, etc.). Examine where material handling activities occur, such as: storage, loading and unloading, and material transporting. Be aware, the source could be from an ongoing activity or the result of a spill or other infrequent occurrence. In looking at your samples, consider the following:

- When there is a distinct color or odor, are the abnormalities associated with any raw materials, chemicals or other materials used at the site?
- Muddiness or sediment may have been picked up from areas where there is disturbed earth or other unpaved areas lacking adequate control measures.
- Foam or oil sheen may be the result of a leak or spill of materials.
- Cloudiness indicates suspended solids such as dust, ash, powdered chemicals, and ground up materials. Determine whether you use any of these materials and whether they are exposed to stormwater.



Clean up all sources of potential contamination, make changes to your control measures, and update your SWPPP, as necessary.

## 4.2 Evaluating Benchmark Monitoring Results

The analysis of your benchmark monitoring results can yield valuable information about the characteristics of your runoff and how well your control measures are working. Once you have received your lab results for your benchmark samples, compare these concentrations to the benchmark values that apply to your facility. The 2008 MSGP requires that you conduct four benchmark samples in your first year, and then compare the average value to the applicable benchmark. If the average concentration of your samples exceeds the benchmark, then you are required under the permit to evaluate whether changes to your control measures are necessary. See Parts 6.2.1.2 and 3.2. However, prior to the completion of the four samples, if one or more sample results makes an exceedance of the benchmark mathematically certain, you are required to conduct this evaluation without waiting for the results of the remaining benchmark samples.

Table 6 will help you decide a course of action depending on the results of your benchmark samples.

**Table 6. Evaluation of Benchmark Monitoring Results**

<b>Does the average of your four quarterly benchmark samples for any pollutant exceed the applicable benchmark concentration? OR</b> <b><u>If you have not yet completed your four quarterly benchmark samples, does the total value of your samples already make an exceedance of the benchmark mathematically certain (e.g., the sum of the concentration of your samples exceeds four times (4X) the benchmark concentration)?</u></b>	
<b>YES</b>	<b>NO</b>
<p>You must evaluate whether modifications to the stormwater control measures used at your site are necessary. You will need to consider whether there is a problem in the selection, design, installation, and/or operation of applicable control measures. Follow the evaluation and corrective action process in Parts 3.2, 3.3, and 3.4.</p> <p>An exceedance of a benchmark does not necessarily mean that your control measures are insufficient. Continue reading below for additional items to consider as you proceed.</p>	<p>Sample results below benchmark limits provide an indication that your control measures are working as intended to minimize the discharge of pollutants.</p> <p>Although your samples indicate properly functioning control measures, you should continue to note changes to your site that may affect the quality of stormwater runoff, and to link such changes to your future monitoring results.</p> <p>You are still required to meet all requirements in the permit affecting the implementation and maintenance of your control measures, despite the good results of your benchmark monitoring.</p>

If benchmarks were exceeded:

- Did you sample correctly?
  - Did you start with clean sample collection jars and were the samples preserved and submitted to the lab within the allotted time frame?
  - Did you properly sample the discharge flowing from the site or did you collect the sample from a low spot or stagnant pool?

## Industrial Stormwater Monitoring and Sampling Guide

- Was anything atypical going on at the site prior to or during the storm? Atypical activities could include:
  - A leak or spill that was not adequately cleaned up.
  - Construction, painting and paving activities.
  - Having a large amount of material (raw materials, wastes or products) recently delivered or being prepared for shipment.
- Did you observe anything during visual inspections that may have indicated that stormwater runoff would have been exposed to pollutants? If so, are control measures in place to address the pollutant sources?



The more the benchmark was exceeded, the greater your facility's problems may be, necessitating a more robust response. For example, if your results for TSS were over the benchmark value by a relatively small amount (e.g., TSS values of 110 to 150 mg/L, compared to the 100 mg/l benchmark level assigned to TSS), then simply performing additional housekeeping measures (e.g., frequent sweeping) may reduce the values below the benchmark of 100 mg/l by the next storm. However, an exceedance above 150 mg/l may warrant new or supplementary control measures (assuming your control measures are performing as designed) that more effectively reduce the potential for sediment in discharges (e.g., installing storm inlet filters, seeding / stabilizing disturbed areas, implementing dust and debris controlling procedures). TSS values exceeding benchmarks by orders of magnitude indicate a serious problem, and may require structural control measures (e.g., paving, installing berms around piles of loose material, placing operations under cover, placing grassy swales or basins in the discharge flow path to trap sediment).

Until your visual observations and sampling results show that pollutants are not found in your discharges or are present in concentrations below benchmark values, the pollution prevention team should engage in an iterative process in which control measures are selected, implemented, evaluated and modified until determined to be completely effective.

There may be circumstances where benchmark values cannot be reasonably achieved because of local natural background concentrations (see 2008 MSGP Part 6.2.1.2). In such cases, EPA allows for benchmark exceedances. For example, high natural background levels of iron in soils or groundwater could cause exceedances of a benchmark value. This provision exempts facilities from further control measure evaluation and benchmark monitoring when natural background levels are solely responsible for the exceedance of a benchmark value.

To make this determination, natural background pollutant concentrations must be greater than the corresponding benchmark value, and there is *no* net facility contribution of the pollutant (i.e., average concentration detected in runoff from all monitored outfalls over four separate events minus the average natural concentration of the parameter for four separate events does not exceed zero).

For example, if the natural background concentration of TSS from an undisturbed watershed is 200 mg/L, an exemption from further benchmark monitoring / control measure evaluation is available if the average of your four benchmark samples is equal to or lower than 200 mg/L. There are additional requisites for claiming a natural background level exemption, including documentation. Details of these are contained in the 2008 MSGP in Part 6.2.1.2 and the Fact Sheet.

### 4.3 Effluent Limitation Guideline Monitoring Results

What happens if your facility is subject to numeric effluent limits (for ELG compliance monitoring) and your stormwater sample exceeds the effluent limits for one or more parameters? Within 24 hours of receiving the lab report you must prepare a corrective action report, including:

- Identification of the condition triggering the need for corrective action review;
- Description of the problem identified; and
- Date the problem was identified.

Within 14 days of receiving the lab report, you must document the following information:

- Summary of corrective action(s) taken or to be taken;
- Notice of whether any modifications to your control measures and any related changes to your SWPPP are necessary as a result of this discovery or corrective action;
- Date corrective action initiated; and
- Date corrective action completed or expected to be completed.

You must submit these reports with your annual report and retain a copy onsite with your SWPPP

The 2008 MSGP requires that you conduct follow-up monitoring within 30 calendar days of implementing corrective actions (or during the next qualifying runoff event, should none occur within 30 days, see Part 3 of the 2008 MSGP). Monitoring must be performed for any pollutant(s) that exceeded the effluent limit. If the results from the follow-up monitoring exceed the effluent limit(s), you are required to submit an Exceedance Report to EPA no later than 30 after receipt of your lab results. The exceedance report must include:

- NPDES permit tracking number;
- Facility name, physical address, and location;
- Name of receiving water;
- Monitoring data from this and the preceding monitoring event(s)

- An explanation of the situation; what you have done and intend to do (should your corrective actions not yet be complete) to correct the violation; and
- An appropriate contact name and phone number.

In addition to preparing the Exceedance Report, you must continue to monitor, at least quarterly, until your stormwater discharge is in compliance with the effluent limits or until EPA waives the requirement for additional monitoring.

### 4.4 Specific Pollutants and Control Measure Options

All facilities need to gear their control measures toward their specific pollutants of concern, as determined by the materials and activities onsite. Below is a brief discussion of some of the most common pollutants and control measure options.

- **Total Suspended Solids (TSS).** Small sediment particles are easily suspended and carried by surface water flows. These particles may be blown onto the site from unpaved areas within or adjacent to your facility as well as being tracked in on the tires of vehicles. Excess particles may be self-generated, particularly in the concrete, asphalt, scrap recycling, automobile salvage, and mining sectors. See the discussion above for control measure options for controlling TSS.



- **Oil and Grease.** Often, oil and grease may be observed as a film, sheen or discoloration on the top of a discharge or receiving water. But such a surface anomaly may not be obvious, in which case detection by a lab would be the only way. This could be a pollutant of concern for any facility, especially if there are exposed vehicles or equipment. Therefore, it is vital that due diligence regarding “reportable quantity” (RQ) spills or leaks be observed. Basically, an RQ for oil is any quantity of oil that causes a film, sheen or discoloration on a receiving water surface (and for which there are separate reporting requirements to regulatory agencies). If detected you must find the source and mitigate it. Start with the vehicle / equipment maintenance and storage areas or where shipping / receiving and the like are done. Above ground storage tanks and waste storage are other likely sources.

Available control measures range from regularly monitoring these areas and applying an absorbent material (choose a bio-based absorbent like Nature’s Broom, not a clay-based material) as soon as an oil leak or spill is observed. Consider coverage of and secondary containment for storage areas where oil or grease are stored, transferred or disposed of. An oil water separator downstream of the area(s) most likely to contain oil or grease could provide enough treatment to reduce oil and grease to acceptable levels in the discharge.

- **pH.** pH values below benchmark range indicate that acidic substances are exposed to stormwater. In this case you need to determine whether any of your industrial processes use acids and if so, where. Does your facility do plating, or are lead-acid batteries used or stored on-site? If acids are being used to clean parts, for example, where are the parts stored after being treated with the acid? Where are waste acids stored and how are they disposed? Which operations could expose acids to stormwater? Coal piles are also a source of acidified runoff.



High pH values indicate that a base or alkaline material (such as lye) is exposed to stormwater. Cement and some cleansers can produce high pH values.

Control measures applicable to controlling pH include housekeeping (sweeping and cleaning areas where materials that affect pH could be exposed to stormwater); overhead coverage and disposal of waste materials in covered receptacles. Low or high pH runoff can be collected and neutralized by adding an appropriate agent to neutralize pH values to the 6.0 – 9.0 range. Alternatively, flow can be directed to come in contact with a neutralizing substance (e.g., acidic coal pile runoff directed to flow through a limestone channel).

- **Chemical Oxygen Demand (COD).** COD is the amount of dissolved oxygen in water consumed by the chemical breakdown of organic and inorganic matter (i.e., COD is not a specific component in the discharge). Therefore, a high COD value indicates elevated quantities of pollutants in runoff, especially carbon. Examples of facilities that handle materials which could cause high COD levels include the wood and paper product industries. Control measures applicable to controlling COD levels are the basic stormwater ones: good housekeeping and covering materials with the potential to allow carbon or other organic materials to be carried by stormwater.
- **Metals.** Metals originate from many sources and consequently a number of industries must monitor for metals, including facilities such as wood preservative and agricultural chemical makers, mines, and foundries. Depending on a facility's activities, metals can be found in a dissolved form and/or adsorbed to particles or sediment. It is because both the dissolved and particulate forms can occur at the same time is why stormwater discharges are analyzed for "total recoverable metals." After identifying those operations that could expose stormwater to metals sources, implement control measures capable of reducing metals concentrations, including good housekeeping (sweeping and disposing of metal wastes in covered containers), covering / shielding operations, and directing run-on away from any critical outdoor areas. Ion exchange techniques can also be employed to remove dissolved metals.



## 5. Record-Keeping and Reporting

It is important that accurate record-keeping of monitoring activities become a standard operating procedure at your facility. You need to be able to show that monitoring and sampling events not only meet all permit requirements, but are defensible and abide by all QA/QC procedures. It is always preferable to document too much as opposed to too little when dealing with any sort of permit compliance. Create easy to use log books for keeping track of rain events. Be sure that your site map is up to date and easy to understand. Develop simple instruction sheets for recording sampling, visual assessments, or other monitoring activities. The instructions should be kept in logical locations (e.g. in sample kits, in the SWPPP notebook) and updated as needed.

When possible, use standardized forms such as those provided in the appendices of this monitoring guide to record your monitoring activities. This will provide consistency in information reported. Example forms are provided in this guide in Appendix A (2008 MSGP Industrial Stormwater Monitoring Form), Appendix B (2008 MSGP Visual Monitoring Form), and Appendix C (2008 MSGP Industrial Stormwater Collection Form).

If possible, regularly transfer sampling records and sample results into databases or spreadsheets. This will provide back-up records for hard-copy logs or forms as well as providing an easy way to analyze your sampling data.

### 5.1 Reporting Monitoring Data

Each state industrial stormwater permit has different requirements for how monitoring data should be reported. Facilities subject to EPA's 2008 MSGP must submit to EPA all monitoring data collected no later than 30 days after receiving complete lab results for all monitored outfalls. You must submit even if your facility is reporting "no discharge" or a change in status from "active and staffed" to "inactive and unstaffed."

Facilities must use the online eNOI system ([www.epa.gov/npdes/eNOI](http://www.epa.gov/npdes/eNOI)) to report results. EPA's Electronic Notice of Intent (eNOI) system is an online electronic permit application system that enables stormwater entities to submit NOI forms to EPA. eNOI also allows registered eNOI users to report discharge monitoring data and submit annual reports and other reporting information to EPA.

If you cannot access eNOI, the paper MSGP Discharge Monitoring Report (MDMR) reporting form (available at [www.epa.gov/npdes/stormwater/msgp](http://www.epa.gov/npdes/stormwater/msgp)) can be submitted to the appropriate address identified in the 2008 MSGP (Part 7.6.1).

Even if you submit monitoring data via eNOI, the paper MDMR form can help ensure you have the information you need to complete all the required fields. Rather than go line by line through the MDMR, which the instructions do, this Guide will highlight the information needed to fill out the MDMR.

You will need the following information to submit monitoring data via eNOI and complete the MDMR, at a minimum:

1. Permit tracking number
2. The facility SWPPP

3. Monitoring records
4. Lab reports
5. Corrective actions

*Permit Tracking Number* – The permit tracking number is a unique identifier assigned to your facility by EPA. EPA tracks report submittals using the Permit Tracking Number rather than facility name or address. Thus, if you do not include the Permit Tracking Number you may not get credit for submitting the MDMR.

*Facility SWPPP* – The facility SWPPP includes several pieces of information needed for the MDMR, including:

- The number of stormwater outfalls.
- Which, if any, of the outfalls discharge substantially identical effluents.
- Alternative monitoring periods, if the facility is located in an area of irregular stormwater runoff.

*Monitoring Records* – Detailed monitoring records will make completing the MDMR easier. As previously discussed, monitoring records must include:

- The date(s) of all monitoring events during the MDMR reporting period.
- Any stormwater outfalls that did not have a discharge during the MDMR reporting period.
- Whether the discharge resulted from rainfall or snowmelt.
- The duration of the storm event.
- The number of inches of rainfall from the monitored storm event(s).
- The number of days since the previous measurable storm event, which may or may not be the previous *monitored* measurable storm event.

*Lab Reports* – The lab will provide a detailed report with the results of your stormwater analyses and detailed QA/QC data to verify that the results are accurate. For each parameter the lab will typically report one of three results to be reported on the MDMR.

1. The measured concentration to be compared against the benchmark or effluent limitation guideline.
2. BQL or below quantitation limit means that the parameter is present at some amount greater than zero but less than the quantitation limit but the method used is not precise enough to give an exact concentration. Report BQL and the numeric quantitation limit on the MDMR.
3. ND or not detected means that the parameter was not detected in the sample. Report ND and the detection limit on the MDMR. Note that the ND level is typically three to five times less than the quantitation limit.

Other lab reports you may need include receiving water hardness results if any of your required parameters are hardness dependent, and data on natural background pollutant levels if you are claiming that an exceedance of a benchmark limit is due to natural background conditions.

*Corrective Actions* – The 2008 MSGP requires you to implement corrective actions if the lab report indicates an exceedance of one or more numeric effluent limits or if the average of four quarterly samples exceeds the applicable benchmark. You must document discovery of effluent limit(s) or

benchmark concentration(s) exceedances within 24 hours of receiving the lab report, including the condition triggering the need for corrective action review; a description of the problem; and the date the problem was identified. Within 14-days of receiving the lab report you must summarize the corrective action that was taken or will be taken, including a description of the corrective action; start and end dates; and whether the SWPPP will be modified. You can submit the corrective action report(s) via eNOI or along with the paper MDMR form.

## 6. Train Personnel

You must train your stormwater pollution prevention team in the proper procedures for sample collection, visual assessments, tracking and reporting. Trainings should be held regularly to update staff on any permit or SWPPP changes. New employees that become members of the stormwater pollution prevention team should be trained in general stormwater awareness as well as the following monitoring-specific topics:

- How to anticipate a measurable storm event.
- Where to monitor.
- How to collect and document the collection of stormwater samples including the assembling of “field blank” samples.
- How to perform and document visual assessments.
- How to handle and send the samples to the lab.
- How to interpret the results.
- How to keep accurate and complete records and report appropriate information to the permitting authority.

## 7. References

APHA (American Public Health Association). 1998. *Standard Methods for the Examination of Water and Wastewater, 20th Edition*. American Public Health Association, 20th Edition.

Ecology. 2002. *How To Do Stormwater Sampling: A Guide for Industrial Facilities*. Publication #02-10-071. State of Washington Department of Ecology, Olympia, Washington.

“EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.” *Code of Federal Regulations* Title 40, Pt. 122.

“Guidelines Establishing Test Procedures for the Analysis of Pollutants.” *Code of Federal Regulations* Title 40, Pt. 136.

USEPA (U.S. Environmental Protection Agency). 1992. *NPDES Storm Water Sampling Guidance Document*. EPA 833-8-92-001. U.S. Environmental Protection Agency, Office of Water, Washington D.C.

USEPA (U.S. Environmental Protection Agency). 2008. *NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP)*. U.S. Environmental Protection Agency, Washington D.C.

## **Appendix A – 2008 MSGP Industrial Stormwater Monitoring Form**

# MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form

[illegible]

## **Appendix B – 2008 MSGP Visual Monitoring Form**

# MSGP Quarterly Visual Assessment Form

(Complete a separate form for each outfall you assess)

Name of Facility:		Permit No.:	
Street Address:		City:	State: Zip Code:
Outfall Number:	"Substantially Identical Outfall"? <input type="checkbox"/> No <input type="checkbox"/> Yes (identify substantially identical outfalls): _____		
Quarter/Year:	Substitute Sample?: <input type="checkbox"/> No <input type="checkbox"/> Yes (identify quarter/year when sample was originally scheduled to be collected): _____		
Person(s)/Title(s) collecting sample:			
Person(s)/Title(s) examining sample:			
Date & Time Storm or Snowmelt Began:	Date & Time Sample Collected: _____		Date & Time Sample Examined: _____
Nature of Discharge: <input type="checkbox"/> Rainfall <input type="checkbox"/> Snowmelt			
Rainfall Amount: _____ inches	Previous Storm Ended > 72 hours Before Start of This Storm? <input type="checkbox"/> Yes <input type="checkbox"/> No* (explain): _____		
<b>Parameter</b>			
Color	<input type="checkbox"/> None <input type="checkbox"/> Other (describe): _____		
Odor	<input type="checkbox"/> None <input type="checkbox"/> Musty <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfur <input type="checkbox"/> Sour <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Solvents <input type="checkbox"/> Other (describe): _____		
Clarity	<input type="checkbox"/> Clear <input type="checkbox"/> Slightly Cloudy <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Other (describe): _____		
Floating Solids	<input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____		
Settled Solids**	<input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____		
Suspended Solids	<input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____		
Oil Sheen	<input type="checkbox"/> None <input type="checkbox"/> Flecks <input type="checkbox"/> Globs <input type="checkbox"/> Sheen <input type="checkbox"/> Slick <input type="checkbox"/> Other (describe): _____		
Foam (gently shake sample)	<input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____		
Other Obvious Indicators of Storm Water Pollution	<input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____		

\* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

\*\* Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Sampling not performed due to adverse conditions: ☐ No ☐ Yes (explain): \_\_\_\_\_

Sampling not performed due to no measurable storm event occurring that resulted in a discharge during the monitoring quarter:  
☐ No ☐ Yes (explain): \_\_\_\_\_

**Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions taken below (attach additional sheets as necessary).**

## Certification by Facility Responsible Official (Refer to MSGP Subpart 11 Appendix B for Signatory Requirements)

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. 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.

A. Name \_\_\_\_\_

B. Title \_\_\_\_\_

C. Signature \_\_\_\_\_

D. Date Signed \_\_\_\_\_



## **Appendix C – 2008 MSGP Industrial Stormwater Collection Form**

Name of Facility:					Type of Analyses Required										Sample Collection Information	
															Date & Time Sample Collection Began:	
															Date & Time Sample Collection Ended (if different):	
															Address:	
Person(s)/Title(s) collecting sample:																
Permit Tracking Number:																
Outfall Numbers/Sample Locations:																
<b>Discharge Information</b>																
Nature of Discharge (circle one): Rainfall or Snowmelt																
Rainfall Amount (inches):																
Date of Discharge Sampling:																
Date & Time Storm Began:																
Date & Time Storm Ended:																
Date & Time of Previous Measurable Storm Event:																

The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

**Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions below (attach additional sheets as necessary).**

**Certification by Facility Responsible Official (Refer to MSGP Subpart 11 Appendix B for Signatory Requirements)**

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. 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.

B. Title \_\_\_\_\_

C. Date Signed

# APPENDIX M

## CORRECTIVE ACTIONS

## Corrective Action Report Form

### Purpose

This Corrective Action Report Form is designed to assist you in preparing corrective action reports for the Maryland General Permit for Discharges From Stormwater Associated with Industrial Activities 12-SW. If you are covered under MDE's 12-SW, this form will enable you to create a corrective action report that complies with the minimum reporting requirements of Part 1V of the permit.

You are only required to fill out this form if one of the corrective action triggering conditions in Part IV occurs on your site. Routine maintenance and repairs are generally not considered to be a corrective action triggering condition. Corrective actions are triggered only for specific, more serious conditions that are identified below in the "Overview of Corrective Action Requirements."

### Overview of Corrective Action Requirements

Facilities covered under the 12-SW are required to conduct corrective actions and report on progress made in correcting the problem condition(s) in accordance with the following requirements:

- A.** 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;
  - 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.** 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.

### Deadlines for Documenting Corrective Actions in a Report (Part IV.D)

- Within **24 hours**:
  - identify the condition triggering the need for corrective action review;
  - describe the problem identified;
  - date the problem was identified.
- Within **14 days**:
  - summarize corrective action taken or to be taken;
  - describe whether SWPPP modifications are required as a result of this discovery or corrective action;
  - list the date corrective action was initiated;
  - list the date corrective action was completed or is expected to be completed
- **Annually**:
  - You must include this documentation with the comprehensive annual inspection report required in 12-SW Part V.A.2.b.

### **Deadlines for Completing Corrective Actions (Part IV.C)**

- 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;
  - if changes are not possible then 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.

### **Instructions for Using This Report Form**

- The following tips for using this form will help you ensure that the minimum permit requirements are met:
- **Review the corrective action requirements.** Before you fill out this corrective action report form, read the 12-SW Part 1V corrective action requirements. This will ensure that you have a working understanding of the permit's underlying corrective action requirements.
- **Complete a separate report for each condition that triggers corrective action.** For each triggering condition on your site, you will need to fill out a separate corrective action report form.
- **Complete all required text fields.** Fill out all text fields. Only by filling out all fields will the form be compliant with the requirements of the permit. (Note: Where you do not need the number of rows provided in the corrective action report form, you leave those rows blank. Or, if you need more space to document your findings, you may add an additional sheet.)
- **Sign and certify each corrective action report.** Each corrective action report form must be signed and certified by the permittee to be considered complete. Where your corrective actions are carried out by a contractor or subcontractor, it is recommended that you also have the form signed and certified by the inspector, in addition to the signature and certification required of the permitted operator. The form includes a signature block for both parties.
- **Include the corrective action report form with your SWPPP.** Once your form is complete, make sure to include a copy of the corrective action report form in your SWPPP with your annual comprehensive site evaluation as required by 12-SW Part IV.D. **Retain copies of all corrective action reports with your records.**

Section A – Initial Report (12-SW Part IV.D)				
(Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)				
Name of Site:		12-SW Tracking No. (on NOI)		Today's Date
Date Problem First Discovered		Time Problem First Discovered		
Name and Contact Information of Individual Completing this Form				
<b>What site conditions triggered the requirement to conduct corrective action</b> ( <i>check the box that applies</i> ): <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B). <b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b>				
<b>Section B – Corrective Action Progress (12-SW Part 1V.D)</b> (Complete this section <u>no later than 14 calendar days</u> after discovering the condition that triggered corrective action)				
<b>Section B.1 – Why the Problem Occurred</b>				
Cause(s) of Problem (Elaborate on next page if necessary)		How This Was Determined and the Date You Determined the Cause		
1.		1.		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>				
List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)	Date of Completion	SWPPP Update Necessary?	Notes	
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide date SWPPP modified:		

**Additional information Part A (Attach another sheet if needed):**

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**Additional Information Part B (Attach another sheet if needed):**

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**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

“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. 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 of Report Preparer** \_\_\_\_\_

**Date:** ---\_\_\_\_\_

**Printed Name, Title, and Affiliation:** \_\_\_\_\_

**Section C.2 – Certification and Signature by Permittee**

“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. 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 of Permittee** : \_\_\_\_\_

**Date:** \_\_\_\_\_

**Printed Name, Title and Affiliation:** \_\_\_\_\_

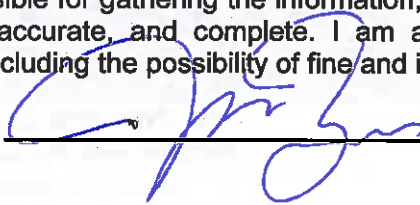
<b>Section A – Initial Report (12-SW Part IV.D)</b> (Complete this section within 24 hours of discovering the condition that triggered corrective action)					
<b>Name of Site:</b>	University of Maryland	<b>12-SW Tracking No. (on NOI)</b>	TBD	<b>Today's Date</b>	8/16/2017
<b>Date Problem First Discovered</b>	8/15/2017	<b>Time Problem First Discovered</b>	12:15		
<b>Name and Contact Information of Individual Completing this Form</b>	Alexander Galbreath, Environmental Specialist 301-405-7016; agalbrea@umd.edu				
<b>What site conditions triggered the requirement to conduct corrective action (check the box that applies):</b> <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input checked="" type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B).					
<b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b> During the quarterly visual monitoring, EA observed an oil sheen on the stormwater discharge from the Building & Landscape Maintenance Facility, which was from a leaking lawn mower.					
<b>Section B – Corrective Action Progress (12-SW Part IV.D)</b> (Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)					
<b>Section B.1 – Why the Problem Occurred</b>					
<b>Cause(s) of Problem (Elaborate on next page if necessary)</b>			<b>How This Was Determined and the Date You Determined the Cause</b>		
1. Leak from lawn mower			1. Visually inspected area and traced the oil sheen to the lawn mower on 8/15/2017.		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>					
<b>List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)</b>	<b>Date of Completion</b>	<b>SWPPP Update Necessary?</b>	<b>Notes</b>		
1. Vehicle & equipment maintenance needs to be performed regularly; inspections should be performed to ensure that all equipment is free of leaks	8/16/2017	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, provide date SWPPP modified:	BLM staff cleaned up the leaking oil with sorbent pads as soon as it was discovered		

**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

"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. 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 of Report Preparer****Date:** -- 8/16/2017**Printed Name, Title, and Affiliation:** Alex Galbreath, Environmental Specialist, UMD-ESSR-EA**Section C.2 – Certification and Signature by Permittee**

"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. 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 of Permittee** :**Date:** 8/16/17**Printed Name, Title and Affiliation:** Jason Baer, Asst. Director of Environmental Affairs, UMD-ESSR-EA

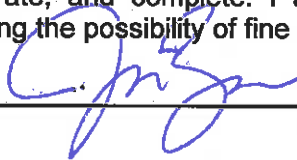
<b>Section A – Initial Report (12-SW Part IV.D)</b> (Complete this section within 24 hours of discovering the condition that triggered corrective action)				
<b>Name of Site:</b>	University of Maryland	<b>12-SW Tracking No. (on NOI)</b>	12SW3281	<b>Today's Date</b> 8/16/2017
<b>Date Problem First Discovered</b>	8/15/2017	<b>Time Problem First Discovered</b>	13:00	
<b>Name and Contact Information of Individual Completing this Form</b>	Alexander Galbreath, Environmental Specialist 301-405-7016; agalbrea@umd.edu			
<b>What site conditions triggered the requirement to conduct corrective action (check the box that applies):</b> <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input checked="" type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B).				
<b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b> During the quarterly visual monitoring, EA observed an oil sheen on the stormwater discharge from the Shuttle Bus Facility.				
<b>Section B – Corrective Action Progress (12-SW Part IV.D)</b> (Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)				
<b>Section B.1 – Why the Problem Occurred</b>				
<b>Cause(s) of Problem</b> (Elaborate on next page if necessary)		<b>How This Was Determined and the Date You Determined the Cause</b>		
1. Oil leaks/spills from vehicles that were not cleaned up properly; leaking nozzle at the 20,000-gal. diesel tank; oil-water separator not functioning		1. Quarterly visual monitoring on 8/15 and routine site inspection on 8/21		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>				
<b>List of Stormwater Control Modification(s) Needed to Correct Problem</b> (Elaborate on next page if needed)	<b>Date of Completion</b>	<b>SWPPP Update Necessary?</b>	<b>Notes</b>	
1. Notify employees to implement better leak/spill cleanup procedures 2. Install oil booms at Outfall 006SW to contain any oil runoff 3. Fix the leaking diesel fuel nozzle 4. Maintain oil-water separator	9/15/2017	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide date SWPPP modified: 8/24/2017		

**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

"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. 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 of Report Preparer** \_\_\_\_\_**Date:** \_\_\_\_\_9/15/2017**Printed Name, Title, and Affiliation:** Alex Galbreath, Environmental Specialist, UMD-ESSR-EA**Section C.2 – Certification and Signature by Permittee**

"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. 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 of Permittee** : \_\_\_\_\_**Date:** \_\_\_\_\_9/27/17**Printed Name, Title and Affiliation:** Jason Baer, Asst. Director of Environmental Affairs, UMD-ESSR-EA



<b>Section A – Initial Report (12-SW Part IV.D)</b> (Complete this section within 24 hours of discovering the condition that triggered corrective action)				
<b>Name of Site:</b>	University of Maryland	<b>12-SW Tracking No. (on NOI)</b>	12SW3281	<b>Today's Date</b> 9/14/2017
<b>Date Problem First Discovered</b>	9/14/2017	<b>Time Problem First Discovered</b>	13:00	
<b>Name and Contact Information of Individual Completing this Form</b>	Alexander Galbreath, Environmental Specialist 301-405-7016; agalbrea@umd.edu			
<b>What site conditions triggered the requirement to conduct corrective action (check the box that applies):</b> <input checked="" type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B).				
<b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b> Routine facility inspection at the CHP showed uncovered fuel containers, no spill containment for a flammable cabinet and a 55-gal drum, missing cap on WO tank, and an uncovered MSW dumpster & scrap metal dumpster.				
<b>Section B – Corrective Action Progress (12-SW Part IV.D)</b> (Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)				
<b>Section B.1 – Why the Problem Occurred</b>				
<b>Cause(s) of Problem (Elaborate on next page if necessary)</b>		<b>How This Was Determined and the Date You Determined the Cause</b>		
1. Vehicle washing at BLM discharging to stormwater conveyance system		1. Discussed at Stormwater Stakeholder Group meeting on 9/14		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>				
<b>List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)</b>	<b>Date of Completion</b>	<b>SWPPP Update Necessary?</b>	<b>Notes</b>	
1. Vehicle/equipment washing that drains to the stormwater conveyance system will be ceased immediately; a wash service will be used as needed	10/9/2017	<del>Yes</del> <input checked="" type="checkbox"/> No If yes, provide date SWPPP modified:	As directed by Bob Reuning (Assoc. VP & Chief Facilities Officer)	

**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

"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. 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 of Report Preparer** **Date:** 10/11/2017**Printed Name, Title, and Affiliation:** Alex Galbreath, Environmental Specialist, UMD-ESSR-EA**Section C.2 – Certification and Signature by Permittee**

"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. 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 of Permittee** : **Date:** 10/11/17**Printed Name, Title and Affiliation:** Jason Baer, Asst. Director of Environmental Affairs, UMD-ESSR-EA



Section A – Initial Report (12-SW Part IV.D)				
(Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)				
Name of Site:		12-SW Tracking No. (on NOI)		Today's Date
Date Problem First Discovered		Time Problem First Discovered		
Name and Contact Information of Individual Completing this Form				
<b>What site conditions triggered the requirement to conduct corrective action</b> ( <i>check the box that applies</i> ): <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B). <b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b>				
Section B – Corrective Action Progress (12-SW Part 1V.D)				
(Complete this section <u>no later than 14 calendar days</u> after discovering the condition that triggered corrective action)				
Section B.1 – Why the Problem Occurred				
Cause(s) of Problem (Elaborate on next page if necessary)	How This Was Determined and the Date You Determined the Cause			
1.	1.			
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem				
List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)	Date of Completion	SWPPP Update Necessary?	Notes	
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide date SWPPP modified:		

**Additional information Part A (Attach another sheet if needed):**

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**Additional Information Part B (Attach another sheet if needed):**

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**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

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**Signature of Report Preparer**      Kaitlyn R Peterson

**Date:**    ---\_\_\_\_\_

**Printed Name, Title, and Affiliation:**      \_\_\_\_\_

**Section C.2 – Certification and Signature by Permittee**

"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. 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 of Permittee**    :      Jason L Baer

**Date:**    3-26-19

**Printed Name, Title and Affiliation:**

Section A – Initial Report (12-SW Part IV.D)				
(Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)				
Name of Site:		12-SW Tracking No. (on NOI)		Today's Date
Date Problem First Discovered		Time Problem First Discovered		
Name and Contact Information of Individual Completing this Form				
<b>What site conditions triggered the requirement to conduct corrective action</b> ( <i>check the box that applies</i> ): <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged.(Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B). <b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b>				
<b>Section B – Corrective Action Progress (12-SW Part 1V.D)</b> (Complete this section <u>no later than 14 calendar days</u> after discovering the condition that triggered corrective action)				
<b>Section B.1 – Why the Problem Occurred</b>				
Cause(s) of Problem (Elaborate on next page if necessary)		How This Was Determined and the Date You Determined the Cause		
1.		1.		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>				
List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)	Date of Completion	SWPPP Update Necessary?	Notes	
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide date SWPPP modified:		

**Additional information Part A (Attach another sheet if needed).:**

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**Additional Information Part B (Attach another sheet if needed):**

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**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

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**Signature of Report Preparer**     Kaitlyn R. Peterson

**Date:**    --- \_\_\_\_\_

**Printed Name, Title, and Affiliation:**    \_\_\_\_\_

**Section C.2 – Certification and Signature by Permittee**

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**Signature of Permittee**     :     

**Date:**    \_\_\_\_\_

**Printed Name, Title and Affiliation:**    \_\_\_\_\_

**Section A – Initial Report (12-SW Part IV.D)**(Complete this section within 24 hours of discovering the condition that triggered corrective action)

<b>Name of Site:</b>	University of Maryland	<b>12-SW Tracking No. (on NOI)</b>	12-SW-3281	<b>Today's Date</b>	10/22/2019
<b>Date Problem First Discovered</b>	10/22/2019	<b>Time Problem First Discovered</b>	8:45am		
<b>Name and Contact Information of Individual Completing this Form</b>	Kaitlyn Peterson, Environmental Specialist				

**What site conditions triggered the requirement to conduct corrective action** (check the box that applies):

- ☐ Unauthorized release or discharge (Part I.E)
- ☐ A discharge violates a numeric effluent limit (Part III.B)
- ☐ Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B)
- ☐ MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A)
- ☒ During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A)
- ☐ 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 quantity of pollutants discharged. (Part IV.B)
- ☐ The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B).

**Provide a description of the problem (Elaborate on back in space provided if necessary):**

Sediment stockpiles need to be covered and contained during precipitation events

**Section B – Corrective Action Progress (12-SW Part 1V.D)**(Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)**Section B.1 – Why the Problem Occurred**

<b>Cause(s) of Problem</b> (Elaborate on next page if necessary)	<b>How This Was Determined and the Date You Determined the Cause</b>
1. Sediment stockpiles left uncovered and exposed, metal roll-off uncovered, trash and debris around fueling area.	1. Comprehensive Site Evaluation

**Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem**

<b>List of Stormwater Control Modification(s) Needed to Correct Problem</b> (Elaborate on next page if needed)	<b>Date of Completion</b>	<b>SWPPP Update Necessary?</b>	<b>Notes</b>
1. Cover and Contain Sediment piles Cover metal recycling roll-off Pick up trash and debris	10/28/2019	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, provide date SWPPP modified:	



**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

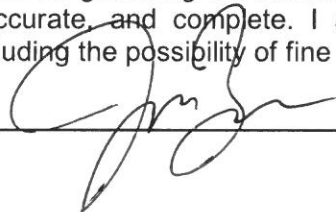
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Signature of Report Preparer

Date: --- 10/22/2019Printed Name, Title, and Affiliation: Kaitlyn Peterson, Environmental Specialist, UMD**Section C.2 – Certification and Signature by Permittee**

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Signature of Permittee :

Date: 11/18/19Printed Name, Title and Affiliation: JASON BAER, ASSISTANT DIRECTOR, OFFICE OF ENVIRONMENTAL AFFAIRS

<b>Section A – Initial Report (12-SW Part IV.D)</b> (Complete this section within 24 hours of discovering the condition that triggered corrective action)					
<b>Name of Site:</b>	University of Maryland	<b>12-SW Tracking No. (on NOI)</b>	12-SW-3281	<b>Today's Date</b>	10/22/2019
<b>Date Problem First Discovered</b>	10/22/2019	<b>Time Problem First Discovered</b>	8:30 am		
<b>Name and Contact Information of Individual Completing this Form</b>	Kaitlyn Peterson, Environmental Specialist				
<b>What site conditions triggered the requirement to conduct corrective action (check the box that applies):</b> <input type="checkbox"/> Unauthorized release or discharge (Part I.E) <input type="checkbox"/> A discharge violates a numeric effluent limit (Part III.B) <input type="checkbox"/> Stormwater control measures not stringent enough for discharge to meet applicable water quality standards (Part III.B) <input type="checkbox"/> MDE requires corrective action as a result of permit violations found during an MDE inspection (Part IV.A) <input checked="" type="checkbox"/> During Routine Facility Inspection, Comprehensive Site Evaluation, or Quarterly Visual Assessment you find that your stormwater control measures are not being properly operated or maintained (Part V.A) <input type="checkbox"/> 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 quantity of pollutants discharged. (Part IV.B) <input type="checkbox"/> The average of 4 quarterly sampling results exceeds an applicable benchmark. (Part V.B).					
<b>Provide a description of the problem (Elaborate on back in space provided if necessary):</b> Tire stockpiles are left uncovered and on the ground, OWS is full and needs to be pumped out, filter socks around outfalls and waste oil tank need to be replaced, trash and debris need to be discarded from perimeter.					
<b>Section B – Corrective Action Progress (12-SW Part IV.D)</b> (Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)					
<b>Section B.1 – Why the Problem Occurred</b>					
<b>Cause(s) of Problem (Elaborate on next page if necessary)</b>			<b>How This Was Determined and the Date You Determined the Cause</b>		
1. Failure to properly implement BMPs			1. Comprehensive site evaluation		
<b>Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem</b>					
<b>List of Stormwater Control Modification(s) Needed to Correct Problem (Elaborate on next page if needed)</b>	<b>Date of Completion</b>	<b>SWPPP Update Necessary?</b>	<b>Notes</b>		
1.  On next page	10/28/2019	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, provide date SWPPP modified:	OWS is scheduled to be pumped out on 10/31/19. Trash and debris cleaned up on 10/28/19. The purchase of tarps for the tire stockpiles has been purchased and awaiting delivery.		

**Additional information Part A (Attach another sheet if needed):**

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**Additional Information Part B (Attach another sheet if needed):**

Site manager was made aware of the findings during the comprehensive site evaluation and given recommendations on how implement their BMPs. Tire stock pile needs to be stored either under cover or under a tarp during precipitation events, the OWS needs to be pumped out, the trash and debris located adjacent to the container on the site perimeter needs to be removed and properly discarded, and the filter socks near the waste oil tank and outfalls need replacing.

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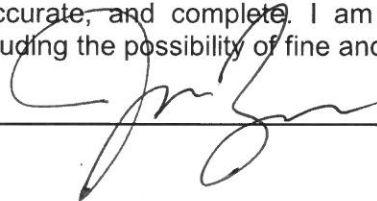
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**Section C – Certification and Signature (12-SW Part II.C.1)****Section C.1 – Certification and Signature by Report Preparer**

"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. 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 of Report Preparer****Date:** 10/22/19**Printed Name, Title, and Affiliation:** Kaitlyn Peterson, Environmental Specialist, UMD**Section C.2 – Certification and Signature by Permittee**

"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. 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 of Permittee :****Date:** 11/18/19**Printed Name, Title and Affiliation:** Jason Baer, Assistant Director, Office of Environmental Affairs

# APPENDIX N

## BEST MANAGEMENT PRACTICES (BMPs) FACT SHEETS

BMP 1	ABOVEGROUND STORAGE TANK MANAGEMENT
<p><b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to stormwater from aboveground storage tanks (ASTs).</p> <p style="text-align: center;"><b><i>Operational Considerations</i></b></p> <ul style="list-style-type: none"> <li>• Discharge collected storm water from secondary containment areas according to guidelines developed by the federal government and applicable state and local regulations.</li> <li>• Properly label all ASTs with their contents and capacity. Retain information regarding potential hazards, spill response and first aid procedures, and storage requirements.</li> <li>• Maintain copies of MSDS on file for any materials stored and/or handled by the applicator.</li> <li>• Maintain a spill response plan and specifications near the material or waste storage area.</li> <li>• Maintain all necessary permits and keep up-to-date.</li> <li>• Require adequate supplies of spill response equipment and materials in accessible locations to ASTs/dispensers.</li> <li>• Require on-site trained personnel during AST filling or transferring of material.</li> <li>• Maintain records of any testing, repairs and/or problems that have occurred with ASTs .</li> </ul> <p><b><i>Structural Controls</i></b></p> <ul style="list-style-type: none"> <li>• Provide berms or secondarily contain ASTs.</li> <li>• Install and maintain catch basin filter inserts and sumps (if applicable).</li> </ul> <p><b><i>Maintenance</i></b></p> <ul style="list-style-type: none"> <li>• Damaged ASTs must be repaired/replaced immediately.</li> <li>• Inspect, clean and maintain catch basins and sumps (if applicable). Maintain ASTs used for liquid storage in good condition to prevent leaks.</li> </ul> <p><b><i>Physical Site Usage</i></b></p> <ul style="list-style-type: none"> <li>• Protect all significant materials from rainfall, run-on, runoff and wind dispersal to the maximum extent practicable , Viable options are: <ul style="list-style-type: none"> <li>- Cover an outdoor storage area with a roof or awning,</li> <li>- Minimize storm water run-on by enclosing the area, building a berm around the area, storing indoors, or completely cover the stored material.</li> </ul> </li> <li>• Reduce the quantities of material and waste stored outside (Le., chemicals) to the minimum volume required based on variables such as release potential, usage, and shelf life,</li> <li>• Make use of existing overhangs as covered storage areas.</li> <li>• Provide sufficient protection of tanks from vehicles, etc. I higher degree of protection may be appropriate for non-metallic ASTs.</li> <li>• Ensure that loading valves , tank drain valves, and "not in service valves" are locked shut</li> </ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>• AST Material Filling/Transferring</li> <li>• AST Maintenance</li> </ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"> <li>• Fuel</li> <li>• Solvent</li> <li>• Liquids</li> <li>• Liquid Wastes</li> </ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"> <li>• Store materials in a covered or fully enclosed area</li> <li>• Provide secondary containment</li> <li>• Implement an SPCC, if required</li> <li>• Perform and document inspections</li> <li>• Maintain ASTs in good condition</li> </ul>

<ul style="list-style-type: none"> <li>• Make sure that unused pipes are blank flanged or capped.</li> <li>• Ensure hoses are in good condition prior to use and properly retract and/or store hoses after use.</li> <li>• Make sure that no ignition sources are nearby flammable/combustible liquid tanks.</li> <li>• Ensure that stormwater drains away from site tanks.</li> </ul> <p style="text-align: center;"><b><i>Contingency Response</i></b></p> <ul style="list-style-type: none"> <li>• Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3(a), {b}.</li> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> <li>• Post signs at all chemical storage locations in clearly visible locations noting the materials stored, emergency contacts, and spill cleanup procedures.</li> <li>• Ensure properly functioning level gauge or alternate means of level detection.</li> </ul> <p style="text-align: center;"><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"> <li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li> <li>• Perform and document inspections</li> <li>• Perform and document annual inspections for the following:</li> </ul>	
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<b>BMP 2</b>	<b>BUILDING AND GROUNDS MAINTENANCE</b>	
<b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water from building and grounds maintenance.		<b>TARGETED ACTIVITIES</b> <ul style="list-style-type: none"><li>● Building Maintenance</li><li>● Grounds Maintenance</li></ul>
<b><i>Operational Considerations</i></b> <i>Good Housekeeping</i> <ul style="list-style-type: none"><li>● Collect outdoor washdown water and properly dispose of it through a permitted connection to the sanitary sewer.</li><li>● Clean any forebays that receive runoff from composting areas on a regular basis. Use a loaders or vacuum to remove accumulated materials. Do not flush wastes into the storm drain system.</li><li>● Properly dispose of landscape waste, wash water, sweepings, and sediments .</li><li>● Regularly clean paved surfaces that are exposed to industrial activity. Use "dry" cleaning techniques, such as sweeping, whenever possible.</li></ul> <i>Structural Controls</i> <ul style="list-style-type: none"><li>● Provide vegetative stabilization as appropriate where erosion is becoming a problem.</li></ul> <b><i>Contingency Response</i></b> <ul style="list-style-type: none"><li>● Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may occur.</li></ul> <b><i>Inspection and Training</i></b> <ul style="list-style-type: none"><li>● Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training , and hazardous materials management.</li></ul>	<b>TARGETED POLLUTANTS</b> <ul style="list-style-type: none"><li>● Oil and Grease</li><li>● Sediment</li><li>● Landscape Waste</li><li>● Building Maintenance Materials (paint, roofing, etc.)</li></ul> <b>KEY APPROACHES</b> <ul style="list-style-type: none"><li>● Keep paved surfaces cleaned and swept</li><li>● Clean forebays regularly</li></ul>	
<b>LIMITATIONS:</b> <ul style="list-style-type: none"><li>● Alternative pest/weed controls may not be available, suitable. or effective in every case</li></ul>		

BMP 3	DETENTION PONDS
<p><b>PURPOSE:</b> Stormwater detention basins are designed to manage stormwater runoff quality and/or quantity. A detention basin stores increased stormwater runoff and releases it at ' predevelopment flow rates in order to maintain the existing hydraulic conditions of the downstream area.</p> <p style="text-align: center;"><i>Operational Considerations</i></p> <p><i>Good Housekeeping</i></p> <ul style="list-style-type: none"> <li>• Excavate sediments from the forebay when 50% of the total forebay capacity has been reached.</li> <li>• Remove sediment according to current erosion and sediment control regulations.</li> <li>• Remove trash in and around pond periodically to prevent clogging .</li> <li>• Remove debris from the spillway .</li> <li>• Riser openings shall be adequately secured from unauthorized access.</li> <li>• Signs prohibiting access and activies should be posted were applicable.</li> <li>• Reseed pond as necessary to maintain adequate ground cover.</li> <li>• Performeffluent sampling as required under the facility NPDES Permit.</li> <li>• During drawdown, drawdown discharge of sediments or anoxic water should be prevented.</li> <li>• Conduct activities in accordance with the MES Forebay Cleanout and Pond Dewatering Protocols.</li> </ul> <p><i>Structural Controls</i></p> <ul style="list-style-type: none"> <li>• Pond drain valve shall be chained to a fixed object for vandalism prevention.</li> <li>• Risers shall be provided with lockable manhole covers and fenced to prevent trash accumulation. Riser tops that are four feet or greater shall include railings for safety .</li> <li>• End-walls above pipe outfalls greater than 48 inches in diameter shall be fenced for injury prevention.</li> <li>• Provide barriers to unauthorized pond access .</li> </ul> <p style="text-align: center;"><i>Contingency Response</i></p> <ul style="list-style-type: none"> <li>• Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3(a), (b).</li> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> <li>• If a spill occurs and material from the spill has entered the pond, contact the appropriate authorities.</li> </ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>• Detention Pond Design</li> <li>• Detention Pond Maintenance</li> </ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"> <li>• Sediment</li> <li>• Trash</li> </ul> <p style="text-align: center;"><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"> <li>• Install appropriate barriers to people</li> <li>• Remove trash and sediment periodically</li> <li>• Clean surrounding pond area</li> </ul>

<p style="text-align: center;"><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"> <li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, sediment and erosion control education, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li> <li>• Perform and document periodic inspections</li> </ul> <p style="text-align: center;"><b>REQUIREMENTS:</b></p> <ul style="list-style-type: none"> <li>• Capital and O&amp;M costs will vary widely depending on the size of the pond and the necessary controls.</li> </ul>	
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<b>BMP 4</b>	<b>EMERGENCY RESPONSE PLANS</b>	
<b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water resulting from petroleum products or other materials.		<b>TARGETED ACTIVITIES</b> <ul style="list-style-type: none"><li>● Vehicle/ Equipment Fueling</li><li>● Vehicle/ Equipment Washing</li><li>● Cargo Handling</li><li>● Fuel/Chemical Storage</li></ul>
<b>Operational Considerations</b> <ul style="list-style-type: none"><li>● Post a summary of the plan at appropriate site locations, identify the spill cleanup coordinators , locate cleanup equipment, and locate phone numbers of regulatory agencies to be contacted in the event of a spill.</li><li>● Maintain an inventory of appropriate cleanup materials on-site and strategically deploy cleanup materials based on the type and quantities of chemicals present.</li><li>● Make absorbent material readily available in fueling areas.</li><li>● Maintain an Emergency Response Plan Onsite.</li></ul>		<b>TARGETED POLLUTANTS</b> <ul style="list-style-type: none"><li>● Fuel</li><li>● Oil and Grease</li><li>● Solvents/Cleaning Solutions</li><li>● Battery Acid</li></ul>
<b>Contingency Response</b> <ul style="list-style-type: none"><li>● Notify the following in the event of a spill:</li></ul>		<b>KEY APPROACHES</b> <ul style="list-style-type: none"><li>● Implement SPCC (if required)</li><li>● SPCC implementation training</li><li>● Immediate containment and cleanup of spills</li><li>● Availability of spill response equipment and materials</li><li>● Required agency notification</li></ul>
<b>MES Compliance/Safety</b> (410) 729-8200		
<b>Local Fire Department</b> 911		
<b>MDE</b> (866) 633-4686		
Containment and cleanup of spills shall begin immediately.		
<b>Inspection and Training</b> <ul style="list-style-type: none"><li>● Provide formal training in plan execution to key personnel. All employees should have basic knowledge of spill control procedures.</li></ul>		
<b>LIMITATIONS:</b> <ul style="list-style-type: none"><li>● Spills occurring after work hours in confined areas may go undetected until impacting off-site areas.</li></ul>		

BMP S	OUTDOOR WASHDOWN/SWEEPING	
<p><b>PURPOSE:</b></p> <p>Prevent or reduce the discharge of pollutants to storm water from outdoor washdown of composting pads to the forebays after completion of the composting process and sweeping operations on pavement..</p> <p><b><i>Operational Considerations</i></b></p> <ul style="list-style-type: none"><li>• Collect wash water in the forebays and fallow sediment drop out.</li><li>• Use "dry" sweeping techniques where feasible .</li><li>• Dispose of or re-compost sweepings in an appropriate manner.</li><li>• Conduct berm repair and patching.</li><li>• Inspect, clean, and maintain forebays in accordance with Detention Pond BMP.</li><li>• </li></ul> <p><b><i>Contingency Response</i></b></p> <ul style="list-style-type: none"><li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li></ul> <p><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"><li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li><li>• Develop regular maintenance and inspection programs. Document inspections and maintenance .</li></ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"><li>• Pavement Washing</li><li>• Outdoor/Power Washing</li></ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"><li>• Oil and Grease</li><li>• Fuel</li><li>• Sediment</li><li>• Floatables</li></ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"><li>• Collect and properly dispose of wash water</li><li>• Use "dry" sweeping techniques</li><li>• Dispose of sweepings</li></ul>	

<b>BMP 6</b>	<b>STORAGE/DISPOSAL OF WASTE AND MATERIALS</b>
<p><b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water from outdoor storage areas for waste or material (e.g., fuel, chemicals, bagged solids, contaminated soil, bulk storage, etc.)</p> <p style="text-align: center;"><b>Operational Considerations</b></p> <p><i>Good Housekeeping</i></p> <ul style="list-style-type: none"> <li>• Avoid dispensing from drums positioned horizontally in cradles. Dispensing materials from upright drums equipped with hand pumps is preferred. Always use secondary containment and self closing spigots if dispensing from horizontally positioned drums.</li> <li>• Store drums and containers on spill containment pallets or other structures to keep the container out of contact with storm water.</li> <li>• Use drum lids and drum-top absorbent pads to prevent rainfall from washing materials and drippage from the top of containers to the storm drain system.</li> <li>• Discharge collected storm water from secondary containment areas according to guidelines developed by the federal government and applicable state and local regulations.</li> <li>• Store all materials in their original containers or containers approved for that use. Ensure that all containers are appropriately sealed. Store empty containers in fully enclosed areas, under cover, or move them off-site.</li> <li>• Properly label all containers with information, including their contents, size and hazards.</li> <li>• Maintain copies of MSDS on file for any materials stored and/or handled by the applicator.</li> <li>• Maintain a spill response plan near the material or waste storage area.</li> <li>• Provide contractors and haulers with copies of pertinent BMPs. Require contractor/hauler adherence to BMP specifications.</li> </ul> <p><i>Physical Site Usage</i></p> <ul style="list-style-type: none"> <li>• Protect significant materials from rainfall, run-on, runoff and wind dispersal to the maximum extent practicable. Viable options are: <ul style="list-style-type: none"> <li>- Store material in a fully enclosed area.</li> <li>- Cover an outdoor storage area with a roof or awning.</li> <li>- Minimize the runoff of sediments by the use and maintenance of stormwater pond forebays. Clean out forebays on a regular and as needed basis.</li> </ul> </li> <li>• Reduce the quantities of material and waste stored outside to the minimum volume required based on variables such as release potential, usage, and shelf life.</li> <li>• Provide appropriate spill containments, hand pumps, and other devices to minimize releases during material transfer.</li> </ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>• Vehicle/ Equipment Fueling</li> <li>• Vehicle/ Equipment Maintenance</li> <li>• Fuel/Chemical Storage</li> <li>• Equipment Storage</li> </ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"> <li>• Fuel</li> <li>• Solvents</li> <li>• Cleaning Solutions</li> <li>• Liquid Wastes</li> </ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"> <li>• Store materials in a covered or fully enclosed area</li> <li>• Provide secondary containment</li> <li>• Implement an SPCC, if required</li> <li>• Perform and document inspections</li> </ul>

<ul style="list-style-type: none"> <li>• Position tank trucks or delivery vehicles so that possible spills or leaks can be contained.</li> </ul> <p><i>Structural Controls</i></p> <ul style="list-style-type: none"> <li>• Provide secondary contain where feasible</li> <li>• Install and maintain forebays.</li> <li>• Cover loading/unloading areas/docks and material use areas to reduce exposure of materials to rain.</li> </ul> <p><i>Maintenance</i></p> <ul style="list-style-type: none"> <li>• Maintain tanks, drums, and other vessels used for liquid storage to prevent leaks.</li> </ul> <p><b><i>Contingency Response</i></b></p> <ul style="list-style-type: none"> <li>• Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3(a), (b).</li> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> <li>• Post signs at all chemical storage locations in clearly visible locations noting the materials stored, emergency contacts, and spill cleanup procedures.</li> </ul> <p><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"> <li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li> <li>• Perform and document inspections.</li> </ul>	
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BMP 7	VEHICLE AND EQUIPMENT FUELING
<p><b>PURPOSE:</b> Prevent fuel spills and leaks, and reduce their impacts to storm water.</p> <p style="text-align: center;"><i>Operational Considerations</i></p> <p>Implement the following to the maximum extent practicable :</p> <p><i>Good Housekeeping</i></p> <ul style="list-style-type: none"> <li>• Fuel pumps intended for vehicular use should be posted with signs stating "No Topping Off" to prevent overflow.</li> <li>• Use inlet covers over catch basins, spill berms or spill mats during fueling activity .</li> <li>• Manage the disposal of water that collects in fuel tanks and fueling hydrant sumps according to state and federal regulations.</li> </ul> <p><i>Physical Site Usage</i></p> <ul style="list-style-type: none"> <li>• Avoid mobile fueling of equipment wherever feasible; fuel equipment at designated fueling areas.</li> </ul> <p><i>Structural Controls</i></p> <ul style="list-style-type: none"> <li>• Divert storm water runoff away from fueling area to avoid storm water contact with contaminated surfaces through the use of grading, berms or curbing.</li> <li>• Employ secondary containment or cover when transferring fuel from a tank truck to a fuel tank.</li> </ul> <p><i>Equipment</i></p> <ul style="list-style-type: none"> <li>• Provide appropriate monitoring for tanks containing fuel, such as: <ul style="list-style-type: none"> <li>- Level indicators and gauges.</li> <li>- Overfill protection with alarms.</li> <li>- Interstitial leak detection for double-walled tanks.</li> <li>- Routine inspection/lockout for drainage valves for tank containment areas.</li> </ul> </li> <li>• Fuel dispensing equipment should be equipped with "breakaway" hose connections that will provide emergency shut-down of flow should the fueling connection be broken through movement.</li> <li>• Automatic shut-off mechanisms should be in place on fuel tankers . These valves should remain in the closed position unless manually opened during fueling.</li> </ul> <p><i>Maintenance</i></p> <ul style="list-style-type: none"> <li>• Inspect, clean and maintain sumps and oil/water separators at appropriate intervals.</li> </ul> <p style="text-align: center;"><i>Contingency Response</i></p> <ul style="list-style-type: none"> <li>• Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan if required under guidelines set forth in 40 CFR , Sections 112.3(a), (b).</li> </ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>• Vehicle/ Equipment Fueling</li> </ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"> <li>• Fuel</li> </ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"> <li>• Use absorbent materials and/or vacuum equipment for spills</li> <li>• Install proper equipment for fuel dispensing and tank monitoring to prevent spills, leaks and overflows</li> </ul>

BMP 7	VEHICLE AND EQUIPMENT FUELING
<ul style="list-style-type: none"> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> <li>• Clean up spills using dry methods (absorptive materials). Prevent spilled fuel from entering storm drains or ponds. Use absorbent materials and spot cleaning for small spills; do not hose down the area unless the drainage is blocked and drainage is collected by vacuum truck and disposed of through a permitted connection to the sanitary sewer.</li> <li>• Properly dispose of any fuel spills and leaks. Always dispose of materials in an approved manner; use an approved treatment facility through a permitted connection. Never discharge materials to a catch basin or storm drain.</li> <li>• Furnish adequate spill response information, equipment and materials on all fueling vehicles.</li> </ul> <p style="text-align: center;"><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"> <li>• Inspect fueling areas and storage tanks regularly. Record all maintenance activities and inspections relating to fueling equipment and containers in a log book.</li> <li>• Underground fuel storage tanks should be tested as required by federal and state laws.</li> <li>• Provide the appropriate level of spill response training to personnel to address all types of potential spills.</li> </ul> <p><b>REQUIREMENTS:</b></p> <ul style="list-style-type: none"> <li>• In rare cases, a fueling area may need to be retrofitted to minimize storm water contamination. Generally, practical design concepts, such as incorporating extruded curb along the upstream side of facilities to prevent run-on of storm water, will be appropriate.</li> </ul>	

<b>BMP 8</b>	<b>VEHICLE AND EQUIPMENT MAINTENANCE</b>	
<b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water from vehicles and equipment maintenance and repair.		<b>TARGETED ACTIVITIES</b> <ul style="list-style-type: none"><li>• Vehicle/Equipment Maintenance</li><li>• Washdown</li></ul>
<b>Operational Considerations</b> Implement the following to the maximum extent practicable:		<b>TARGETED POLLUTANTS</b> <ul style="list-style-type: none"><li>• Oil and Grease</li><li>• Vehicle Fluids</li><li>• Solvents/Cleaning Solutions</li><li>• Fuel</li><li>• Battery Acid</li><li>• Paint</li></ul>
<b>Good Housekeeping</b> <ul style="list-style-type: none"><li>• Use drip pans to collect fluid leaks.</li><li>• Use absorbent materials at potential problem areas. Adequately collect/remove absorbent materials from area after use and dispose of them in an appropriate manner.</li><li>• Drain oil filters (and oil containers) before recycling or disposal. Store oil filters and empty lubricant containers in a leak-proof container, cover if outdoors.</li><li>• Do not hose down work areas to the storm drainage system or use concrete cleaning products unless the storm drain inlet is blocked and wash water is collected and disposed of properly. As an alternative, use mops, dry sweeping compound, or contract professional cleaning services.</li><li>• Drain and properly dispose of all fluids and remove batteries from salvage vehicles and equipment.</li><li>• Drain parts and equipment of all fluids. Store on secondary containment under cover.</li><li>• Recycle or properly dispose of the following: grease, oil, antifreeze, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, and filters.</li><li>• Maintain an organized inventory of materials used in maintenance areas.</li></ul>		<b>KEY APPROACHES</b> <ul style="list-style-type: none"><li>• Conduct maintenance indoors, or in covered area</li><li>• Prevent wash water discharges to the storm drain</li><li>• Clean catch basins regularly</li><li>• Collect and properly dispose of all fluids</li></ul>
<b>Physical Site Usage</b> <ul style="list-style-type: none"><li>• Where feasible, move maintenance activities indoors or provide cover over work area.</li><li>• Use designated washing, steam cleaning, and degreasing areas to clean equipment.</li><li>• Store mechanical parts and equipment that may yield even small amounts of contaminants (e.g., oil or grease) under cover and away from drains.</li><li>• Store vehicles and equipment awaiting maintenance in designated areas only. Storage should be indoors or under cover if practicable.</li></ul>		
<b>Structural Controls</b> <ul style="list-style-type: none"><li>• Provide equipment maintenance and cleaning areas with runoff controls that prevent discharge to storm sewers.</li><li>• Maintain forebays to assist in the removal sediments and floatables.</li></ul>		

BMP 8	VEHICLE AND EQUIPMENT MAINTENANCE
<p><i>Maintenance</i></p> <ul style="list-style-type: none"> <li>• Maintain clean equipment by eliminating excessive amounts of external oil and grease buildup.</li> <li>• Regularly clean forebays.</li> </ul> <p style="text-align: center;"><b><i>Contingency Response</i></b></p> <ul style="list-style-type: none"> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> <li>• Furnish all maintenance vehicles and portable tanks with adequate supplies of spill response materials and appropriate spill response procedures.</li> </ul> <p style="text-align: center;"><b><i>Inspection and Testing</i></b></p> <ul style="list-style-type: none"> <li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention, right-to-know awareness training, and hazardous materials management.</li> <li>• Provide employee storm water quality awareness training.</li> </ul> <p><b>LIMITATIONS:</b></p> <ul style="list-style-type: none"> <li>• Size, space and time limitations may preclude work from being performed indoors.</li> <li>• Identification of engine and equipment leakage points may require the use of solvents or other cleaners to remove external accumulations of oily grime.</li> </ul>	

<b>BMP 9</b>	<b>VEHICLE AND EQUIPMENT WASHING, CLEANING, AND DEGREASING</b>	
<b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment washing, and cleaning and degreasing activities.		<b>TARGETED ACTIVITIES</b> <ul style="list-style-type: none"><li>• Vehicle/ Equipment Painting or Stripping</li><li>• Vehicle/ Equipment Washing or Cleaning</li></ul>
<b>Operational Considerations</b> Implement the following to the maximum extent practicable:  <i>Good Housekeeping</i> <ul style="list-style-type: none"><li>• Provide secondary containment, and cover if possible, for containers of washing and steam cleaning additives .</li><li>• Use inlet covers over catch basins, spill berms or spill mats to control the discharge of wash water .</li><li>• Use biodegradable detergents .</li><li>• Keep wash area clean and free of waste .</li><li>• Collect and discharge wash water to an approved treatment facility.</li></ul> <i>Physical Site Usage</i> <ul style="list-style-type: none"><li>• Use off-site commercial washing and steam cleaning where feasible. Using appropriate off-site facilities will decrease the potential for storm water pollution on-site.</li><li>• Clean equipment only in designated wash areas that are covered and/or bermed to prevent contamination of storm water by contact with wastes. Cleaning areas should be clearly demarcated.</li></ul> <i>Structural Controls</i> <ul style="list-style-type: none"><li>• Any connection to storm water drainage system will be blocked to prevent discharge to the storm drainage system during washing activities by facilitating the collection of wash water.</li><li>• Wash water should be collected and transported offsite for appropriate disposal.</li></ul> <i>Maintenance</i> <ul style="list-style-type: none"><li>• Patch and repair berms and pavement to maintain containment system .</li></ul> <i>Management</i> <ul style="list-style-type: none"><li>• Obtain approval prior to commencing wet washing activities in any area outside designated wash rack.</li></ul> <b>Contingency Response</b> <ul style="list-style-type: none"><li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills of cleaning chemicals may be likely to occur.</li></ul>		<b>TARGETED POLLUTANTS</b> <ul style="list-style-type: none"><li>• Oil and Grease</li><li>• Solvent</li><li>• Vehicle Fluids</li><li>• Cleaning Solutions</li></ul> <b>KEY APPROACHES</b> <ul style="list-style-type: none"><li>• Use designated area</li><li>• Recycle wash water or discharge appropriately</li><li>• Cover catch basins</li><li>• Provide training</li></ul>

<p style="text-align: center;"><b>Inspection and Training</b></p> <ul style="list-style-type: none"> <li>• Provide appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li> <li>• Develop regular maintenance and inspection programs.</li> </ul>	
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BMP 10	WASTE / GARBAGE HANDLING AND DISPOSAL	
<p><b>PURPOSE:</b> Prevent or reduce the discharge of pollutants to storm water from waste handling and disposal by tracking waste generation, storage, and proper disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing run-on and runoff from waste management areas, including garbage collection areas.</p> <p style="text-align: center;"><b><i>Operational Considerations</i></b></p> <p><i>Good Housekeeping</i></p> <ul style="list-style-type: none"><li>• Perform regular housekeeping to maintain waste storage areas in a clean and orderly condition.</li><li>• Recycle materials whenever possible.</li><li>• Inspect waste management areas for spills and waste management containers for leaks.</li><li>• Ensure that sediments and wastes are prevented from being washed, leached, or otherwise carried off-site.</li><li>• Completely drain containers (e.g., quart oil cans) prior to disposal in trash receptacles.</li><li>• Eliminate waste collection piles (i.e., "boneyards") .</li><li>• Schedule waste pickup as frequently as necessary to keep storage of waste to a minimum and to avoid overloaded/overfilled disposal containers.</li><li>• Minimize spills and fugitive losses such as dust or mist from loading areas.</li><li>• Maintain a minimal inventory of required chemicals to reduce the magnitude of potential spills and limit waste generation.</li><li>• Maintain accurate information on waste streams using: manifests, bills of lading, biennial reports, permits, environmental audits, Material Safety Data Sheets (MSDS), NPDES discharge monitoring reports, inventory reports, data on spills.</li><li>• Find substitutes for harmful chemicals .</li><li>• Properly dispose of unusable chemical inventory .</li></ul> <p><i>Physical Site Usage</i></p> <ul style="list-style-type: none"><li>• Segregate and separate wastes .</li><li>• Avoid locating waste handling and storage in areas with storm drain inlets/catch basins.</li><li>• Locate waste storage areas beneath existing cover, if possible.</li></ul> <p><i>Structural Controls</i></p> <ul style="list-style-type: none"><li>• Enclose or berm waste storage areas, if possible, to prevent contact with run-on or runoff.</li></ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"><li>• Fuel/Chemical Storage</li><li>• Garbage Collection</li></ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"><li>• Oil and Grease</li><li>• Vehicle Fluids</li><li>• Solvents/Cleaning Solutions</li><li>• Dumpster Wastes</li></ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"><li>• Cover waste storage areas</li><li>• Recycle materials</li><li>• Regularly inspect areas</li><li>• Prevent contact with run-on or runoff</li><li>• Properly dispose of all fluids</li></ul>	



<p><i>Garbage Collection Areas</i></p> <ul style="list-style-type: none"> <li>• Use covered dumpsters and keep them closed and locked.</li> <li>• Use only dumpsters with plugged drain holes to prevent leaks from waste materials.</li> <li>• Do not dispose of liquid wastes such as oils or hazardous materials into dumpsters . Completely drain liquid waste containers prior to disposal.</li> </ul> <p style="text-align: center;"><b><i>Contingency Response</i></b></p> <ul style="list-style-type: none"> <li>• Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.</li> </ul> <p style="text-align: center;"><b><i>Inspection and Training</i></b></p> <ul style="list-style-type: none"> <li>• Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education, right-to-know awareness training, and hazardous materials management.</li> </ul>	
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BMP 11	<b>WATER DISCHARGES FROM FIRE PROTECTION EQUIPMENT AND WATER MAINS</b>
<p><b>PURPOSE:</b> Prevent or reduce the discharge of pollutants while discharging water during maintenance of fire protection equipment and water mains.</p> <p style="text-align: center;"><b><i>Operational Considerations</i></b></p> <p><i>Dechlorination Procedures</i></p> <ul style="list-style-type: none"> <li>chemically dechlorinate water prior to discharging by using a dechlorinating diffuser (or similar technology). A neutralizing tablet is inserted into the diffuser and the device is attached directly to the fire hydrant or discharge pipe. Neutralizing tablets must be replaced regularly.</li> <li>Maintain records of all potable water discharges for a period of 3 years. Records should include date, discharge volume, location and dechlorination method.</li> </ul> <p><i>Good Housekeeping</i></p> <ul style="list-style-type: none"> <li>Ensure that all pollutants (i.e. trash/debris, fuel, oil, grease, sediment, trash, etc.) are cleaned up nearby so that they cannot contact the water discharge.</li> <li>Direct discharge away from unstabilized soil and other erosion hazards.</li> </ul>	<p><b>TARGETED ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>Maintenance of fire protection equipment</li> <li>Maintenance of water mains</li> </ul> <p><b>TARGETED POLLUTANTS</b></p> <ul style="list-style-type: none"> <li>Chlorine</li> <li>Sediment</li> <li>Trash</li> <li>Fuel, Oil, Grease &amp; Vehicle Fluids</li> </ul> <p><b>KEY APPROACHES</b></p> <ul style="list-style-type: none"> <li>Dechlorinate water discharge</li> <li>Clean up pollutants that could contact water discharge</li> </ul>