STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Tradepoint Atlantic

1600 Sparrows Point Blvd.
Sparrows Point, Maryland 21219

Prepared For:

Tradepoint Atlantic
1600 Sparrows Point Blvd.
Sparrows Point, MD 21219

By:

ARM Group Inc.
9175 Guilford Road
Suite 310
Columbia, MD 21046

SWPPP Contacts:

Mike Vogler
SVP, Site Operations
. 1600 Sparrows Point Blvd.
Sparrows Point, MD 21219
(443) 386-3619
mvogler@tradepointatlantic.com

Revision #	Date	Initial
1	11/25/2014	NSK
2	10/23/2015	NSK
3	8/19/2016	NSK

A description of each SWPPP revision is located in Section 7 of the SWPPP.

A complete copy of the SWPPP is maintained at the facility at all times.

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Section 1: Facility Description and Contact Information

1.1 Facility Information

Facility Information		
Name of Facility: Tradepoint Atlantic		
Street: 1600 Sparrows Point Blvd.		
City: Sparrows Point	State: MD	ZIP Code: 21219
County: Baltimore County		
NPDES Permit Number: MD0001201, 90-DP-006, MD0068462, 97-DP-0064		
Latitude: 39.223447º N (decimal)	Longitude: -76.469699º W (decimal)	
Method for determining latitude/longitude (check one):		
☐ USGS topographic map	☐ EPA Web site	☐ GPS
☒ Other (please specify): Google Earth		
Is the facility located in Indian Country? ☐ Yes ☒ No		
If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." Not Applicable		
Is this facility considered a Federal Facility? ☐ Yes ☒ No		
Discharge Information		
Does this facility discharge stormwater into an MS4? ☐ Yes ☒ No If yes, name of MS4 operator:		
Name(s) of water(s) that receive stormwater from your facility: Patapsco River, Bear Creek, Jones Creek, Old Road Bay		
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): Patapsco River – Bear Creek Identify the pollutant(s) causing the impairment: Total Chromium, PCBs and Zinc For pollutants identified, which do you have reason to believe will be present in your discharge? Metals For pollutants identified, which have a completed TMDL? PCBs		
Do you discharge into a receiving water designated as a Tier 2 (or Tier 2.5) water? ☐ Yes ☒ No		
Are any of your stormwater discharges subject to effluent guidelines? ☐ Yes ☒ No If Yes, which guidelines apply?		
On-Site Activities: Construction/Demolition, Industrial Activities (Landfill, Vehicle Fueling/Maintenance, WWTP)		

1.2 Contact Information/Responsible Parties

Company	Name	Telephone Number
Tradepoint Atlantic	Mike Pedone – General Council	410-978-2101
Tradepoint Atlantic	Mike Vogler – SVP, Site Operations	443-386-3619
MCM Management Corporation	Brandon Bonanno	410-292-6356

Additional On-Site Contractors/Tenants:

Company	Name	Telephone Number
EnviroAnalytics Group LLC	James Calenda	314-620-3056
Pacorini Metals	Spencer Jemenson	443-690-6160
FedEx	Bob Knotts	314-537-5776
T. Parker Host	Cory Hume	757-359-9528
Pasha	Ben Buben	734-323-2536
CapRock	Chuck Fuller	443-986-0941
Steinweg	John Moors	410-864-1925
Lafarge	Kevin Bretz	610-216-3541
SIMS Metal Management	Joe Simms	757-544-1576
Baltimore County Fire & DPW	Jennifer L. Aubert-Utz, Division Chief	410-887-7523

1.3 Stormwater Pollution Prevention Team

The stormwater pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team are familiar with management and operations of the facility. The list of SWPPP team members will be updated as changes to the team are made.

Table 1.3 Stormwater Pollution Prevention Team

Staff Names	Company	Title	Individual Responsibilities
Mike Vogler	Tradepoint Atlantic	SVP, Site Operations	Site Operations Manager
Brandon Bonanno	MCM Industrial Services LLC	MCM, Vice President Operations	Site Operations Manager - Demolition
James Calenda	EnviroAnalytics Group LLC	Project Manager	Landfill erosion and sediment control, site remediation activities

1.4 Activities at the Facility

The Tradepoint facility was an integrated iron and steel facility with continuous manufacturing operations from 1887 to mid-2012. Iron and steel operations were shut down in 2012, and the property was purchased by Sparrows Point LLC on September 14, 2012. Sparrows Point LLC sold the property to the current owner Sparrows Point Terminal, LLC on September 18, 2014. On January 12, 2016, Sparrows Point Terminal, LLC changed its name to Tradepoint Atlantic. The site comprises approximately 3,000 acres of land located in Baltimore County on a peninsula surrounded by the Patapsco River, Bear and Jones Creeks and Old Road Bay. Principal former operations at the site include a sinter plant, a large blast furnace, two basic oxygen furnaces, a continuous caster, a 68-inch hot-strip mill, a cold sheet mill and finishing mills. Portions of the area were used for raw material handling and storage, semi-finished and finished product storage and associated by-product slag storage. Currently, 11 tenants are located on site including Baltimore County Fire Station and Department of Public Works, Lafarge, EnviroAnalytics Group LLC, SIMS Metal Management, FedEx, Pasha, Pacorini Metals, T. Parker Host, CapRock, Steinweg, and a MCM slag reclamation area.

Manufacturing facilities, buildings, and associated utilities are scheduled to be demolished from 2013 through approximately 2017. Site remediation activities are occurring during this timeframe as well. The work consists of an integrated remediation and redevelopment plan for the Tradepoint facility that will: 1) provide a site protective of human health and the environment; and, 2) place the property into a condition capable of supporting redevelopment and employment opportunities. Construction activities will include demolition of structures on the property, removing or capping of services/utilities, and remediation activities for recognized environmental conditions.

The purpose of this document is to provide an updated SWPPP for the site that provides procedures for current site activities, including the description of proposed construction activities and potential pollutant sources, temporary and permanent erosion and sediment control (ESC) measures, pollution prevention measures, inspection/monitoring activities, and recordkeeping that will be implemented during the construction project. The objectives of the SWPPP are to:

- Implement and maintain Best Management Practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity;
- Identify both the activities and supporting processes at the facility that have a significant potential to affect stormwater runoff quality;
- Identify the management practices in place and assess their effectiveness at preventing stormwater pollution;
- Educate personnel as to the impacts of construction operations on stormwater quality, best management practices, and best management practice implementation.

The site is regulated under individual NPDES industrial wastewater discharge permits (NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064) that authorize stormwater discharges to various outfalls at the site. The referenced permits require the development and implementation of a SWPPP for stormwater discharges associated with industrial activities on the site.

The SWWPP includes three subsections that identify Potential Pollutant Sources and Stormwater Control Measures pertaining to various ongoing activities at the site (construction/demolition, industrial activities,

and landfill activities). Drainage areas, industrial activities, material handling and storage activities, and associated stormwater management controls are identified and implemented at the site through the implementation of the SWPPP. The stormwater controls and processes put in place are maintained for each drainage area to provide best management practices for the construction project.

Several tenants are operating throughout the Tradepoint Facility. Current tenants and industrial activities include:

1. Lafarge – Operations associated with a grinding plant for raw material storage.
2. EnviroAnalytics Group LLC – Landfill erosion and sediment control, site remediation activities.
3. SIMS Metal Management – Metal scraping and recycling logistics.
4. FedEx – Package delivery warehousing and logistics.
5. Pasha – Unloading, storage, and loading of automobiles.
6. Pacorini Metals – Metal warehousing and logistics.
7. T. Parker Host – Stevedoring and material handling.
8. CapRock – Farm feed material handling and transport.
9. Steinweg – Metal grinding, warehousing, and transport.
10. Baltimore County Fire & DPW – The County operates a fires station and DPW facility at the site.
11. MCM slag reclamation area – Excavate and filter slag for metal scrapping.

Each tenant listed above has developed its own SWPPP, which is maintained and updated by the tenant.

1.5 Site Location Map

A Site Location Map for this facility is included in Appendix A.

1.6 Facility Maps

Facility Maps are included in Appendix B to this SWPPP and include:

- The property boundaries and the size of the property in acres;
- The location of tenant operations;
- An outline of the area draining to each stormwater outfall including drainage patterns, direction of flows and discharge points;
- The location of significant structures;
- Existing structural stormwater pollution control measures (physically constructed features used to control stormwater flows), such as, flow diversion structures, retention/detention ponds, vegetative swales, sediment traps;
- The location of active and closed landfill cells;
- The location and name of surface water bodies, including any neighboring stream, river, lake or water body receiving stormwater discharges from the site, indication if any of the waters are impaired, and if so, whether the waters have and established TMDL;
- The locations of ***"significant materials[1]"*** exposed to stormwater, or other potential pollutant sources;
- The locations of any significant spills or leaks;
- The 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 used or traveled by carriers of waste material and machinery; and
  - manufacturing buildings.
- The location of all stormwater monitoring points; and
- The locations of stormwater outfalls, with a unique identification code for each outfall, indicating if one or more outfalls are treated as substantially identical, and an approximate outline of the areas draining to each outfall.

1.7 Definitions

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.

Drained free liquids – aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

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 and equipment exteriors, as well as surface areas that have come in direct contact with solid waste at the landfill facility.

Leachate – liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

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.

Spill Control Kit – spill control kits contain sorbent materials designed to soak up liquids (e.g., pads, socks, and/or pillows), personal protective equipment (PPE) for spill responders, and disposal packing materials.

Humphrey's Creek Wastewater Treatment Plant (HCWWTP) – A water treatment facility operated by Tradepoint. The HCWWTP utilizes an ACTIFLO® microsand ballasted clarification process. Stormwater is treated to remove metals, oil and grease, and total suspended solids (TSS) in accordance with the current individual NPDES permit requirements.

Gravel Filter Berms – A Gravel filter berm (GFB), acts as a surface filter, similar to a vegetative buffer, which inhibits untreated stormwater and solids from leaving the property. A GFB consists of gravel stone or

slag-graded in sizes of approximately three (3) inch to three-quarter (¾) inch stone—and coarse sand sized material constructed in a two (2) feet high by two (2) feet wide berm.

Vegetative Buffers – An area of existing, dense vegetation intended to slow runoff, trap sediment and pollutants, and provide some infiltration into underlying soils. Vegetative Buffers reduce the flow and velocity of surface runoff, promote infiltration, and reduce pollutant discharge by capturing and holding sediments and other pollutants carried in the runoff water.

Oil Boom and Retention Baffles – Booms and baffles are used as vertical walls which redirect flowing water through determined paths to increase the time water is exposed to treatment chemicals or processes. A baffle system typically includes a high performance flexible geomembrane, stainless steel cables and mounting hardware. Booms and baffles are strategically placed throughout the plant and used at outfalls to prevent spilled petroleum products from leaving the Tradepoint facility.

Oil-Water Separator – An oil-water separator is a device designed to separate gross amounts of oil and suspended solids from the wastewater effluents of oil refineries, petrochemical plants, chemical plants, natural gas processing plants and other industrial sources.

Storm Event – A precipitation event with 0.10” of precipitation or greater.

Investigation Derived Waste (IDW) – Materials including surface and subsurface soils, groundwater, decontamination water, nitric acid (fresh and spent), hexane (fresh and spent), and PVC liners.

Section 2A: Potential Pollutant Sources – Construction/Demolition Activities

Section 2 has been divided into three subsections, which cover the various types of activities performed at the Facility. These subsections include the following:

A. Construction/Demolition Activities
B. Industrial Activities
C. Landfill Activities

2A.1 Construction/Demolition and Associated Pollutants

The table below lists ongoing construction and demolition activities at the facility, which have the potential to pollute stormwater:

Table 2A.1 Potential Pollution Sources

Activity	Location/Area	Associated Pollutants
Vehicle & Equipment Fueling	Former Plant Garage, Repair Shop (Former Slab Hauler Repair Facility), demolition area	Gasoline
Vehicle & Equipment Maintenance	Repair Shop (Former Slab Hauler Repair Facility), active demolition area	Gasoline, diesel, oil, and grease
Vehicle & Equipment Wash	Repair Shop (Former Slab Hauler Repair Facility)	Waste, Sediment, various automotive fluids
Demolition	Throughout site	Sediment, dust, debris, metals
Removal of Building Contents	Throughout Site	Asbestos Containing Materials (ACMs), building lighting, various residual chemical containers, used oil, transformers, universal waste (e.g., fluorescent bulbs, batteries, etc.)
Automobile Salvage	Throughout Site	Gasoline, diesel, oil, metals, and various automotive fluids
Non-Hazardous Waste/Debris Handling	Active demolition area	Waste
Transformer Draining & Removal	Active demolition area	Oil, PCBs, silicone
Soil Stockpile	Active demolition area,	Sediment

Demolition activities will include building demolition to floor slab level, including utility capping/removal/de-energizing, remediation activities for recognized environmental conditions and interim site stabilization. Razing of existing buildings throughout the facility is the primary construction/demolition activity ongoing at the site. Existing structures will be demolished to ground level (floor slab). No excavation or grading activities are planned with the demolition process. Site disturbance will occur associated with the use of demolition equipment, but will be minimized with the scope of the demolition. Removal of impervious roof structures will reduce the total impervious surface area at the site, thus providing the added benefit of

reducing the quantity of stormwater runoff being generated. Vehicles and equipment are washed on a regular basis depending on use or prior to exiting the site.

Prior to razing, buildings are inspected for the presence of chemicals (e.g., oils, solvents, paints, etc.), and all chemicals or potential pollution sources. These chemicals and potential pollution sources are identified and classified for disposal prior to disposal at Grey's landfill or shipment off-site for disposal. The structures are also inspected for the presence of asbestos containing materials (ACMs). ACMs are removed and disposed of at Grey's landfill prior to razing.

After razing, approved off-site backfill is utilized for backfilling voids and basement areas to grade. A copy of the backfill plan procedure is attached in Appendix L. The off-site backfill is stored long term at Grey's Landfill while the short term stockpile is located along the northern part of the finishing side of the active demolition area. A copy of the Maryland Department of the Environment (MDE) approved materials management plan is attached as Appendix M. See Figure B-2, included in Appendix B, for stockpile locations.

The current demolition schedule has been included with the Facility Maps presented in Appendix B. The schedule will be updated on a regular basis to show changes in start or completion dates and to add additional demolition activities as they are defined.

Stormwater control measures and BMPs related to construction/demolition activities at the facility are discussed in Section 3A.1.

2A.2 Spills and Leaks

The table below contains an inventory of **"*significant materials*[1]"** on site, which are related to the ongoing construction/demolition activities (i.e., chemical storage related to other industrial activities and landfilling operations are described in the subsequent sections—2B and 2C). For each significant material on site, an evaluation has been conducted to determine the potential for these materials to conta-minate stormwater runoff being discharged from the facility. The table below also presents information regarding spills or leaks over the past three years.

Table 2A.2 Significant Materials and Exposure to Stormwater

Storage/ Containment Unit	*Significant Materials*[1]	Quantity	Pollutants Exposed to Stormwater in past 3 years	Spills date/ quantity	Location
Refueling trucks (2)	Diesel/Gasoline	<10,000 gal	No	NA	Active demolition area

[1]*"Significant materials" are defined as: "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 designed under Section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges."*

The Facility Map presented in Appendix B indicates the current drainage patterns at the facility.

No spills of "significant materials" have occurred in the past 3 years.

Section 2B: Potential Pollutant Sources – Industrial Activities

2B.1 Industrial Activity and Associated Pollutants

The table below summarizes industrial activities conducted at the facility, which have the potential to pollute stormwater:

Table 2B.1 Potential Pollution Sources

Industrial Activity	Location/Area	Associated Pollutants
Outdoor Storage	ASTs	Diesel, Gasoline, Various Oils, Ferrous Chloride, Sulfuric Acid, Sodium Hydrosulfide Hydrate
Tank Loading and Unloading	ASTs	Diesel, gasoline, various oils, Ferrous Chloride, Sulfuric Acid, Sodium Hydrosulfide Hydrate
Vehicle & Equipment Maintenance	Repair Shop (Former Slab Hauler Repair Facility), Locomotive Repair Shop	Various type of oil, gasoline, diesel
Vehicle & Equipment Fueling	Former Plant Garage area, Repair Shop (Former Slab Hauler Repair Facility), Locomotive Repair Shop demolition area	Gasoline, diesel, oil
Vehicle & Equipment Storage	Across site	Oil, hydraulic fluid, various other fluids
Vehicle & Equipment Wash	Repair Shop (Former Slab Hauler Repair Facility)	Sediment, various automotive fluids
Humphrey's Creek WWTP	WWTP/Outfall 014	Sludge
Tire Storage	Tire storage piles	Metals
Groundwater Recovery Systems	Coke Point Area and former Rod and Wire Mill Area	Contaminated groundwater (hydrocarbons and metals)
Chrome Recovery Wastewater Treatment Facility	Drainage Area 014	Metals/Sludge
Scrap Metal Storage and Handling	Scrap Management Area	Metals
Active Railroad Tracks	Across site	Various materials, oils, fuels, Sediment
Railroad Car Dumper	Area east of Pennwood	Sediment, various materials
Temporary Stockpiles	Area east of Pennwood	Sediment, various materials
IDW Building	Pennwood	Contaminated soil and groundwater (hydrocarbons and metals), sediment, nitric acid, hexane, gasoline

Above-Ground Storage Tanks (ASTs) – A number of ASTs are present at the site. Many of the ASTs have been decommissioned (i.e., emptied and cleaned), and therefore no longer present a potential source for stormwater pollution. The SWPPP focuses only on the ASTs which are still a potential source.

Vehicle and Equipment Maintenance Facilities – Vehicle and equipment maintenance is performed at multiple locations at the site. Unless absolutely necessary, all repairs are performed indoors to prevent exposure of potential pollutants to stormwater.

Vehicle and Equipment Wash – Vehicle and equipment wash is performed at the Repair Shop (Former Slab Hauler Repair Facility). A concrete catch basin is used to collect the washwater and prevent runoff of stormwater. No chemicals or detergents are used for cleaning, just hot water. Washwater is pumped from the concrete basin and discharged to Humphrey's Creek for treatment and discharge.

Humphrey's Creek Wastewater Treatment Plant (HCWWTP) – The HCWWTP treats stormwater runoff from Drainage Area 014 prior to discharge. Several ASTs are located around the perimeter of the WWTP. Sludge that is generated at the HCWWTP is dewatered by centrifuges. The dewatered sludge is collected into two roll-off dumpsters, which are transferred when full to Grey's Landfill and emptied. Stormwater runoff from the areas surrounding the sludge storage area has carried sludge away from the area, but the area is graded so that all stormwater and pollutants are directed back into the HCWWTP.

Tire Storage – Scrap tires are stored at these locations: Repair Shop (Former Slab Hauler Repair Facility) and MCM maintenance building. The facility holds a Secondary Scrap Tire Collection Facility License issued by the MDE.

Groundwater Recovery System – Groundwater recovery systems are currently operated at Coke Point Peninsula and the former Rod and Wire Mill area. Free product is pumped into five double-walled storage containers in the Coke Point Area. The containers are emptied, and the contents are transported to a permitted TSD on a less than 90-day schedule.

Chrome Recovery Facility – The chrome recovery facility is located upstream from the WWTP along Humphrey's Creek and operates periodically. The chrome sludge generated as a byproduct of the treatment process is contained inside the facility, where it is protected from stormwater.

Scrap Metal Handling and Storage – Scrap metal from on and off site is temporarily stored until it is shipped by a metal recycler. The scrap metal is transported off site via rail cars, vessels and barges.

Active Railroad Tracks – These tracks are used by on-site tenants for loading and unloading of various materials used on-site or temporarily stockpiled for future off-site shipment.

Railroad Car Dumper – Materials delivered on-site are emptied into a subsurface concrete basin for site equipment to safely distribute delivered material to various locations within the site.

IDW Building – The IDW building is located along the southern portion of the Penwood area and is used to temporarily store IDW waste until it is characterized for proper disposal. Materials stored include surface and subsurface soils, groundwater, decontamination water, nitric acid (fresh and spent), hexane (fresh and spent), and PVC liners. Once materials have been characterized, they are transported off-site or to Grey's Landfill for proper disposal.

2B.2 Spills and Leaks

The table below contains an inventory of "*significant materials*[1]" on site, which are related to the ongoing industrial activities. For each significant material on site, an evaluation has been conducted to determine the potential for these materials to contaminate stormwater runoff being discharged from the facility. The table below also presents information regarding spills or leaks over the past three years. A number of tanks at the facility have been decommissioned (i.e., emptied, cleaned, and awaiting removal); therefore, these tanks no longer present a potential to contaminate stormwater, so they are not included in Table 2B.2 below.

Table 2B.2 Significant Materials and Exposure to Stormwater

Storage/ Containment Unit	*Significant Materials*[1]	Quantity	Pollutants Exposed to Stormwater in past 3 years	Spills date/ quantity	Location
543	Used Oil	500 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
546	Diesel Fuel	500 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
547	Gear Lube	550 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
548	Trans C	550 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
558	Hydraulic Oil	500 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
559	Motor Oil (80W140 ESGL)	300 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
560	Castrol Hypuron	350 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
561	Trans C	300 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
809	Castrol Hypuron	500 gal	No	NA	Repair Shop (Former Slab Hauler Repair Facility)
810	Gasoline	2,000 gal	No	NA	Former Plant Garage
HC-4	Sulfuric Acid	20,000 gal	No	NA	Brick Shed/Humphrey's Creek
HC-5	Ferrous Chloride	32,500 gal	No	NA	Brick Shed/Humphrey's Creek
HC-6	Sulfuric Acid	22,500 gal	No	NA	HCWWTP
HC-7	Sodium Hydrosulfide Hydrate (NaSH)	7,000 gal	No	NA	HCWWTP
HC-8	Sodium Hydroxide	7,000 gal	No	NA	HCWWTP
--	Polymer	3,000 gal	No	NA	HCWWTP
Tank No. 12	Empty & Cleaned	3,400,000 gal	No	NA	Pennwood
Tank No. 13	Empty & Cleaned	3,400,000 gal	No	NA	Pennwood
Tank No. 16	Empty & Cleaned	11,300,000 gal	No	NA	Pennwood
Tank No. 17	Empty & Cleaned	11,300,000 gal	No	NA	Pennwood

Table 2B.2 Significant Materials and Exposure to Stormwater (continued)					
Containers 1-5	Recovered LNAPL	500 gal (each)	No	NA	Coke Point – EAG recovery systems (Cell 6)
Containers 1-2	Recovered DNAPL	55 gal	No	NA	Coke Point – EAG recovery systems (Cell 4)
R1	Locomotive Engine Oil	500 gal	No	NA	Locomotive Repair Shop
R2	Used Oil	500 gal	No	NA	Locomotive Repair Shop
--	Various Materials	10-200 55 gal	No	NA	IDW Building - Pennwood
--	Gasoline	500 gal	No	NA	IDW Building - Pennwood
--	Diesel	500 gal	No	NA	Rod & Wire Mill – EAG recovery system
--	Diesel	1,000 gal	No	NA	T. Parker Host Scale House
--	Diesel	10,000 gal	No	NA	Coke Point
Refueling truck	Diesel/Gasoline	<10,000 gal	No	NA	Throughout site

[1]*"Significant materials" are defined as: "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 designed under Section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges."*

The Facility Map presented in Appendix B indicates the current drainage patterns at the facility.

No spills of "significant materials" have occurred in the past 3 years from the above referenced tanks; however, on December 2, 2013, 40 gallons of diesel fuel was released from a locomotive engine located on Track A-15. The release was reported to the MDE on January 2, 2014 in accordance with Oil operations Permit No. 2010-OPT-2078B. The spill report is attached in Appendix F.

2B.3 Non-Stormwater Discharges Documentation

The Individual NPDES Permits for the Tradepoint facility (i.e., NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064) permit non-stormwater discharges from the following outfalls: 001, 012, 014, 016, 017, 021, and 032. Only stormwater discharges are permitted at the following outfalls: 013, 015, 018, 019, 033, 034, 054, 055, 056, 059, 065, 068, 069, 070, and 071 (i.e., non-stormwater discharges are not permitted).

Non-stormwater discharge evaluations are conducted monthly (at a minimum) as described in Section 3.10 of the SWPPP. Each outfall is visually inspected during a dry period, when no stormwater runoff is flowing to the outfall. If a discharge is present from one of the outfalls, the flow will be tracked back to determine the source. After identifying the source, it will be compared to the list of approved non-stormwater discharges presented in Section 3.10 of this SWPPP. If any of the approved non-stormwater discharges are observed, they will be documented in the non-stormwater discharge monitoring report. In the event that an unapproved non-stormwater discharge is observed, it will be documented in the non-stormwater discharge monitoring report, and the stormwater pollution prevention team will take necessary actions to eliminate the discharge.

Section 2C: Potential Pollutant Sources – Landfill Activities

2C.1 Landfill Activity and Associated Pollutants

The table below lists industrial activities associated with landfills at the facility, which have the potential to pollute stormwater:

Table 2.1 Potential Pollution Sources

Industrial Activity	Location/Area	Associated Pollutants
Waste Unloading/Placement	Grey's Landfill	Waste (construction debris, asbestos containing materials, sludge, etc.)
Leachate Seeps	Grey's Landfill and Coke Point Landfill	Leachate
Site Grading/Earthwork	Grey's Landfill	Sediment
Soil Stockpile	Grey's Landfill	Sediment

Grey's Landfill is a waste disposal landfill located in the northwestern portion of the Tradepoint facility. The landfill is currently used for the disposal of non-hazardous waste associated with ongoing environmental compliance and decommissioning/demolition actions at the Tradepoint facility. The existing landfill area is approximately 40 acres in size and is characterized by waste deposits and graded side slopes developed during many years of waste and miscellaneous slag filling operations. Grey's Landfill accepts only non-hazardous waste from commercial, industrial, construction, demolition and other activities occurring on the grounds of the Tradepoint facility. The following waste streams have undergone adequate inspection and physical/chemical characterizations and therefore do not require inspection prior to unloading at Grey's Landfill:

- HCWWTP Sludge
- Clean common borrow materials
- ACMs

Cover soil is placed over landfilled waste containing potential contaminants in order to prevent the discharge of contaminated stormwater. Details of the operation and maintenance of the Greys Landfill are included in the Greys Landfill Facility Operation Manual, which is presented in Appendix H.

The Coke Point Landfill is not active—no ongoing waste disposal activities take place in this area.

2C.2 Spills and Leaks

No leachate seeps have been identified at or associated with either Greys or Coke Point Landfills. The side slopes of the landfills are routinely inspected for the presence of leachate seeps.

All chemical storage tanks, vehicle fueling, and equipment maintenance activities related to the landfill operations are covered in Section 2B.2 of the SWPPP.

2C.3 Non-Stormwater Discharges Documentation

The Individual NPDES Permits for the Tradepoint facility (i.e., NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064) permits non-stormwater discharges from the following outfalls: 001, 012, 014, 016, 017, 021, and 032. Only stormwater discharges are permitted at the following outfalls: 013, 015, 018, 019, 033, 034, 054, 055, 056, 059, 065, 068, 069, 070, and 071 (i.e., non-stormwater discharges are not permitted).

Non-stormwater discharge evaluations are conducted monthly (at a minimum) as described in Section 3.10 of the SWPPP. Runoff from the Grey's Landfill area is conveyed to Outfall 071.The immediate surrounding areas discharge to Outfall 069 and 070. Runoff from the Coke Point Landfill area discharges as sheet flow through the perimeter stormwater controls (i.e., GFBs) located along the perimeter of the Coke Point peninsula.

Each outfall is visually inspected during a dry period, when no stormwater runoff is flowing to the outfall. If a discharge is present from one of the outfalls, the flow will be tracked back to determine the source. After identifying the source, it will be compared to the list of approved non-stormwater discharges presented in Section 3.10 of this SWPPP. If any of the approved non-stormwater discharges are observed, they will be documented in the non-stormwater discharge monitoring report. In the event that an unapproved non-stormwater discharge is observed, it will be documented in the non-stormwater discharge monitoring report, and the stormwater pollution prevention team will take necessary actions to eliminate the discharge.

Section 3A: Stormwater Control Measures – Construction/Demolition Activities

Section 3 has been divided into three subsections, which cover the various types of activities performed at the Facility. These subsections include the following:

A. Construction/Demolition Activities
B. Industrial Activities
C. Landfill Activities

The facility maps included in Appendix B show the locations of the drainage areas and stormwater management controls in place for these activities.

3A.1 Minimize Exposure

The table below summarizes ***construction/demolition activities*** identified with a high potential to contaminate stormwater. Existing BMPs for each area are also described in the table below.

Table 3A.1.1 Potential Contamination Sources and Best Management Practices (BMP)

Activity/Area	Stormwater Pollutant Source	Pollutant	Existing BMP
Vehicle & Equipment Fueling	Fuel Truck	Gasoline, diesel	Spill response equipment is maintained with refueling trucks.
Vehicle & Equipment Maintenance	Vehicles & Equipment	Gasoline, diesel, oils, lubricants	Maintenance performed indoors whenever possible. If equipment repairs are required in the field, spill response equipment is maintained in the work area. Drip pans are used when possible.
Demolition	Active Demolition Area	Sediment, various stored chemicals, metals	Pre-demo environmental assessment. Mist sprayers maintained in the demo area for as-needed dust suppression. Storm Sewer inlet protection provided and gravel filter berms (GFBs) installed. HCWWTP operated to treat stormwater discharges within the 014 drainage area.

Removal of Building Contents	Throughout Site	ACMs, building lighting, various residual chemical containers, used oil, transformers, universal waste	Hazardous materials stored within structure until identified and prepared for proper disposal (ACMs to Grey's Landfill). Regular inspection of ground surface to prevent tracking of materials outside, where they may contact stormwater.
Automobile Salvage	Throughout Site	Gasoline, diesel, oil, metals, various automotive fluids	Abandoned vehicles scheduled for removal from the site. Remove batteries and drain fluids.
Non-Hazardous Waste/Debris Handling	Active Demolition Area	Waste	Minimize waste storage area. Frequent removal of waste to minimize potential for contact with stormwater.
Transformer Draining & Removal	Transformers	Oil, PCBs	Transformers must be drained in place and spill response equipment shall be made available. Drip pans used where possible.
Vehicle Wash	Repair Shop (Former Slab Hauler Repair Facility)	Sediment, various automotive fluids	Concrete catch basin angled to collect wastewater and to prevent runoff, no chemical or detergents used.
Soil Stockpile	Active demolition area, Greys Landfill	Sediment	Silt fencing and/or seeding

Pre-Demo Environmental Assessment – MCM conducts an environmental assessment of any structure designated for demolition. This assessment and subsequent removal of material reduces/eliminates potential sources of pollution prior to structure demolition. MCM has contracted with Clean Venture as the consultant/contractor for non-hazardous and hazardous material identification and disposal.

The environmental assessment consists of the following:

- Asbestos survey;
- Identification/removal of existing building lighting;
- Identification/removal of any chemical containers;
- Identification/removal of used oil;
- Identification/removal of any universal waste;
- Identification/sampling/removal of all transformers; and
- Identification/protection of stormwater inlets in the demolition area.

MCM conducts an asbestos survey to determine the removal work necessary prior to demolition. Once the work scope has been identified, MCM obtains required permits for removal from the MDE prior to removal.

MCM has the capability to remove the asbestos or will contract the work to a licensed asbestos removal contractor. The asbestos removed is taken to Grey's Landfill for disposal.

The MCM Power and Utilities crew removes all lighting fixtures from the building. All lighting ballasts are assumed to be PCB contaminated unless marked as non-PCB. The ballasts and light bulbs/florescent tubes are sorted by our waste disposal contractor (Clean Venture) and prepared for proper disposal. All PCB ballasts are placed in drums and sent for proper disposal.

MCM conducts a sweep of the building to remove any chemicals left in the building from the former steelmaking operations. The chemicals are identified and sorted prior to off-site transport. MCM identifies and material that can continue to be utilized during the demolition or for resale. Used oil or petroleum products are also collected. Licensed used oil recyclers are contractor to handle used oil/petroleum products. The petroleum products are sampled as necessary and taken off-site by Mid-States to their facility for recycling. Universal waste (e.g., florescent bulbs, batteries, etc.) and e-waste are identified, sorted, and sent off site for proper disposal.

MCM has contracted with SunPro to serve as the contractor/consultant for PCB issues. SunPro conducts sampling of all transformers and associated electrical equipment to determine PCB content. Proper handling and disposal of the transformer, transformer oil, and associated electrical equipment is based on the sample results. Transformer oil with PCB concentrations less than 50 parts per million (ppm) is taken by Mid-States for recycling. Liquids with PCB concentrations greater than 50 ppm are transported off site by a licensed waste hauler and disposed of at a permitted treatment, storage, and disposal (TSD) facility. Secondary containment is provided for identified PCB materials.

The demolition activities reduce the potential for future exposure of hazardous materials at the facility, as the wastes are being properly disposed of, thus eliminating a potential source for pollution.

Demolition of Structures – Existing structures will be demolished to ground level (floor slab). No excavation or grading activities are planned with the demolition process. Site disturbance will occur associated with the use of demolition equipment, but will be minimized to the maximum extent practicable. Mist sprayers are maintained at the active demolition area for dust suppression if necessary. Removal of impervious roof structures will have the added benefit of reducing the quantity of stormwater being discharged at the site. Additional erosion and sediment control measures are further discussed in Section 3A.4. A map indicating the building locations and current demolition schedule is included in Appendix K.

Backfill – After demolition of structures has been completed, crews backfill voids and basement areas to grade with clean backfill material. The backfill procedure plan and materials management plan are attached as Appendix L and Appendix M, respectively. Clean backfill material is temporarily stored along the finishing side of the active demolition area. A silt fence perimeter is set up around the soil backfill staging areas to prevent runoff and a local sediment overload. Seeding techniques will be used if stockpile will remain unused for a long period of time.

Automobile Salvage – Abandoned vehicles at the site are scheduled for removal from the property in a timely fashion. In the event that a vehicle cannot be scheduled for removal in a reasonable period of time, additional precautions shall be taken to reduce the potential for pollutants associated with the abandoned vehicles contacting stormwater. Batteries shall be removed and automotive fluids (e.g., fuel, oil, coolant, etc.) shall be drained and properly disposed of.

Table 3A.1.2 Additional BMPs and Inspection Schedules				
Activity	Area or Equipment	BMP	Minimum Frequency	Responsible Party
Visual Inspections	Structural stormwater controls, inlet protection, outfalls, and areas where stormwater can potentially come in contact with pollutants	Inspect and maintain. Examine work area for presence of leaks.	Monthly inspection	SWPPP Team or delegated personnel
Spill Prevention and Response	Fueling Truck/Mobile Equipment	Maintain trained response personnel, housekeeping, strategic placement of spill kits. Oil booms and baffles at outfalls.	Monthly inspection	SWPPP Team or delegated personnel
Sediment and Erosion Prevention	Site	Inspect and maintain (clean inlets, inlet protection, gravel filter berms, silt fence, oil booms etc.)	Monthly inspection (and following each storm event)	SWPPP Team or delegated personnel
Employee Training	Site	Training	Annual	SWPPP Team
Record Keeping and Reporting	Site	As described in Sections 4 and 5 of the SWPPP		SWPPP Team

3A.2 Good Housekeeping

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause impact to the stormwater. Housekeeping measures are implemented to maintain an orderly construction area and minimize the potential for pollutants to contact stormwater runoff. Specific good housekeeping practices are described below:

- Proper Waste Management:
  - Trash and bulk waste-collection areas designated on-site and are area specific.
  - Materials recycled whenever possible
  - Hazardous and non-hazardous waste segregated and properly disposed of.
    - Hazardous waste stored within a secondary containment whenever possible Hazardous waste containers inspected for proper labeling and leaks.
    - Hazardous waste stored in areas with sufficient security measures to prevent tampering.
  - Daily litter and construction debris cleaned up.
  - Waste-collection area located away from run-on and runoff prone areas.
  - Portable restrooms are firmly secured, regularly inspected, maintained and emptied.
- Proper equipment/vehicle fueling and maintenance practices:
  - On-site vehicles and equipment are visually inspected for leaks, damage, and other problems which could result in fluid leaks.
  - Whenever possible, maintenance occurs indoors located away from run-on and runoff areas.

  - Fuel tanks are not topped off, and proper spill response equipment is maintained with fueling trucks, thus enabling rapid response to spills.
  - Fuel trucks are equipped with appropriate spill response equipment, so any minor spills during fueling can be readily responded to.
  - Drip pans used for maintenance and fluids properly labeled, stored, and/or disposed of.
- Any contaminated surfaces shall be cleaned immediately following any discharge or spill incident. Waste materials are routinely disposed of, thus minimizing the quantity of pollutants that could contact stormwater in the event of a spill.
- Removal of abandoned automobiles located across the site. Any vehicles that are not scheduled to be removed in a timely fashion should have the batteries removed and be drained of fluids. Drip pans should be used when draining fluids to prevent spills.
- Vehicle maintenance buildings are routinely inspected and cleaned to minimize the potential tracking of pollutants to areas that could come in contact with stormwater.
- Inlet protection is clearly flagged in the field to reduce the potential for damage from equipment or vehicles. Inlet protection is regularly inspected and maintained to remove accumulated debris.
- Containers used for outdoor storage of chemicals/significant materials/ recyclables are routinely inspected and maintained to prevent leaking. Where practical, the containers are enclosed or contain lids to prevent contact with rainwater.

3A.3 Maintenance

During routine facility inspections, appropriate preventative maintenance procedures, including testing, maintenance, and repair of all industrial equipment, systems, and control measures, shall be implemented to avoid situations that may result in leaks, spills, and other releases. Preventative maintenance shall be performed on the fuel trucks and dispensers to minimize the potential for exposure of pollutants to stormwater as a result of equipment failure. The spill response equipment inventory on the fueling trucks shall be inspected to verify that the proper response equipment is available in the event of a spill.

3A.4 Spill Prevention and Response

Multiple spill prevention and response practices (e.g., use of drip pans, spill kits, oil booms and baffles, etc.) related to construction/demolition activities are summarized in Tables 3A.1.1 and 3A.1.2 of this SWPPP. During vehicle fueling, proper spill response materials are maintained with the fuel truck, so minor spills can be quickly responded to. All vehicles delivering oil products must have the MDE emergency spill reporting telephone number (1-866-633-4686) conspicuously posted in the vehicle, as required by the Oil Operations Permit attached in Appendix G. Oil booms and retention baffles are also provided at outfalls as a last line of defense against spilled petroleum products from being discharged. The ASTs at the facility are covered in Section 2B and 3B of this SWPPP, which discusses industrial activities at the site. Spills or discharges occurring at the facility must be documented using the forms in Appendix F, and copies of the completed forms shall be maintained in Appendix F.

3A.5 Erosion and Sediment Controls

Runoff from the largest drainage area on the site flows to the Humphrey's Creek WWTP, where it is treated prior to being discharged. The sediment removal efficiency for the ACTIFLOW treatment system published by the manufacture is 90-95% removal of TSS.

Additional erosion and sediment controls are implemented site-wide to contain sediment. The MCM Power and Utilities personnel identify any storm sewer inlets within an area selected for demolition. The inlet locations are recording using GPS, and the inlet locations are added to a database containing the locations of all identified inlets at the site. An updated map of inlet locations is maintained with the SWPPP in Appendix K.

Inlet protection is provided by installing geotextile filter fabric over the inlet, which is surrounded by a GFB. The inlet protection reduces the flow velocity of flow and serves as a filter media, thus allowing sediment to settle out of the stormwater runoff. A typical inlet protection detail is provided in the Demolition Erosion and Sediment Control Figures in Appendix K. The inlets are protected from traffic with jersey barriers and/or the inlets are flagged to improve visibility. All vehicle and equipment operators at the facility are trained to identify and avoid damaging the inlet protection. In the event that the inlet protection is damaged, all personnel have been instructed to notify the SWPPP team immediately, so the necessary repairs can be made.

Storm sewer inlets that are in areas of the site that do not discharge to the HCWWTP will have inlet protection installed during demolition activities to control storm discharges to the storm sewers. Temporary perimeter erosion controls such as GFBs are also installed around these areas. Field sketches indicating the location of buildings scheduled to be razed, inlet locations, and proposed locations of perimeter controls will be developed prior to commencing demolition activities. Copies of these sketches willl be attached to the SWPPP in Appendix K. Additional perimeter controls—GFBs and vegetated buffers—are provided surrounding much of the site. The locations of these BMPs are indicated on the Facility Maps in Appendix B.

The floor slabs will be left in place for all razed structures that have floor slabs. Many of the structures at the site do not have floor slabs. Following the razing of the building without floor slabs, the building footprint will be stabilized with four inches of graded aggregate or slag to prevent erosion of the materials.

Site-specific sediment and stormwater control BMPs will be maintained and repaired as needed to assure continued performance of their intended function. Erosion and sediment control BMPs will be inspected at least once every month, and inspections shall take place following each storm event. The site specific sediment and stormwater control BMPs are designed to minimize the potential for sediment runoff through stormwater discharges through stabilization/containment methods for all areas of the site. Should inspections or site activities warrant modifications of the existing BMPS, additional practices shall be implemented to reduce sediment migration and improve stormwater quality (e.g., vegetative buffer strips, filter fence, stormwater management ponds, or other equivalent measures to remove sediment prior to discharge and control discharge rates wherever practicable).

3A.6 Management of Runoff

The drainage area boundaries and outfall locations are indicated on the Facility Maps in Appendix B. The largest drainage area at the facility flows to the Humphrey's Creek WWTP, where the flow is treated prior to being discharged. Runoff from other areas of the site is either collected within the storm drain system and conveyed to one of the outfalls, or travels as sheet flow to the perimeter stormwater controls (i.e., GFBs, vegetated buffers, or sediment basins) prior to discharge. Inlets receiving runoff from the construction/demolition areas receive inlet protection as described in Section 3A.5.

3A.7 Employee Training

Employees who work in areas where industrial materials and waste are potentially exposed to stormwater, or who are responsible for implementing activities necessary to prevent pollution of stormwater, will attend annual training sessions (or more frequent). Annual training sessions will cover any modifications to the SWPPP. A record of employee attendance at the training session shall be kept on file. Employee Training Records are maintained in Appendix E.

3A.8 Waste, Garbage and Floatable Debris

Garbage and waste are not stored in open areas in order to prevent the transport of floatable debris. Perimeter controls such as GFBs prevent garbage and floatable debris from being carried off site. Any accumulated garbage or debris that is observed during routine site inspections is removed. Inlet protection is installed to prevent waste from entering the storm sewers, as described in Section 3A.5. In addition, oil booms and baffles are installed at many of the outfalls. These oil booms and baffles provide an additional line of protection to prevent floatable debris from leaving the site.

3A.9 Dust Generation and Vehicle Tracking of Industrial Materials

To minimize dust generation at the facility, truck and equipment traffic is limited to authorized personnel only. On-site access roads and parking lots are made of crushed stone and/or pervious surfaces to the extent possible. Water is applied via water trucks and mist sprayers to minimize dust generation as needed for the following areas: access roads associated with on-site and offsite waste movement and hauling to Grey's Landfill and within the demolition areas. A map is attached in Appendix J which indicates the roadways where water is applied for dust control purposes.

The ground surface within vehicle maintenance buildings are regularly inspected for the presence of pollutants which could be tracked into areas which could contact stormwater.

3A.10 Security

The Facility is gated, and all vehicles and personnel entering the facility must pass through a security checkpoint to access the site. All employees are trained about site security and asked to report any suspicious activity.

Section 3B: Stormwater Control Measures – Industrial Activities

3B.1 Minimize Exposure

The table below summarizes ***industrial activities*** identified with a high potential to contaminate stormwater at the facility. Existing BMPs for each area are also described in the table below.

Table 3B.1.1 Potential Contamination Sources and Best Management Practices (BMP)

Activity/Area	Stormwater Pollutant Source	Pollutant	Existing BMP
Outdoor Storage	ASTs	Diesel, Gasoline, Various Oils, Ferrous Chloride, Sulfuric Acid, Sodium Hydrosulfide Hydrate	Secondary containment (i.e., double-walled tanks or concrete containment pads).
Tank Loading and Unloading	ASTs	Diesel, gasoline, various oils, Ferrous Chloride, Sulfuric Acid, Sodium Hydrosulfide Hydrate	Spill kits on trucks for tank loading/unloading. Berms around some loading/unloading areas (i.e., HCWWTP Hydrogen Sulfide Tank).
Vehicle & Equipment Maintenance	Repair Shop (Former Slab Hauler Repair Facility), Locomotive Repair Shop	Various type of oil, gasoline, diesel	Maintenance performed indoors. Spill kits strategically placed. Routine inspection of ground surface to prevent tracking of materials.
Vehicle & Equipment Fueling	Former Plant Garage, Repair Shop (Former Slab Hauler Repair Facility), demolition area	Gasoline	Spill kits maintained in fueling areas. Employees trained on proper fueling.
Vehicle & Equipment Fueling	Fuel Truck	Gasoline, diesel	Spill response equipment is maintained with refueling trucks.
Vehicle & Equipment Storage	Across site	Oil, hydraulic fluid, various other fluids	Preventative maintenance performed on vehicles to reduce potential for leaks. Employees trained on spill response measures.
Humphrey's Creek WWTP	WWTP/Outfall 014	Sludge	Water treated at WWTP prior to discharge
Sludge Solidification Pits	Sludge Pit Area	Oils	Grading to prevent run-on from entering pits. Weekly inspection for cracks in the concrete and to verify that the pit areas are cleaned.
Tire Storage	Tire storage piles	Metals	Footprint of tire piles minimized.

Groundwater Recovery System	Coke Point	Contaminated Groundwater (hydrocarbons)	Secondary containment (double-walled containers). Regular disposal—minimize quantity on site.
Chrome Recovery Facility	Humphrey's Creek	Metals/Sludge	Fully enclosed storage. Regular disposal—minimize quantity on site.
Scrap Metal Storage	Scrap Metal Storage Yard	Sediment, metals	Surface area of the piles minimized to the extent practicable. GFBs installed around downslope end of the storage piles.
Active Railroad Tracks	Across site	Various materials, oils, fuels, waste, sediment	Berms installed inside of track if located in an active demolition area.
Railroad Car Dumper	Area east of Pennwood	Sediment, various materials	Berms installed along perimeter of concrete basin to prevent run on.
Temporary Stockpiles	Area east of Pennwood	Sediment, various materials	Gravel filter berm installed along the Pennwood Canal, vegetative buffer along waterways, and grading.
IDW Building	Pennwood	Soil and groundwater waste, gasoline	Regular disposal – minimize quantity on site. Secondary containment (double-walled containers).

Outdoor Storage/ASTs – A number of ASTs containing petroleum products or other hazardous materials are located across the site. A list of these ASTs is presented in Table 2B.2 in the SWPPP, and the locations of the tanks are presented in the Facility Maps provided in Appendix B. Secondary containment is provided for the majority of the tanks. The tanks are situated (i.e., elevated or inside berms) to prevent run-on from contacting the tanks. The appropriate spill response measures are maintained on the trucks when loading and unloading the tank, so minor releases can be quickly contained and remediated.

Vehicle and Equipment Maintenance – Vehicle and equipment maintenance and repairs are performed inside maintenance buildings, thus eliminating potential contact with stormwater. Any minor spills during equipment maintenance are therefore contained indoors and protected from contact with stormwater. The ground surface within the maintenance facility is routinely inspected and cleaned to minimize the tracking of any potential pollutants outside of the building.

Vehicle and Equipment Wash – Vehicle and equipment wash has an angled, concrete catch basin to collect and prevent runoff of the washwater. The area around the vehicle and equipment wash is stable and poses minimal risk to outfalls. Washwater is pumped from the wash area regularly depending on the frequency of use.

HCWWTP – The HCWWTP treats stormwater runoff from Drainage Area 014 prior to discharge. Sludge that is generated at the HCWWTP is dewatered by centrifuges. The dewatered sludge is collected into two roll off dumpsters, which are transferred when full to Grey's Landfill and emptied. The roll offs are located under a roof to prevent direct rainfall from contacting the sludge, and the roll offs are elevated off the ground to prevent contact with stormwater run-on. Stormwater runoff from the areas surrounding the sludge storage area has carried sludge away from the area, but the area is graded so that all stormwater and pollutants are directed back into the HCWWTP. The sulfuric acid tank located adjacent to the HCWWTP has secondary containment, and a berm is located around the filling station to contain any minor spills during tank filling.

Sludge Solidification Pits – Three concrete sludge solidification pits are located at Dock 36A. These pits are graded to prevent stormwater run-on from entering the pits and contacting waste. The area surrounding the sludge solidification area is cleaned of any oily substances at the end of each workday, as required by the Oil Operations Permit attached as Appendix G. The solidified sludge is disposed of at Grey's Landfill or another permitted disposal facility. Records of the sludge source and material quantity are maintained for each solidification batch. The concrete containment structures are visually inspected and the areas surrounding the pit are cleaned weekly.

Tire Storage – Scrap tires are stored at the Repair Shop (Former Slab Hauler Repair Facility). The facility holds a Secondary Scrap Tire Collection Facility License, which was issued by the MDE. Tires found on the site are brought to one of the three stockpile locations. The footprint of the tire piles are minimized to reduce the area that can be contacted by direct rainfall. Smaller tires will be stored inside of a tractor-trailer provided by the tire recycling contractor.

Chrome Recovery Facility – The chrome recovery facility is located upstream from the WWTP along Humphrey's Creek and operates periodically. The chrome sludge generated as a byproduct of the treatment process is contained inside the facility, where it is protected from stormwater. The chrome sludge is removed and transported to a permitted TSD on a less than 90-day schedule.

Scrap Metal Storage – During the building razing, scrap metal is separated from construction debris. The metal is cut down into smaller sections and temporarily stockpiled. The stockpiled metal is sold to a metal recycler, who removes the metal from the site. Metal from the stockpiles is frequently removed from the site to minimize the quantity of materials that could come in contact with stormwater. Furthermore, the footprint of the scrap metal stockpiles is minimized to the extent practicable, thus minimizing the stockpile area exposed to direct rainfall. Stormwater diversion berms are installed downslope from the stockpiles to minimize the transport of particulates which may have been picked up by rainfall directly contacting the scrap metal storage pile.

Active Railroad Tracks – Railroad tracks are located throughout the site. However, tracks located within a demolition area have berms installed inside the railroad tracks to prevent run on and runoff.

Railroad Car Dumper – The Railroad Car Dumper is located along the east portion of the site and is used to safely move materials dumped by railroad cars. Materials are dumped into a concrete basin prior to removal by site equipment. Berms are installed around the top perimeter of the basin to prevent run on and runoff of stormwater.

Temporary Stockpiles – The area south of the Railroad Car Dumper, located along the east portion of the site, will be used to temporarily stockpile materials dumped by railroad cars. The following materials will be stockpiled: Calcium Chloride, Graphite, Zinc Fines, Manganese Fines, Salt-Mined, Zinc Calcine, Arragonite, Coal, Coke, Coolant Scrap Crushed Silica, Ferro Alloys (Ferro Chrome), Fior Briquettes (Fused or Ignited), Granulated Furnace Slag, Industrial Slag, Magnesium Oxide Briquettes, Oyster Shells, Wood (Bundled), Wood Chips, Olivine Sand, Wood Ash, Pet Coke, Alumina/Aluminum Hydrate, Processed Glass, Aggregate, Belgium Block, Dead Burned Magnesia, Dead Burned Magnesite, Garnet Sand, Gravel, Gypsum, Landscaping Stone, Solite, Pumice, #1 Scrap, Aluminum Bars, Cargo, Pipe, Rail Axles, Scrap Metal, Shredded Scrap, Steel (Cold Roll) Coils, Steel (Hot Roll) Coils, Steel Billets, Steel Blooms, Steel Pilings, Steel Plates, Steel Rails, Steel slabs, Steel Wire Rods, Zinc Bars, Zinc Billets, Other Break Bulk Products, and Direct Reduced Iron. Berms are installed around the local waterways to prevent runoff of stormwater. Also, the surface is graded away from these waterways,

IDW Building – The IDW building is located along the southern portion of the Pennwood area and is used to temporarily store IDW waste until it is characterized for proper disposal. Materials stored include surface and subsurface soils, groundwater, decontamination water, nitric acid (fresh and spent), hexane (fresh and spent), and PVC liners. Once materials have been characterized, they are transported off-site or to Grey's Landfill for proper disposal. A concrete pit with a drain is utilized as decontamination area for large, down-well equipment. The drain is physically closed with a valve and a weighted drain cover is utilized over the effluent grate to stop impacted material (sediment and water) from exiting the pit. The pit is angled into the ground so incoming water cannot exit the pit. The pit is pumped out frequently to reduce potential for material buildup and overflow. Water and sediment from the pit is segregated into 55-gallon drums and placed inside the building.

In addition to best management practices identified in Table 3B.1.1 above, the following general BMPs will be implemented in order to reduce the amount of pollution entering surface waters from the facility.

Table 3B.1.2 Additional BMPs and Inspection Schedules

Activity	Area or Equipment	BMP	Minimum Frequency	Responsible Party
Visual Inspections	Structural stormwater controls, outfalls, and areas where stormwater can potentially come in contact with pollutants	Inspect and maintain	Quarterly inspection	SWPPP Team or delegated personnel
Spill Prevention and Response	ASTs	Maintain trained response personnel, housekeeping, strategic placement of spill kits	Monthly inspection	SWPPP Team or delegated personnel
Sediment and Erosion Prevention	Site	Inspect and maintain (clean inlets, inlet protection, gravel filter berms, silt fence, oil booms etc.)	Monthly (and following each storm event)	SWPPP Team or delegated personnel
Employee Training	Site	Training	Annual	SWPPP Team
Record Keeping and Reporting	Site	As described in Sections 4 and 5 of the SWPPP		SWPPP Team

3B.2 Good Housekeeping

Housekeeping measures are implemented to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. Specific good housekeeping practices are described below:

- Proper Waste Management:
  - Trash and bulk waste-collection areas designated on-site and are area specific.
  - Materials recycled whenever possible.
  - Hazardous and non-hazardous waste segregated and properly disposed of.
    - Hazardous waste stored within a secondary containment whenever possible Hazardous waste containers inspected for proper labeling and leaks.
    - Hazardous waste stored in areas with sufficient security measures to prevent tampering.
  - Daily litter and construction debris cleaned up.
  - Waste-collection area located away from run-on and runoff prone areas.
  - Portable restrooms are firmly secured, regularly inspected, maintained and emptied.
- Control equipment/vehicle washing and allowable non-stormwater discharges
  - Designated wash areas established for each phase/area
- A Spill Prevention, Control and Countermeasure (SPCC) Plan is approved and implemented for the on-site aboveground storage tanks containing multiple fuels and oils. This SPCC plan is attached as Appendix G.

- The sludge solidification pits are inspected for cracking following the removal of each batch of sludge, as required by the MDE Oil Operations Permit #2010-OPT-2078A, which is attached as Appendix G.
    - Sludge solidification pits will be inspected weekly for spilled material outside the pit
- Proper equipment/vehicle fueling and maintenance practices:
    - On-site vehicles and equipment are inspected for leaks, damage, and other problems which could result in fluid leaks.
    - Whenever possible, maintenance occurs indoors located away from run-on and runoff areas.
    - Fuel tanks are not topped off, and proper spill response equipment is maintained with fueling trucks, thus enabling rapid response to spills.
    - Drip pans used for maintenance and fluids properly labeled, stored, and/or disposed of.
- ASTs are visually inspected for leaks during routine facility inspections.
- Waste materials are routinely disposed of, thus minimizing the quantity of pollutants that could contact stormwater in the event of a spill.
- The maintenance buildings are routinely inspected and cleaned to minimize the potential tracking of pollutants to areas that could come in contact with stormwater.
- Containers used for outdoor storage of chemicals/significant materials/ recyclables are routinely inspected and maintained to prevent leaking. Where practical, the containers are enclosed or contain lids to prevent contact with rainwater.

3B.3 Maintenance

During routine facility inspections, appropriate preventative maintenance procedures, including testing, maintenance, and repair of all industrial equipment, systems, and control measures, shall be implemented to avoid situations that may result in leaks, spills, and other releases.

Preventative maintenance shall be performed on the following items to minimize the potential for exposure of pollutants to stormwater as a result of equipment failure:

- All ASTs and associated piping and dispensers;
- All stormwater pipe/culvert outfalls shall be maintained to prevent erosion at the discharge; and
- All roofed enclosures which protect potential pollutant sources from contacting stormwater.

3B.4 Spill Prevention and Response

Multiple spill prevention and response practices (e.g., secondary containment, spill kits, drip pans, etc.) are summarized in Tables 3B.1.1 and 3B.1.2 of this SWPPP. In general, small waste material quantities are maintained through frequent waste disposal, which reduces the potential for substantial releases. An MDE Oil Operations Permit, number 2010-OPT-2078A, reflects all active ASTs and the general permit conditions regarding notification process of discharge or spill, corrective action and reporting requirements based on discharge/spill quantity. Copies of the Oil Operations Permit and Spill Prevention Control and Countermeasures (SPCC) Plan are attached as Appendix G and Appendix I, respectively. Spill kits are available to respond to any minor spills from any of the ASTs on site. The Facility Maps provided in Appendix B indicates the location of tanks where potential spills or leaks could occur. The drainage

pathways are indicated on the Facility Map, thus indicating the stormwater outfalls that could potentially be impacted by stormwater contacting spilled or leaked materials.

Spills or discharges occurring at the facility must be documented using the forms in Appendix F, and copies of the completed forms shall be maintained in Appendix F.

3B.5 Erosion and Sediment Controls

Runoff from the largest drainage area on the site flows to the Humphrey's Creek WWTP, where it is treated prior to being discharged. The sediment removal efficiency for the ACTIFLOW treatment system published by the manufacture is 90-95% removal of TSS.

Additional erosion and sediment controls are implemented site-wide to contain sediment. The MCM Power and Utilities personnel identify any storm sewer inlets within an area selected for demolition. Inlet protection is provided by installing geotextile filter fabric over the inlet, which is surrounded by a GFB. A typical inlet protection detail is provided in Appendix K. Additional perimeter controls—GFBs and vegetated buffers—are provided surrounding much of the site. The locations of these BMPs are indicated on the Facility Maps in Appendix B.

All site-specific sediment and stormwater control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Erosion and sediment control BMPs shall be inspected at least once every month, and following each storm event.

3B.6 Management of Runoff

The drainage area boundaries and outfall locations are indicated on the Facility Maps in Appendix B. The largest drainage area at the facility flows to the HCWWTP, where the flow is treated prior to being discharged. Runoff from other areas of the site is either collected within the storm drain system or conveyed to one of the outfalls, or travels as sheet flow to the perimeter stormwater controls (i.e., GFBs, vegetated buffers, or sediment basins) prior to discharge.

When possible, ASTs are elevated to prevent contact with stormwater run-on. Secondary containment is provided for ASTs containing oil, as required under the Oil Operations Permit, which is attached as Appendix G. Tanks containing other hazardous materials (e.g., sulfuric acid, ferrous chloride) are also located within secondary containment structures.

3B.7 NPDES Sampling and Analysis

As required under the Individual NPDES Permits for the Tradepoint facility (i.e., NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064), samples must be collected at the outfalls and analyzed for a number of parameters. The complete NPDES Permit and sampling requirements are included in Appendix C. The sampling and analysis requirements are covered in greater detail in Section 4 of the SWPPP.

3B.8 Employee Training

Employees who work in areas where industrial materials and waste are potentially exposed to stormwater, or who are responsible for implementing activities necessary to prevent pollution of stormwater, shall attend annual training sessions (or more frequent). Annual training sessions will cover any modifications to the SWPPP. A record of employee attendance at the training session shall be kept on file. Employee Training Records are maintained in Appendix E.

Employees responsible for operations involving storage tanks (e.g., loading and unloading, HCWWTP operation, etc.) shall be trained on the specific equipment they will be operating. Equipment-specific training reduces the potential for an inadvertent release caused by operator error.

3B.9 Non-Stormwater Discharges

The Individual NPDES Permits for the Tradepoint facility (i.e., NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064) permits non-stormwater discharges from the following outfalls: 001, 012, 014, 016, 017, 021, and 032. The discharges at these outfalls are subject to the monitoring requirements summarized in Section 4, and the effluent quality limits established under the NPDES Discharge Permit attached in Appendix C.

Only stormwater discharges are permitted at the following outfalls: 013, 015, 018, 019, 033, 034, 054, 055, 056, 059, 065, 068, 069, 070, and 071 (i.e., non-stormwater discharges are not permitted with the exception of those listed below). Non-stormwater discharges include any discharge from the facility that is not generated by rainfall runoff (e.g., wash water from industrial processes). All stormwater discharge locations are inspected for the presence of non-stormwater discharges.

Allowable non-stormwater discharges at **all** outfalls covered under this permit include:

- Water used to fight active fires (*not from fire system cleaning or testing),*
- 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);
- Landscape watering, only if all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- Routine external building wash down that does not use detergents and any dislodged paint chips are filtered;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- 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).

The following Non-Stormwater Discharges are ***not*** permitted at the outfalls permitted for stormwater discharges only:

- Leachate;
- Gas collection condensate;
- Drained free liquids;
- Contaminated groundwater;
- Laboratory wastewater; and
- Contact washwater from washing truck exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

Inspections for the presence of non-stormwater discharges at the outfalls permitted to discharge stormwater only shall be conducted in conjunction with routine facility inspections (monthly) as described in Section 5 of the SWPPP. Observations shall be recorded on the Non-Stormwater Inspection Report form, which is attached in Appendix D. Completed non-stormwater discharge assessment forms shall be attached in Appendix E.

3B.10 Waste, Garbage and Floatable Debris

Garbage and waste are not stored in open areas in order to prevent the transport of floatable debris. Perimeter controls such as GFBs prevent garbage and floatable debris from being carried off site. Any accumulated garbage or debris that is observed during routine site inspections is removed. Inlet protection is installed to prevent waste from entering the storm sewers, as described in Section 3B.5. In addition, oil booms and baffles are installed at many of the outfalls. These oil booms and baffles provide an additional line of protection to prevent floatable debris from leaving the site.

3B.11 Dust Generation and Vehicle Tracking of Industrial Materials

To minimize dust generation at the facility, truck and equipment traffic is limited to authorized personnel only. On-site access roads and parking lots are made of crushed stone and/or pervious surfaces to the extent possible. Water is applied via water trucks and mist sprayers to minimize dust generation as needed for the following areas: access roads associated with on-site and offsite waste movement and hauling to Grey's Landfill and within the demolition areas. A map is attached in Appendix J which indicates the roadways where water is applied for dust control purposes.

The ground surface within vehicle maintenance buildings are regularly inspected for the presence of pollutants which could be tracked into areas which could contact stormwater.

3B.12 Security

The Facility is gated, and all vehicles and personnel entering the facility must pass through a security checkpoint to access the site. All employees are trained about site security and asked to report any suspicious activity.

Section 3C: Stormwater Control Measures – Landfill Activities

3C.1 Minimize Exposure

The table below summarizes ***landfill activities*** identified with a high potential to contaminate stormwater at the facility. Existing BMPs for each area are also described in the table.

Table 3C.1.1 Potential Contamination Sources and Best Management Practices (BMP)

Activity/Area	Stormwater Pollutant Source	Pollutant	Existing BMP
Waste Unloading/Placement	Grey's Landfill	Waste (construction debris, asbestos containing materials, sludge, etc.)	Minimize active working face, daily cover for special wastes, divert stormwater from active landfill areas
Leachate Seeps	Grey's Landfill and Coke Point Landfill	Leachate	Routine inspection
Site Grading/Earthwork	Grey's Landfill	Sediment	Sediment basin, riprap and vegetated swales, vegetative stabilization of inactive areas, access road watering for dust control.

Industrial activities (e.g., vehicle and equipment maintenance and repairs, fueling, ASTs) related to the landfill operations at the Tradepoint facility are covered under Sections 2B and 3B of this SWPPP.

The anticipated waste types are physically stable, non-putrescible and are not attractants for disease or animal vectors. The active stacking process is essentially a continuous incremental stacking procedure that develops compacted lift surfaces of stable waste materials. . Intermediate cover will be placed after every three operating days to cover wastes that are disposed to minimize contact with stormwater. Daily cover is placed over the special wastes (e.g., ACMs). Operating practices direct runoff away from active waste placement areas, and to prevent run-on from contacting waste, thus minimizing leachate generation. A small active working face is maintained to minimize the area of waste exposed at any given time.

In addition to best management practices identified in Table 3C.1.1 above, the following general BMPs will be implemented in order to reduce the amount of pollution entering surface waters from the facility.

Table 3C.1.2 Additional BMPs and Inspection Schedules				
Activity	Area or Equipment	BMP	Minimum Frequency	Responsible Party
Visual Inspections	Structural stormwater controls, outfalls, and areas where stormwater can potentially come in contact with pollutants	Inspect and maintain	Monthly inspection	SWPPP Team or delegated personnel
Spill Prevention and Response	Fueling Truck/Mobile Equipment	Maintain trained response personnel, housekeeping, strategic placement of spill kits. Oil booms and baffles at outfalls.	Monthly inspection	SWPPP Team or delegated personnel
Sediment and Erosion Prevention	Grey's Landfill	Inspect and maintain riprap channel lining, remove sediment that accumulates within swales, maintain vegetative cover, etc.)	Monthly inspection (and following each storm event)	SWPPP Team or delegated personnel
Employee Training	Site	Training	Annual	SWPPP Team
Record Keeping and Reporting	Site	As described in Sections 4 and 5 of the SWPPP		SWPPP Team

3C.2 Good Housekeeping

Housekeeping measures are implemented at the landfills to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. Specific good housekeeping practices are described below:

- The landfill cap is routinely inspected to ensure the integrity and effectiveness of any intermediate or final cover. Seed and fertilizer are applied to areas as needed to maintain vegetation on the cap.
- The active working face of the landfill is minimized to reduce area where stormwater could contact waste.
- The Grey's landfill sediment basin and stormwater conveyance swales are inspected for the presence of waste or debris, and any accumulated waste is routinely removed.
- The super silt fence surrounding the stockpile area is inspected for accumulated sediment. Accumulated sediment is removed and returned to the stockpile in accordance with the County-approved Erosion and Sediment Control Plan (ESCP) for the Grey's Landfill.

3C.3 Maintenance

During routine facility inspections, appropriate preventative maintenance procedures, including testing, maintenance, and repair of all industrial equipment, systems, and control measures, shall be implemented to avoid situations that may result in leaks, spills, and other releases.

Preventative maintenance shall be performed on the following items to minimize the potential for exposure of pollutants to stormwater as a result of equipment failure:

- 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.
- Vegetation on the side slopes (i.e., at Grey's Landfill) shall be maintained to prevent erosion and secure the stability of the landfill cap.
- Swales and benches conveying stormwater runoff from the landfill shall be inspected for signs of erosion, sediment accumulation, waste and debris. Repairs shall be made as required.
- The Grey's Landfill sediment basin outlet structure and outfall shall be inspected and repaired if necessary to ensure that flow is discharged properly though the outlet structure and does not result in erosion surrounding the outfall.

Operations and maintenance of the Grey's Landfill are described in greater detail in the Grey's Landfill Operations Manual, which is attached as Appendix H.

3C.4 Spill Prevention and Response

Multiple spill prevention and response practices (e.g., use of drip pans, spill kits, oil booms and baffles, etc.) related to construction/demolition activities are summarized in Tables 3C.1.1 and 3C.1.2 of this SWPPP. During vehicle fueling, proper spill response materials are maintained with the fuel truck, so minor spills can be quickly responded to. Oil booms and retention baffles are also provided at outfalls as a last line of defense against spilled petroleum products from being discharged. The ASTs at the facility are covered in Section 2B and 3B of this SWPPP, which discusses industrial activities at the site. Spills or discharges occurring at the facility must be documented using the forms in Appendix F, and copies of the completed forms shall be maintained in Appendix F.

3C.5 Erosion and Sediment Controls

Erosion and sediment controls for the Grey's Landfill have been designed and installed in accordance with the Erosion and Sediment Control Plan for the Grey's Landfill Facility, which has been reviewed and approved by the Baltimore County Soil Conservation District (BCSCD).

To minimize erosion, the disturbed areas associated with ongoing landfill activities are minimized. Vegetative stabilization is maintained on the landfill side slopes and inactive areas. Runoff from the Grey's Landfill is directed through a series of stormwater swales to a sediment basin with a permanent wet pond prior to reaching the outfall. Riprap is used to line stormwater swales that may experience high flow velocities, as well as to provide energy dissipation immediately beyond pipe outfalls from the sediment basins. Routine inspections of the stormwater conveyance facilities are conducted, and any areas which are experiencing visible signs of erosion are to be repaired in a timely fashion.

Super silt fence and a sediment trap structure are installed surrounding the stockpile area to reduce sediment migration from this area. The super silt fence is routinely inspected for sediment accumulation. Accumulated sediment is removed and returned to the stockpile. Any damaged sections of super silt fence are repaired.

3C.6 Management of Runoff

The drainage area boundaries and outfall locations are indicated on the Facility Maps in Appendix B. Runoff from the Grey's Landfill is conveyed to the sediment basin, where sediment is allowed to settle out prior to being discharged at Outfall 071 towards the northwest end of the Tradepoint facility.

The Coke Point Landfill is located at the southwestern corner of the Tradepoint facility. Runoff from the Coke Point Landfill discharges as sheet flow through the perimeter stormwater controls (i.e., GFBs) located along the perimeter of the Coke Point peninsula.

3C.7 Employee Training

Employees who work in areas where industrial materials and waste are potentially exposed to stormwater, or who are responsible for implementing activities necessary to prevent pollution of stormwater, shall attend annual training sessions (or more frequent). Annual training sessions will cover any modifications to the SWPPP. A record of employee attendance at the training session shall be kept on file. Employee Training Records are maintained in Appendix E.

Employees involved in the landfilling activities at the site shall receive specific training on the Grey's Landfill Operations Manual, which is attached in Appendix H, including but not limited to the following:

- Identifying acceptable vs. unacceptable wastes;
- Waste placement;
- Procedures for handling high-moisture-content wastes;
- Cover soil placement, grading, and drainage; and
- Litter control.

3C.8 Non-Stormwater Discharges

Non-stormwater discharges include any discharge from the facility that is not generated by rainfall runoff. Allowable and unallowable non-stormwater discharges, as well as inspection and recordkeeping requirements, are covered in Section 3B.10. Unallowable non-stormwater discharges related to landfill activities which are of particular concern include leachate seeps.

3C.9 Waste, Garbage and Floatable Debris

No waste is currently landfilled in the Coke Point Landfill area, and garbage and waste are not stored in open areas in order to prevent the transport of floatable debris.

The waste streams landfilled at the Grey's Landfill do not contain lightweight materials that require windblown litter controls; however, if lightweight wastes are delivered, they are covered to prevent wind-blown litter from contacting stormwater. Furthermore, the size of the working face is kept to a minimum to further reduce the potential for wind-blown wastes to pollute stormwater and/or become floatable debris. Any floatable debris that is carried by stormwater must pass through the trash rack and anti-vortex device in the sediment basin, which removes any large debris from the stormwater flow. Other debris will settle out in the sediment basin prior to discharge. Observation of accumulated waste or debris in these areas will be identified during routine site inspections and disposed of.

3C.10 Dust Generation and Vehicle Tracking of Industrial Materials

To minimize dust generation at the facility, truck and equipment traffic is limited to authorized personnel only. Water is applied via water trucks to minimize dust generation on the Grey's Landfill access roads and any other disturbed areas of the landfill.

3C.11 Security

The Tradepoint facility is gated, and all vehicles and personnel entering the facility must pass through a security checkpoint to access the site. All employees are trained about site security and asked to report any suspicious activity.

Signs will be maintained at the entrances of the landfill that reads "DANGER – UNAUTHORIZED PERSONNEL KEEP OUT". The landfill has an access gate that will be kept closed when not in use. The Tradepoint Security Department makes routine checks of the landfill area surroundings to maintain security of the landfill.

Section 4: Schedules and Procedures for Monitoring

4.1 Quarterly Visual Assessment of Stormwater Discharges

Once each quarter for the entire permit term, a stormwater sample shall be collected from each outfall, and a visual assessment of each sample shall be conducted. The 19 outfalls to be sampled are shown in Figure B-1.

The visual assessment must be made:

- Of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area;
- On samples collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes and you must document 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 from the Site;
- For storm events, on discharges that occur at least 72 hours (3 days) from the conclusion of the previous storm event; and
- 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.

The sample shall be visibly inspected for the following water quality characteristics:

- Color;
- Odor;
- Clarity;
- Floating solids;
- Settled solids;
- Suspended solids;
- Foam;
- Oil sheen; and
- Other obvious indicators of stormwater pollution.

Results of the visual stormwater assessment events shall be recorded on the Quarterly Visual Stormwater Assessment Form which is included in Attachment D. Completed forms will be added to Attachment E of the SWPPP. A summary sheet of the visual stormwater monitoring results is maintained in Attachment E.

Adverse Weather 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.

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.

4.2 Effluent Limitations & Monitoring Requirements

As required under the Individual NPDES Permits for the Tradepoint facility (i.e., NPDES Permit MD0001201, 90-DP-006, MD0068462, 97-DP-0064), samples must be collected at the outfalls and analyzed for a number of parameters. The complete NPDES Permit and sampling requirements are included in Appendix C. The sampling parameters and frequency of analysis at each outfall are summarized in Table 4.1 below. Outfall locations are indicated on the Facility Maps presented in Appendix B.

Table 4.1 Monitoring Requirements by Outfall

Outfall	Parameter	Frequency	Notes
001 (external)	Flow	Weekly	
	Total Ammonia	Weekly	
	Total Nitrogen	Quarterly	
	Orthophosphate	Quarterly	
	Total Phosphorus	Quarterly	
	Total Residual Chlorine	Daily	
	Intake Temperature	Continuous	
	Discharge Temperature	Continuous	
	Thermal Discharge	Monthly	
	Total Zinc	Monthly	
	Cyanide	Monthly	
	Total Copper	Monthly	
	Dissolved Copper	Quarterly	
	pH	Daily	
001 (internal)	Flow	Continuous	
	Total Ammonia	Biweekly	
	Oil & Grease	Biweekly	
	Total Suspended Solids	Biweekly	
	Total Lead	Biweekly	
	Total Zinc	Biweekly	
	Total Cyanide	Biweekly	
	Cyanide	Biweekly	
	GC/MS Acid Fraction Organics	Quarterly	
	Phenols (4AAP)	Biweekly	
	pH	Continuous	
	Total Residual Chlorine	Biweekly	
012	Flow	Continuous	
	Dissolved Oxygen	Monthly	
	Total Nitrogen	Quarterly	
	Oil & Grease	Weekly	
	Orthophosphate	Quarterly	
	Total Phosphorus	Quarterly	
	Total Residual Chlorine	Monthly	
	Total Suspended solids	Monthly	
	Temperature	Continuous	
	Total Zinc	Monthly	
	Dissolved Zinc	Monthly	
	pH	Weekdays	

Table 4.1 Monitoring Requirements by Outfall (continued)			
Outfall	Parameter	Frequency	Notes
014	Flow	Continuous	
	Total Residual Chlorine	Biweekly	
	Dissolved Oxygen	Continuous	
	Total Nitrogen	Quarterly	
	Oil & Grease	Biweekly	
	Orthophosphate	Monthly	
	Total Phosphorus	Weekly	
	Total Suspended Solids	Weekdays	
	Total Copper	Weekly	
	Total Chromium	Weekly	
	Hexavalent Chromium	Weekly	
	Total Lead	Weekdays	
	Dissolved Lead	Monthly	
	Total Nickel	Weekly	
	Total Zinc	Weekdays	
	Cyanide	Weekly	
	Total Cyanide	Quarterly	
	1,1,1-trichloroethane	Monthly	
	Naphthalene	Quarterly	
	Phenols (4AAP)	Quarterly	
	Tetrachloroethylene	Monthly	
	Total Cadmium	Monthly	
	pH	Continuous	
MP114	Flow	Biweekly	
	Hexavalent Chromium	Biweekly	
	Total Chromium	Biweekly	
MP214	Flow	Monthly	Discharge from Chrome Recovery. The discharge only occurs periodically when facility is operating.
	Total Cadmium	Monthly	
	Total Zinc	Monthly	
	pH	Continuous	
017	Flow	Monthly	
	Dissolved Oxygen	Monthly	
	Total Nitrogen	Yearly	
	Oil & Grease	Monthly	
	Orthophosphate	Yearly	
	Total Phosphorus	Yearly	
	Total Residual Chlorine	Monthly	
	Total Suspended Solids	Monthly	
	Temperature	Monthly	
	Total Zinc	Monthly	
	Dissolved Zinc	Monthly	
	pH	Monthly	
021	Flow	Continuous	
	Total Nitrogen	Quarterly	
	Oil & Grease	Monthly	
	Orthophosphate	Quarterly	
	Total Phosphorus	Quarterly	
	Benzene	Monthly	
	Naphthalene	Monthly	
	Phenols (4AAP)	Monthly	
	pH	Monthly	

Table 4.1 Monitoring Requirements by Outfall (continued)			
Outfall	Parameter	Frequency	Notes
MP 121	Flow	Per Discharge	No discharge occurs at this outfall.
	Total Ammonia	Per Discharge	
	Oil & Grease	Per Discharge	
	Total Suspended Solids	Per Discharge	
	Total Cyanide	Per Discharge	
	Benzene	Per Discharge	
	Benzo(a)pyrene	Per Discharge	
	Naphthalene	Per Discharge	
	Phenols (4AAP)	Per Discharge	

4.3 Sample Collection & Analysis

Samples and measurements shall be taken at such times to be representative of the quantity and quality of the discharges during the specified monitoring periods. The analytical sampling methods shall conform to the procedures for the analysis of pollutants identified in 40 CFR 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants. All instrumentations shall be properly maintained and calibrated to ensure accuracy of the measurements.

For each sample or measurement taken, the following information shall be recorded:

- place, date, and time of sampling;
- name of the sampler;
- dates and times of lab analysis;
- laboratory/technician performing the analysis; and
- analytical methods and results.

If any pollutant is monitored more frequently than the permit requirement, the additional monitoring results must be used in the calculation and reporting of values on the DMR.

4.4 Submission of Monitoring Results

Monitoring results shall be summarized on a Discharge Monitoring Report Form (EPA No. 3320-1) and submitted to MDE no later than the 28th day of the following month. Reporting periods end on the last day of each month. Duplicate signed copies of the DMR shall be submitted to the following addresses:

- Maryland Department of the Environment
  Water Management Administration
  Inspection and Compliance Program
  1800 Washington Blvd.
  Baltimore, MD 21230
- U.S. Environmental Protection Agency Region III
  Office of Compliance and Enforcement
  NPDES Branch (3WP31)
  1650 Arch Street
  Philadelphia, PA 19103-2029

4.5 Records Retention

All monitoring activity records (discharge monitoring reports, analyses performed, inspections and monitoring activities) shall be retained with the SWPPP for a minimum of three years pending any litigation or a special request by the MDE. Completed reports shall be added to Appendix E

4.6 Noncompliance with Effluent Limitations

If, for any reason, the effluent quality does not comply with any daily maximum or daily minimum effluent limitation specified in the NPDES permit, the permittee shall notify the Inspection and Compliance Program by telephone at (410) 631-3510 within 24 hours of becoming aware of the noncompliance. Within five calendar days, the permittee shall provide the Department with the following information in writing:

- A description of the noncomplying discharge including its impact upon the receiving waters;
- The cause of noncompliance;
- The anticipated time the condition of noncompliance is expected to continue or if such condition has been corrected, the duration of the period of noncompliance;
- Steps taken to reduce and eliminate the noncomplying discharge;
- Steps to be to prevent recurrence of the condition of noncompliance; and
- A description of the accelerated or additional monitoring to determine the nature and impact of the noncomplying discharge.

Section 5: Inspections

Periodic inspections shall be conducted to ensure compliance with regulations and to identify potential problems which could lead to pollution of stormwater at the site. The inspection procedures are described as follows.

5.1 Routine Visual Inspections

A schedule of routine facility inspections is presented in Table 3.1.2 in the SWPPP. Inspectors shall examine all stormwater outfalls, all areas where stormwater could potentially come in contact with pollutants related to industrial activities, process or material handling equipment, and stormwater management features. Material storage areas such as piles, bins, hoppers, tanks, or drums shall be examined for signs of material losses due to wind or stormwater runoff. These inspections shall be performed when the facility is in operation. The inspections shall be performed by qualified personnel, with at least one member of the Stormwater Pollution Prevention Team participating. At least once per calendar year, these inspections shall be conducted during a period when a stormwater discharge is occurring.

Prior to conducting routine visual inspection, the inspector shall review the inspection report from the previous event. Any deficiency or recommendations resulting from prior inspections shall be followed up on to verify that appropriate actions were taken. The results of the follow-up inspection of these areas shall be noted in the inspection report. All observations made during the inspection shall be recorded on the Routine Facility Inspection Form included in Appendix D. Completed Inspection Reports will be added to Appendix E of the SWPPP. Inspection records shall be maintained for a minimum of three years.

5.2 Comprehensive Annual Site Evaluation

Comprehensive Annual Site Inspections shall be performed when the facility is in operation. The inspections shall be performed by qualified personnel, with at least one member of the Stormwater Pollution Prevention Team participating. Inspectors shall examine all stormwater outfalls, all areas where stormwater could potentially come in contact with pollutants related to industrial activities, any areas where spills or leaks have occurred in the past three years, and stormwater management features. Inspectors shall consider the results of past monitoring data when planning and conducting the inspection.

Inspectors shall examine the following:

- 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, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;
- Control measures needing replacement, maintenance, or repair;
- Evidence of, or the potential for, pollutants entering the drainage system;
- Evidence of pollutants discharging to surface waters at all facility outfalls;
- The condition of and around any outfall, including flow dissipation measures to prevent scouring;
- That the drainage patterns and facility operations in the SWPPP represent the current site conditions;

- Training performed, inspections completed, maintenance performed, and effective operation of BMPs; and
- Visual and analytical monitoring results from the past year.

The Comprehensive Annual Site Inspection may be used as one of the routine inspections. A report must be written summarizing the scope of the evaluation, name(s) of personnel performing the evaluation, the date of the evaluation, all observations relating to the implementation of the SWPPP, and any recommended improvements (e.g., upgrades to existing equipment, changes in materials or processes, or implementation of new BMPs). A copy of the Comprehensive Annual Site Compliance Evaluation report shall be submitted to MDE within four (4) weeks of the inspection. The report shall include a timeframe for implementing corrections to any deficiencies relating to the implementation of the SWPPP. A copy of the completed report will also be added to Appendix E of the SWPPP. Records shall be maintained for a minimum of three (3) years.

Section 6: SWPPP Certification

Facility Manager 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: _____ Title: _____

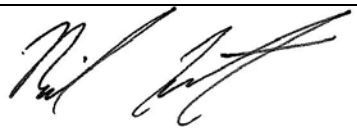
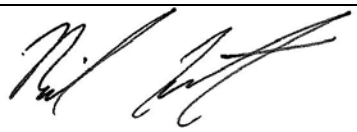
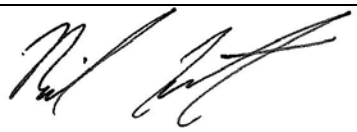
Signature: _____ Date: _____

Name: _____ Title: _____

Signature: _____ Date: _____

Section 7: SWPPP Modifications

The SWPPP shall be updated whenever there is a change in facility operations that has a significant effect on the potential for the discharge of pollutants to the waters of the State, or whenever an inspection, comprehensive site evaluation, monitoring data, or other information indicates that the SWPPP is ineffective. Changes to the SWPPP shall be recorded in the log below. Any amendments to the plan shall be submitted to MDE for review.

SWPPP Modification Log			
Description of Modification	Name of Person Modifying	Date/ Revision #	Signature
Update Figure B-1 and B-2. Update salt storage information. Update SWPPP personnel/tenant contact information. Update demolition map. Update backfill specification information.	Nick Kurtz	11/25/2014/ Revision #1	
Update Figure B-1 and B-2. Remove Figure B-3 due to demolition. Update demolition map. Add Materials Management Plan. Remove Fritz from maps and SWPPP, no longer a tenant. Update active AST tank list.	Nick Kurtz	10/23/2015/ Revision #2	
Update SWPPP to 12-SW standards including Quarterly Visual Monitoring. Update hazardous and non-hazardous materials handling. Update Figure B-1 and B-2. Update salt storage information. Update SWPPP personnel/tenant contact information. Update demolition map. Update active tank list.	Nick Kurtz	8/19/2016/ Revision #3	

SWPPP Attachments

Attach the following documentation to the SWPPP:

Appendix A – Site Location Map

Appendix B – Facility Maps

Appendix C – NPDES Permit Number MD0001201 & MD0068462

Appendix D – Standard Forms

Appendix E – Completed Forms, Inspection Logs, and Monitoring Reports

Appendix F – Spill/Discharge Reporting Forms

Appendix G – MDE Oil Operations Permit Number 2010-OPT-2078B

Appendix H – Grey's Landfill Facility Operation Manual

Appendix I – Spill Prevention, Control, and Countermeasure Plan

Appendix J – MCM Dust Control Plan

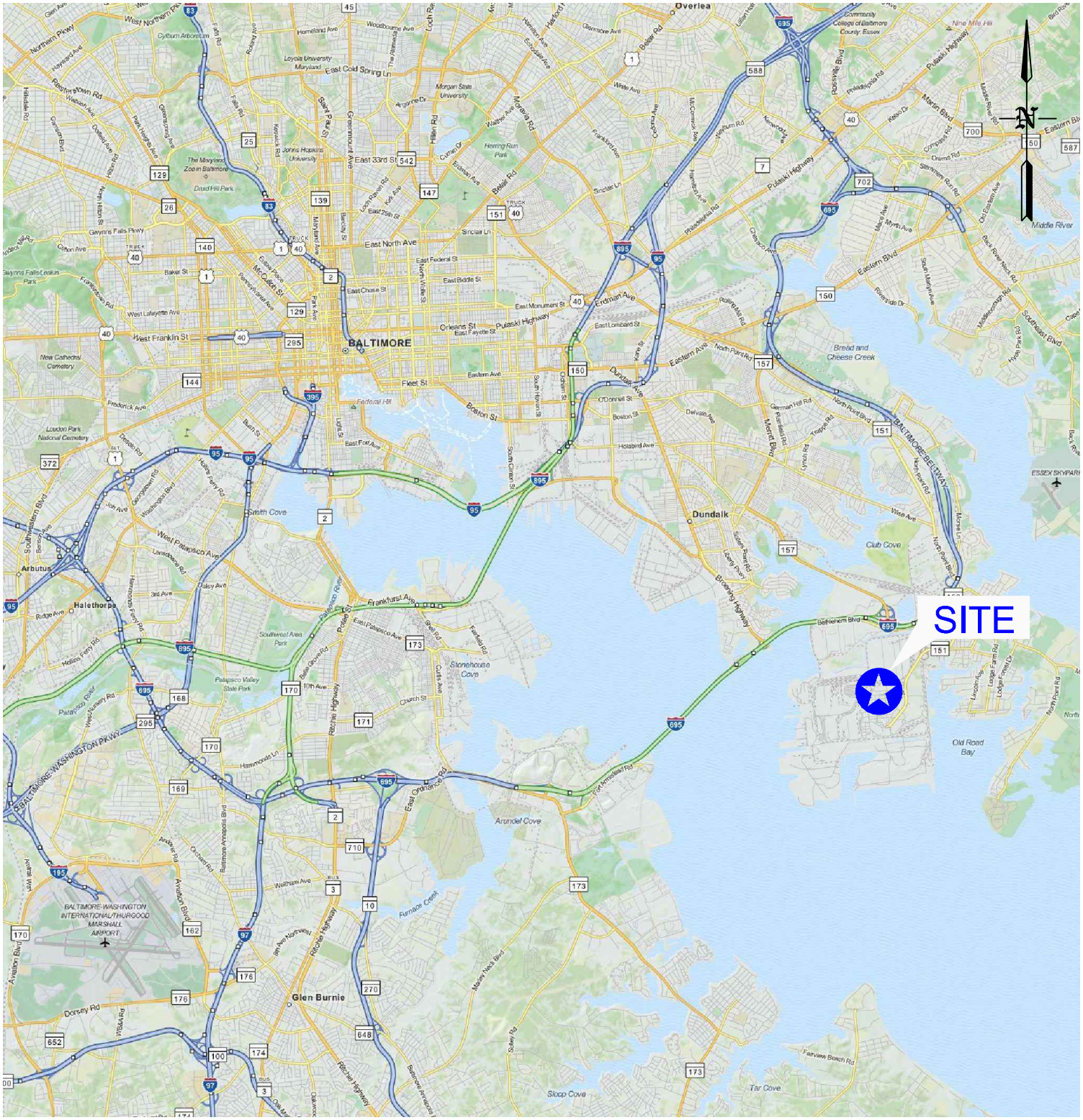
Appendix K – Demolition Erosion & Sediment Control Figures

Appendix L – General Backfill Specifications

Appendix M – Materials Management Plan

APPENDIX A

Site Location Map



10,000 20,000 30,000

SCALE IN FEET

SITE LOCATION MAP

STORMWATER POLLUTION PREVENTION PLAN
TRADEPOINT ATLANTIC

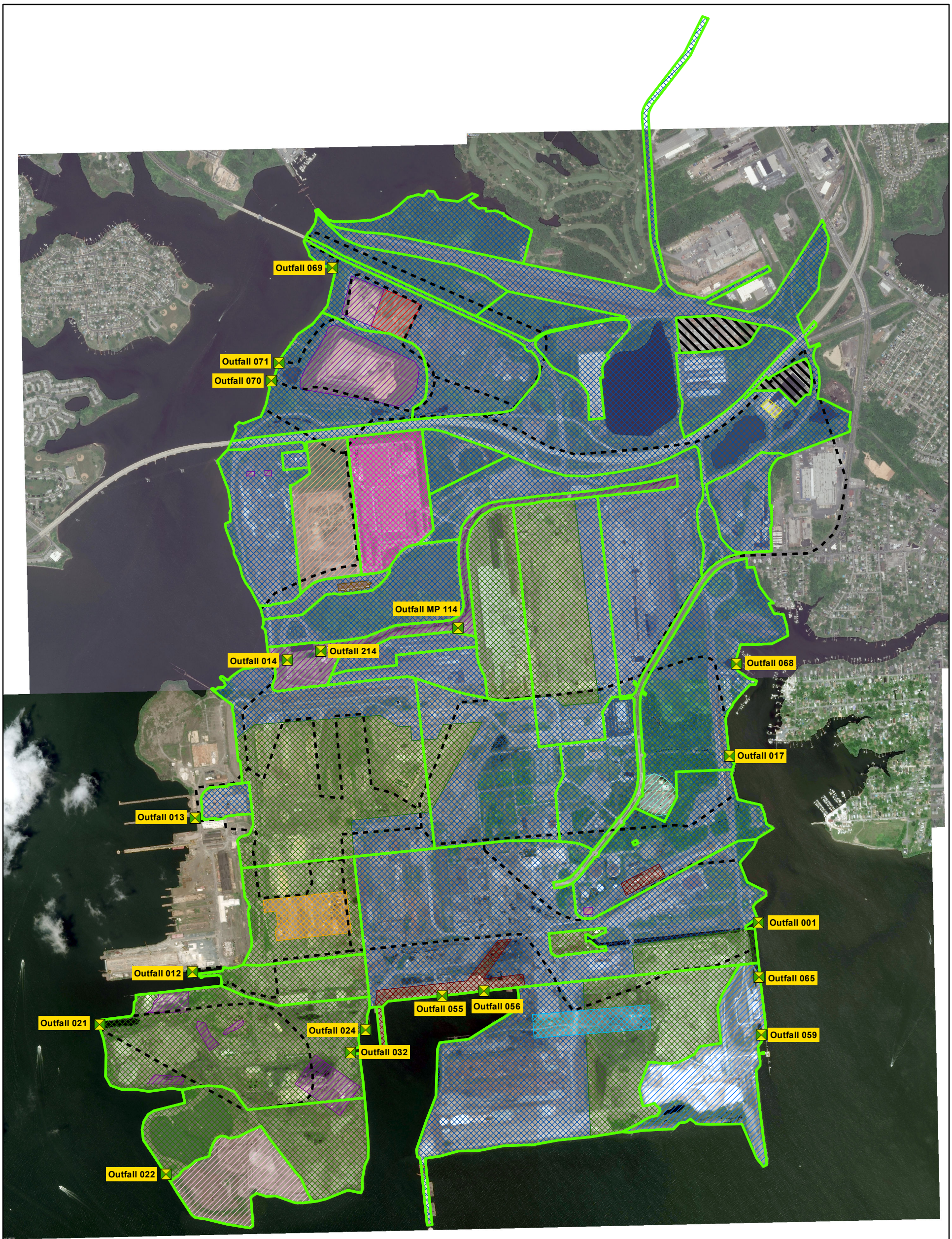
July 2016	Scale: 1" = 10,000'	160357M

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

Figure
A

APPENDIX B

Facility Maps



Legend

OUTFALL LOCATIONS	MCM	PACORINI METALS
PROPERTY/PARCEL BOUNDARY	FEDEX	BALTIMORE COUNTY FIRE & DPW
PRIVATE PROPERTY	PASHA	STEINWEG
DRAINAGE AREA BOUNDARIES	COKE POINT LANDFILL	CAPROCK
TRADEPOINT ATLANTIC	T. PARKER HOST	SIMS METAL MANAGEMENT
EAG	ARCO	LAFARGE

ARM Group Inc.
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0 400 800 1,600 2,400 Feet

TENANT OPERATION MAP

STORMWATER POLLUTION PREVENTION PLAN
TRADEPOINT ATLANTIC

160357M

August 2016

Figure
B-1

Legend

- PROPERTY BOUNDARY
- PRIVATE PROPERTY
- OUTFALL LOCATIONS
- DRAINAGE AREA BOUNDARIES
- SUPER SILT FENCE
- GRAVEL FILTER BEAM
- VEGETATIVE BUFFER
- BULK MATERIAL/SLAG STORAGE

ARM Group Inc.
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0 370 740 1,480 2,220 Feet

FACILITY MAP

STORMWATER POLLUTION PREVENTION PLAN
TRADEPOINT ATLANTIC

July 2016

Figure
B-2

160357M

APPENDIX C

NPDES Permit Number
MD001201 & MD0068462

MARYLAND DEPARTMENT OF THE ENVIRONMENT

2500 Broening Highway • Baltimore, Maryland 21224
(410) 631-3000 • 1-800-633-6101 • http:// www. mde. state. md. us

Parris N. Glendening
Governor

Jane T. Nishida
Secretary

STATE DISCHARGE PERMIT NUMBERS	90-DP-0064	97-DP-0064 (Outfall 114 Only)
NPDES PERMIT NUMBERS	MD0001201	MD0068462 (Outfall 114 Only)
EFFECTIVE DATE	March 1, 2001	
EXPIRATION DATE	February 28, 2006	

Pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and regulations promulgated thereunder, and the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq. and implementing regulations 40 CFR Parts 122, 123, 124, and 125, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes

Bethlehem Steel Corporation
Bethlehem, Pennsylvania 18016

TO DISCHARGE FROM

an integrated steel plant including subsidiary railroad

LOCATED AT

Sparrows Point, Baltimore County, Maryland 21219

VIA OUTFALLS

001, 012, 014, 016, 017, 021, 032 and stormwater-only outfalls 013, 015, 018, 019, 033, 034, 054, 055, 056, 059, 065, 068, 069, 070 and 071 as identified and described herein

TO

Patapsco River, Bear Creek, Old Road Bay, and Jones Creek which are protected for water contact recreation, fishing, aquatic life, and wildlife in accordance with the following special and general conditions and map(s) made a part hereof.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge noncontact cooling water, demineralization plant effluent, gas main condensate and loop seal water, boiler blowdown, effluent from Monitoring Point 101 (process wastewater from sinter plant and blast furnaces), and storm water runoff via Outfall 001.

As specified below, such discharge shall be limited and monitored by the permittee at the outfall monitoring building.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					1/Week	Estimated	(1)
Ammonia, Total (as N)	Report	Report	lbs/day		Report	Report	mg/l	1/Week	Composite	(1)
Nitrogen, Total (as N)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (2) (3)
Orthophosphate (as P)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (3)
Phosphorus, Total		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (3)
Residual Chlorine, Total						0.2	mg/l	1/Day	Grab	(1) (4) (9)
Temperature, Intake						Report	°F	Continuous	Recorded	(1)
Temperature, Discharge						Report	°F	Continuous	Recorded	(1)
Thermal Discharge		Report	MBtu /day					1/Month	Calculated	(1) (5)

Continued on next page

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Zinc, Total EPA Method 200.8	Report	Report	lbs/day		.086	.095	mg/l	1/Month	Composite	(1) (6) (7)
Cyanide	Report	Report	lbs/day		.001	.001	mg/l	1/Month	Grab	(1) (6) (10)
Copper, Total EPA Method 200.8	Report	Report	lbs/day		.014	.014	mg/l	1/Month	Composite	(1) (8) (7)
Copper, Dissolved EPA Method 200.8	Report	Report	lbs/day		.0107	.0107	mg/l	1/Quarter	Composite	(1) (8) (7)
pH				6.5		8.5		1/day	Grab	(1) (9)

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour of point of discharge.

(1) Monitoring required for limited parameters and for parameters where "Report" is specified. (Intake temperature and thermal discharge monitoring not required until 6 months after the effective date of the permit.)

(2) Total Nitrogen is defined as the sum of total ammonia nitrogen, organic nitrogen, nitrite, and nitrate. The permittee shall also report the individual concentrations and mass loadings of each of these constituents on the discharge monitoring reports.

(3) For each of these parameters, the permittee shall sample the intake river water at the same frequency as for the effluent and summarize and report on the monthly discharge monitoring reports the concentrations in the intake water from Old Road Bay, the gross effluent concentrations and loadings measured at Outfall 001, and the net effluent loadings. Intake monitoring may be performed at a location immediately upstream of the barrier net. Intake monitoring shall not be performed at any location within the intake canal.

(continued next page)

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(4) After six months of monitoring, the Department may reduce the monitoring frequency upon request by the permittee. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the permittee demonstrates to the Department that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. Monitoring shall be performed during periods of chlorination but at least 60 minutes after the beginning of chlorination and shall be performed using the amperometric titration method. Monitoring is not required on days when chlorination does not take place.

(5) To be calculated as follows: MBtu/day = Million Btu/day = the sum of the hourly heat calculations. The hourly heat calculations shall be based on the instantaneous temperature and flow readings according to the following equation: hourly heat rejected = 0.348 X (temperature difference) X (flow in mgd). Temperature difference is defined as the instantaneous temperature difference between the intake and the outfall at the beginning of each hour. Flow shall be the instantaneous flow at the beginning of each hour. (Flow estimates may be determined using hourly readings of noncontact cooling water from Pennwood Power Station derived from pump operations and pump curves, metered flows from MP 101, and estimates of other miscellaneous flow to Outfall 001, in accordance with the definition of "estimated" in Special Condition B.14 of the permit.)

(6) Limitations are effective 36 months after the effective date of the permit. The limitations are based on existing state water quality standards using a wasteload allocation method that assumes no assimilative capacity in the receiving stream and also assumes that 100% of the analyte is biologically available in a toxic form. Revision of these limits through a permit major modification will not violate anti-backsliding rules if based on changes in the water quality standard or a change in the assumptions used as the technical basis of the wasteload allocation. During the interim compliance period, the permittee shall submit progress reports every six months to report on the status of meeting the final limits.

(7) As an alternative to a 24-hour composite sample, the permittee may submit a methodology to the Department for approval to report the results from a combination of individual grab samples representative of a 24-hour period. If grab samples are collected in lieu of composites, the permittee shall consider use of appropriate methodologies in EPA Method 1669. Upon notification to the Department, the permittee may use other NPDES approved test methods if equivalent detection levels can be demonstrated or when lower detection levels are required to evaluate compliance with water quality standards. Matrix-specific minimum levels may be requested by the permittee, but authorization for the use of a minimum level for reporting purposes shall be implemented only through a permit major modification.

(8) Dissolved copper results shall be reported from the same effluent sample used for the total copper reporting requirement. Permit limit excursions for total copper and dissolved copper from the same sample shall be reported as only one permit exceedance.

(9) Frequency of 5 days per 7-day week. One week per month shall include monitoring on Saturday and one week per month on Sunday.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(10) The permittee shall report the result from a combination of individual grab samples representative of a 24-hour period consistent with the EPA test methodology requirements and holding times. Cyanide shall be measured as available cyanide (or alternatively cyanide amenable to chlorination) using EPA Method OIA-1677. The minimum level (ML) for cyanide is 2.0 µg/l. Analytical results for cyanide below the minimum level shall be reported as zero. Other NPDES approved test methods may be used if equivalent minimum levels can be demonstrated. A matrix-specific minimum level (ML) may be requested by the permittee but authorization for the use of an alternative minimum level for reporting purposes shall be implemented only through a permit major modification.

T. SPECIAL CONDITIONS

A.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge process wastewater from blast furnace and sinter plant operations via Monitoring Point 101, an internal monitoring point to Outfall 001.

As specified below, such discharge shall be limited and monitored by the permittee at Monitoring Point 101, the exit from the Blast Furnace Sinter Plant HDS Treatment Facility near the weir.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					Continuous	Measured/ Recorded	(1)
Ammonia,Total (N)	926	1062	lbs/day		Report	Report	mg/l	2/Week	Composite	(1) (2)
Oil & Grease	104	311	lbs/day		Report	Report	mg/l	2/Week	Grab	(1) (3)
Suspended Solids, Total	1027	3087	lbs/day		Report	Report	mg/l	2/Week	Composite	(1)
Lead, Total	4.8	14.5	lbs/day		Report	Report	mg/l	2/Week	Composite	(1)
Zinc, Total	7.2	21.7	lbs/day		Report	Report	mg/l	2/Week	Composite	(1)
Cyanide, Total	48.2	96.4	lbs/day		Report	Report	mg/l	2/Week	Grab	(1) (6)
Cyanide	1.46	1.46	lbs/day		Report	Report	mg/l	2/Week	Grab	(1) (5) (6)
GC/MS Acid Fraction Organics					Report	Report	mg/l	1/Quarter	Composite	(1) (4)
Phenols (4AAP)	1.6	3.2	lbs/day		Report	Report	mg/l	2/Week	Composite	(1)
pH				6.0		9.0		Continuous	Recorded	(1) (7)

Continued on next page

T. SPECIAL CONDITIONS

A.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Total Residual Chlorine	Report	8.0	lbs/day		Report	Report	mg/l	2/Week	Grab	(1) (6) (8)

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) The limitations are the result of a 301(g) variance for this parameter. Beginning three years after the effective date of Modification A, and every three years thereafter, the permittee shall provide the Department and EPA Region III with an updated basis for continuation, revision, or withdrawal of the variance. The submission shall be in the form of a permit application, which will require the Department to provide public notice of its tentative determination to either continue the variance, revise the variance, or deny the variance, and to propose any corresponding changes to the permit limits for ammonia.

(3) The reported value shall be the arithmetic mean of three grab samples taken at least two hours apart and analyzed individually using EPA Method 1664.

(4) After two years of monitoring results, the Department may reduce or eliminate this monitoring requirement upon request by the permittee.

(5) Limits become effective no later than 2 years after the effective date of the permit. During the interim compliance period, the permittee shall submit progress reports every six months to report on the status of meeting the final limits. Cyanide shall be measured as available cyanide or cyanide amenable to chlorination.

(6) The permittee shall report the result from a combination of individual grab samples representative of a 24-hour period consistent with EPA test methodology requirements and holding times.

(7) Requirements effective within 90 days of the effective date of the permit. Continuous monitoring is required at Outfall 001 in the interim period. Excursions to this range are allowed as follows: 1) the total of all excursions in any calendar month shall not exceed 7 hours and 26 minutes; and 2) no excursion shall last for more than 60 minutes.

(8) Monitoring requirement and limitation for chlorine is applicable only when the permittee chlorinates ironmaking wastewater.

I. SPECIAL CONDITIONS

A.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge noncontact cooling water and storm water runoff via Outfall 012.

As specified below, such discharge shall be limited and monitored by the permittee at or immediately prior to the flow measurement weir.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					Continuous	Measured/ Recorded	(1)
Dissolved Oxygen				Report			mg/l	1/Month	Grab	(1)
Nitrogen, Total (as N)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (2)
Oil & Grease	Report	Report	lbs/day		Report	15	mg/l	1/Week	Grab	(1) (8)
Orthophosphate (as P)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1)
Phosphorus, Total		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1)
Residual Chlorine, Total						<0.1	mg/l	1/Month	Grab	(1)
Suspended Solids, Total	Report	Report	lbs/day		30	60	mg/l	1/Month	Composite	(1)
Temperature					Report	Report	°F	Continuous	Recorded	(1)

Continued on next page

I. SPECIAL CONDITIONS

A.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Zinc, Total	Report	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1)(4)(5)
Zinc, Dissolved	Report -	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1)(4)(5)
pH				6.0		9.0		5 days /Week	Grab	(1)(6)

Excursions to this range are allowed as follows: 1) the total duration of all excursions in any calendar month shall not exceed 7 hours and 26 minutes; and 2) no excursion shall last for more than 60 minutes.

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour of point of discharge.

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(Continued on next page)

SPECIAL CONDITIONS

A.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(2) Total Nitrogen is defined as the sum of total ammonia nitrogen, organic nitrogen, nitrite, and nitrate. The permittee shall also report the individual concentrations and mass loadings of each of these constituents on the discharge monitoring reports

(3) (reserved)

(4) Measured using EPA Method 200.8 (ICP-MS). Upon notification to the Department, the permittee may use other NPDES approved test methods if equivalent detection levels can be demonstrated or when lower detection levels are required to evaluate compliance with water quality standards.

(5) As an alternative to a 24-hour composite sample, the permittee may submit a methodology to the Department for approval to report the results from a combination of individual grab samples representative of a 24-hour period. If grab samples are collected in lieu of composites, the permittee shall consider use of appropriate methodologies in EPA Method 1669.

(6) After twelve consecutive months of compliance with these limits, the Department may reduce the monitoring frequency upon request by the permittee.

(7) (reserved)

(8) EPA Method 1664. Daily monitoring during periods when an oil spill is occurring or has occurred and could be present in drainage leading to Outfall 012.

I. SPECIAL CONDITIONS

A.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge effluent from Humphreys Creek Wastewater Treatment Plant (HCWWTP), a central treatment plant treating process water from steel making, continuous casting, hot forming, acid pickling, cold forming, alkaline cleaning, hot coating, and electroplating operations, effluent from Monitoring Point 114, effluent from Monitoring Point 214, and storm water runoff via Outfall 014.

As specified below, such discharge shall be limited and monitored by the permittee at the effluent sump.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					Continuous	Measured/ Recorded	(1)
Chlorine, Total Residual						<0.1	mg/l	2/Week	Grab	(1) (7)
Dissolved Oxygen				5.0			mg/l	Continuous	Recorded	(1)
Nitrogen, Total (as N)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (2) (8)
Oil & Grease EPA Method 1664	1711	4060	lbs/day		Report	Report	mg/l	2/Week	Grab	(1) (3) (14)
Orthophosphate as P	Report	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1) (8)
Phosphorus, Total	Report	Report	lbs/day		Report	Report	mg/l	1/Week	Composite	(1) (8)
Suspended Solids, Total	5741	15052	lbs/day		Report	Report	mg/l	5 Days /Week	Composite	(1) (10) (13) (14)

Continued on next page

I. SPECIAL CONDITIONS

A.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
1,1,1-trichloroethane		1.8	lbs/day			Report	mg/l	1/Month	Grab	(1) (5) (3)
Naphthalene		1.2	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (3)
Phenols (4AAP)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (16)
Tetrachloro-ethylene		1.8	lbs/day			Report	mg/l	1/Month	Grab	(1) (5) (3)
Cadmium, Total	Report	Report	lbs/day		.0093	.043	mg/l	1/Month	Composite	(1) (4) (7) (11)
pH				6.0		9.0		Continuous	Recorded	(1) (6)

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) Total Nitrogen is defined as the sum of total ammonia nitrogen, organic nitrogen, nitrite, and nitrate. The permittee shall also report the individual concentrations and mass loadings of each of these constituents on the discharge monitoring reports.

(3) The reported value shall be the arithmetic mean of three grab samples taken at least two hours apart and analyzed individually.

(4) Total copper, lead, nickel, and cadmium shall be measured using EPA Method 200.8 (ICP-MS). Cyanide shall be measured as available cyanide (or alternatively cyanide amenable to chlorination) using EPA Method OIA-1677, (2.0 ug/l minimum level). Beginning on the effective date of Modification B and lasting for a period of 12 months, the matrix-specific interim minimum level for cyanide is 12.0 µg/l. Analytical results for cyanide below either the minimum level or the interim minimum level shall be reported as zero. Hexavalent chromium shall be measured using Method SM3500 Cr-D. Upon notification to the Department, the permittee may use other NPDES approved test methods if equivalent detection levels can be demonstrated or when lower detection levels are required to evaluate compliance with water quality standards. Matrix-specific minimum levels may be requested by the permittee, but authorization for the use of a minimum level for reporting purposes shall be implemented only through a permit major modification.

SPECIAL CONDITIONS

A.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Copper, Total	Report	Report			.0061	.0061	mg/l	1/Week	Composite	(4) (11) (15)
Chromium, Total	Report	Report	lbs/day		Report	Report	mg/l	1/Week	Composite	(1) (7)
Chromium, Hexavalent	Report	Report	lbs/day		.050	1.1	mg/l	1/Week	Composite	(1) (4) (7) (11)
Lead, Total	12.8	36.4	lbs/day		Report	Report	mg/l	5 Days /Week	Composite	(1) (4) (7) (13)
Lead, Dissolved	Report	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1)
Nickel, Total	Report	Report	lbs/day		.020	.075	mg/l	1/Week	Composite	(1) (4) (7) (11)
Zinc, Total	28.0	73.3	lbs/day		.086	.095	mg/l	5 Days /Week	Composite	(1) (4) (7) (11) (13)
Cyanide	Report	Report			.001	.001	mg/l	1/Week	Grab	(1) (4) (7) (9) (11) (12)
Cyanide, Total		Report	lbs/day			Report	mg/l	1/Quarter	Grab	(1) (12)

Continued on next page

ECG

IEA →

Nickel - new lower number

Cyanide - MSA Conversion

Production (New) Gold Mill

I. SPECIAL CONDITIONS

A.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(5) After three months of monitoring results, the frequency shall be reduced to once per quarter. After one year of monitoring, the Department may reduce the measurement frequency upon request by the permittee.

(6) The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored and recorded continuously. Excursions to this range are allowed as follows: 1) the total duration of all excursions in any calendar month shall not exceed 7 hours and 26 minutes; and 2) no excursion shall last for more than 60 minutes.

(7) After one year of monitoring results, the Department may reduce the measurement frequency upon request by the permittee.

(8) For each of these parameters, the permittee shall report on the monthly discharge monitoring reports the gross effluent concentrations and loadings measured at Outfall 014 and the estimated net effluent loadings which take into account the concentrations present from the intake water from Back River WWTP.

(9) Limitations for cyanide become effective within 3 years after the effective date of the permit, or 12 months after the implementation of cyanide control requirements to be addressed in the renewal of the Back River POTW NPDES discharge permit, whichever occurs first.

(10) A credit for off-site stormwater of 2200 lbs/day may be applied to the daily maximum upon demonstration that a daily limit exceedance was associated with a discharge of stormwater, and an equivalent credit of 74 lbs/day may be applied to the monthly average for that reporting period. If the storm event is greater than a 1-year, 24-hour storm event, the daily maximum credit shall be 6600 lbs/day and the monthly average credit for that reporting period shall be a total of 220 lbs/day.

(11) Copper, nickel, zinc, cadmium, hexavalent chromium, and cyanide concentration limits are effective 36 months after the effective date of the permit. The limitations are based on existing state water quality standards using a wasteload allocation method that assumes no assimilative capacity in the receiving stream (except for the average nickel limitation) and also assumes 100% of the analyte is biologically available in a toxic form. Revision of these limits through a permit major modification will not violate anti-backsliding rules if based on changes in the water quality standard or a change in the assumptions used as the technical basis of the wasteload allocation. Interim concentration limitations apply effective immediately for total copper, 0.025 average and daily maximum; total nickel, 0.041 monthly average and 0.082 daily maximum; and for total zinc, 0.22 average and daily maximum. During the interim compliance period, the permittee shall submit progress reports every six months to report on the status of meeting the final limits.

(12) The permittee shall report the result from a combination of individual grab samples representative of a 24-hour period consistent with EPA test methodology requirements and holding times.

(13) Frequency of 5 days per 7-day week. One week per month shall include monitoring on Saturday and one week per month on Sunday.

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. SPECIAL CONDITIONS

A.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(14) The permit shall be reopened to revise the technology-based limitations for oil and grease and for suspended solids upon a determination that new source performance standards apply to the continuous castor.

(15) This permit also establishes an annual loading goal for copper of less than 1233 lbs which was established based on data from the three previous years of Toxics Release Inventory (TRI) reporting. Failure to achieve the goal will not be a permit violation, but the permittee may then be required to initiate further pollution prevention efforts (see also Special Condition W).

(16) After four quarters of monitoring, the Department may reduce or eliminate this monitoring requirement upon request by the permittee.

I. SPECIAL CONDITIONS

A.5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee shall discharge process wastewater from electroplating operations to the Humphreys Creek Wastewater Treatment Facility via Outfall 114, an internal outfall leading to Outfall 014.

As specified below, such discharge shall be limited and monitored by the permittee at Monitoring Point 114, the monitoring port of the treated effluent from the Chromium HDS Treatment Facility.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					2/Week	Measured	(1)
Chromium, Hexavalent (Method SM3500 Cr-D)	Report	Report	lbs/day		Report	Report	mg/l	2/Week	Composite	(1)(2) (3)
Chromium, Total	Report	Report	lbs/day		1.71	2.77	mg/l	2/Week	Composite	(1)(3)

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) Upon notification to the Department, the permittee may use other NPDES approved test methods if equivalent detection levels can be demonstrated.

(3) After six months of monitoring results, the Department may reduce the measurement frequency upon request by the permittee.

I. SPECIAL CONDITIONS

A.6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee shall discharge process wastewater from the cadmium recovery groundwater treatment system to the Humphreys Creek Wastewater Treatment Facility via Monitoring Point 214, an internal monitoring point leading to Outfall 014.

As specified below, such discharge shall be limited and monitored by the permittee at Monitoring Point 214, the monitoring port of the treated effluent from the cadmium recovery system treatment facility.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	Gallons per day					1/Month	Measured	(1)(2)
Cadmium, Total	Report	Report			.26	.69	mg/l	1/Month	Composite	(1) (3)
Zinc, Total	Report	Report			1.48	2.61	mg/l	1/Month	Composite	(1)(3)
pH				10.5				Continuous	Recorded	(1)(4)

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) Effluent authorization based on monthly average design flow of 15 gpm (21,600 gallons per day). The permittee shall notify the Department's Industrial Discharge Permits Division if an increase in the design flow is necessary to support remedial measures being implemented as the result of other Department requirements.

(3) After six months of monitoring results, the Department may reduce the measurement frequency upon request by the permittee.

(4) This limitation and monitoring is in lieu of cadmium and zinc monitoring requirements depending on the outcome of the final treatment system design, and approval by the Department is required prior to implementation.

I. SPECIAL CONDITIONS

A.7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge noncontact cooling water from various hot or cold forming operations, contact water from Baltimore County fire station and police station, treated contact water from plant garages, and storm water runoff via Outfall 017.

As specified below, such discharge shall be limited and monitored by the permittee at the weir.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/Day					1/Month	Estimated	(1)
Dissolved Oxygen				Report			mg/l	1/Month	Grab	(1)
Nitrogen, Total (as N)		Report	lbs/day			Report	mg/l	1/Year	Composite	(1) (2)
Oil & Grease	Report	Report	lbs/day			15	mg/l	1/Month	Grab	(1) (6)
Orthophosphate (as P)		Report	lbs/day			Report	mg/l	1/Year	Composite	(1)
Phosphorus, Total		Report	lbs/day			Report	mg/l	1/Year	Composite	(1)
Residual Chlorine, Total						<0.1	mg/l	1/Month	Grab	(1)
Suspended Solids, Total	Report	Report	lbs/day		30	60	mg/l	1/Month	Grab	(1)

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I. SPECIAL CONDITIONS

A.7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Temperature						Report	°F	1/Month	i-s	(1)
Zinc, Total	Report	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1)(3) (5)
Zinc, Dissolved	Report	Report	lbs/day		Report	Report	mg/l	1/Month	Composite	(1)(5)
pH				6.0		9.0		1/Month	Grab	

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) Total Nitrogen is defined as the sum of total ammonia nitrogen, organic nitrogen, nitrite, and nitrate. The permittee shall also report the individual concentrations and mass loadings of each of these constituents on the monthly discharge monitoring reports.

(3) Measured using EPA Method 200.8 (ICP-MS). Upon notification to the Department, the permittee may use other NPDES approved test methods if equivalent detection levels can be demonstrated or when lower detection levels are required to evaluate compliance with water quality standards.

(4) (reserved)

(5) As an alternative to a 24-hour composite sample, the permittee may submit a methodology to the Department for approval to report the results from a combination of individual grab samples representative of a 24-hour period. If grab samples are collected in lieu of composites, the permittee shall consider use of appropriate methodologies in EPA Method 1669. After six months of monitoring results, the Department may reduce the measurement frequency upon request by the permittee.

(6) EPA Method 1664. Daily during periods when an oil spill is occurring or has occurred and could be present in drainage leading to Outfall 017.

I. SPECIAL CONDITIONS

A.8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge noncontact cooling water, effluent from Monitoring Point 121, and storm water runoff via Outfall 021.

As specified below, such discharge shall be limited and monitored by the permittee at the exit from the retention basin.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	MG/day	7,000			gpm	Continuous	Recorded	(1) (6)
Nitrogen, Total (as N)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1) (2)
Oil & Grease EPA Method 1664	Report	Report	lbs/day		5	10	mg/l	1/Month	Grab	(1) (3) (4)
Orthophosphate (as P)		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1)
Phosphorus, Total		Report	lbs/day			Report	mg/l	1/Quarter	Composite	(1)
Benzene		Report	lbs/day			.050	mg/l	1/Month	~~Composite~~ 3-GRAB	(1) (3) (4) (5)
Naphthalene		Report	lbs/day			.050	mg/l	1/Month	~~Composite~~ 3-GRAB	(1) (3) (4)
Phenols (4AAP)		Report	lbs/day			Report	mg/l	1/Month	Composite	(1)
pH				6.0		9.0		1/Month	Grab	(1)

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SPECIAL CONDITIONS

A.8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) Total Nitrogen is defined as the sum of total ammonia nitrogen, organic nitrogen, nitrite, and nitrate. The permittee shall also report the individual concentrations and mass loadings of each of these constituents on the discharge monitoring reports.

(3) Daily during periods when an oil spill is occurring or has occurred and could be present in drainage leading to Outfall 021.

(4) The reported value shall be the arithmetic mean of three grab samples taken at least two hours apart and analyzed individually.

(5) EPA Method 602: the permittee shall also report on the monthly discharge monitoring reports the concentrations and mass loadings of any parameters which can be detected using EPA Method 602.

(6) Limitation applies only when the bio-oxidation plant (Monitoring Point 121) is discharging.

I. SPECIAL CONDITIONS

A.9. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee shall discharge wastewater generated from the dismantling of coke oven batteries and the associated coal chemical plants via Monitoring Point 121, an internal monitoring point leading to Outfall 021.

As specified below, such discharge shall be limited and monitored by the permittee at Monitoring Point 121, the exit from the coke oven wastewater treatment plant.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	mgd			300	gpm	1/Discharge	Measured/ Recorded	(1)
Ammonia, Total (as N)			lbs/day		Report	130	mg/l	1/Discharge	Composite	(1)
Oil & Grease			lbs/day		Report	50	mg/l	1/Discharge	Composite	(1)(2)
Suspended Solids, Total			lbs/day		Report	190	mg/l	1/Discharge	Composite	(1)
Cyanide, Total			lbs/day		Report	5.0	mg/l	1/Discharge	Grab	(1)
Benzene		0.69	lbs/day			Report	mg/l	1/Discharge	Grab	(1)
Benzo(a)pyrene		0.69	lbs/day			Report	mg/l	1/Discharge	Composite	(1)
Naphthalene		0.69	lbs/day			Report	mg/l	1/Discharge	Composite	(1)
Phenols (4AAP)			lbs/day		Report	0.2	mg/l	1/Discharge	Composite	(1)

(1) Monitoring required for limited parameters and for parameters where "Report" is specified.

(2) The reported value shall be the arithmetic mean of three grab samples taken at least two hours apart and analyzed individually using EPA Method 1664.

I. SPECIAL CONDITIONS

B. DEFINITIONS

1. The "monthly, quarterly, semi-annual, or annual average" effluent concentration means the value calculated by computing the arithmetic mean of all the daily determinations of concentration made during any calendar-month, 3-month, 6-month, or 12-month period respectively.

2. The "daily maximum" effluent concentration means the highest reading of any daily determination of concentration.

3. "Daily determination of concentration" means one analysis performed on any given sample representing flow during a calendar day, with one number in mg/l or other appropriate units as an outcome.

4. The "monthly, quarterly, semi-annual, or annual average" effluent limitation by mass loading means the highest allowable value calculated by computing the arithmetic mean of all the daily determinations of discharge of a constituent by mass loading made during any calendar month, 3-month, 6-month, or 12-month period, respectively.

5. The "daily maximum" effluent limitation by mass loading means the highest allowable daily determination of discharge of a constituent by mass loading during a 24-hour period.

6. "Daily determination of discharge of constituents by mass loading" means a value which is calculated by multiplying the daily determination of concentration times flow in millions of gallons per day times 8.34. This results in a mass loading expressed in pounds per day.

7. "Grab sample" means an individual sample collected in less than 15 minutes. Grab samples collected for pH and total residual chlorine shall be analyzed within 15 minutes of time of sample collection.

8. "Composite sample" means a combination of individual samples obtained at least at hourly intervals over a 24-hour time period unless otherwise specified. Either the volume of each individual sample is proportional to discharge flow rates or the sampling interval (for constant volume samples) is proportional to the flow rates over the time period used to produce the composite.

9. "i-s" = immersion stabilization - means a calibrated device immersed in the effluent stream until the reading is stabilized.

10. The "daily maximum" temperature means the highest temperature observed during a 24-hour period or, if flows are of shorter duration during the operating day.

11. The "minimum" value means the lowest value measured during a 24-hour period.

12. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

13. "Upset" means the exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the

permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

14. "Estimated" flow means a calculated volume or discharge rate which is based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters, and batch discharge volumes.

15. "Measured" flow means any method of liquid volume measurement the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

16. "Recorded" flow, pH, temperature, etc., means any method of providing a permanent, continuous record including, but not limited to, circular and strip charts.

17. "Process Wastewater" means wastewater generated during manufacturing or processing which comes into direct contact with or results from the production of or use of any raw material, intermediate product, finished product, byproduct, or waste material, includes, but not limited to, all wastestreams subject to Iron and Steel Effluent Limitation Guidelines.

C. TOXIC POLLUTANT REPORTING

The permittee shall notify the Department as soon as it is known or suspected that any toxic pollutants which are not specifically limited by this permit have been discharged at levels specified in 40 CFR Part 122.42(a).

D. REMOVED SUBSTANCES

1. Within 30 days after notification by the Department, the permittee shall provide information on the disposal of any removed substances, as defined by General Condition B.7, including the following information:

   a. Locate, on a suitable map, all areas used for the disposal of any removed substances as defined by General Condition B.7;

   b. The physical, chemical, and biological characteristics, (as appropriate), and quantities of any removed substances handled, and the method of disposal;

   c. If disposal is handled by other than the permittee, identify the contractor or subcontractor, their mailing address, and the information specified in a and b above.

2. Prior to the use of new or additional disposal areas, contractors, or subcontractors, the permittee shall notify the Department in writing.

E. WASTEWATER OPERATOR CERTIFICATION

As of the effective date of this permit, the permittee's facility shall be operated by an industrial wastewater operator duly certified by the Maryland Board of Waterworks and Waste Systems Operators. Certification shall be for operation of a Class 6 industrial wastewater works, unless the Board determines that a different classification is appropriate. The treatment

facilities shall not be operated without a certified operator for more than a cumulative total of two months over the life of the permit.

F. ANALYTICAL LABORATORY

Within 30 days after the effective date of this permit, the permittee shall submit to the Department the name and address of the analytical laboratory (including the permittee's own laboratory) which is used to perform the monitoring required by this permit.

If the laboratory changes during the effective period of this permit, the permittee shall notify the Department of the new laboratory within 30 days after the change.

G. REPORTING LEVELS AND ANALYTICAL METHODS

For any parameters with a minimum level specified in this permit, if a new analytical method is adopted as part of 40 CFR 136 that has a lower minimum level, that new minimum level shall supercede the minimum level specified in the permit, unless the minimum level in the permit is the result of a wastewater matrix-specific interlaboratory study. In that case the permittee must submit a permit application to revise the minimum level study based on the new testing methodology.

H. WASTEWATER COLLECTION SYSTEM

Discharges from the sanitary sewer collection system are not authorized. Should a discharge occur, the permittee shall report it in accordance with the Notification Requirements set forth in the General Conditions B.2. However, the written reports on the overflows shall be submitted monthly unless the Department specifically requests the report to be submitted within five days after the permittee becomes aware of the overflow.

I. WATER QUALITY IMPACT ASSESSMENT FOR OUTFALL 001 THERMAL DISCHARGES

Within 24 months after the effective date of this permit, the permittee shall submit to the Department, as a permit modification application, the results of a re-evaluation of the thermal effects of this discharge on the receiving stream to determine if the effluent temperature will comply with COMAR 26.08.03.03D. This re-evaluation must consist of the development and calibration of a thermal discharge and receiving water model of the permittee's discharge. This model must evaluate the effects of the permittee's discharge at full capacity and critical conditions of the receiving waters. This permit shall be reopened upon completion of the study in order to implement new temperature limitations or to revise the temperature monitoring requirements.

J. OLD ROAD BAY COOLING WATER INTAKE STRUCTURES

1. The permittee shall use and maintain the barrier net installed at the intake cooling water canal at all times. Changes to the use and/or construction of the barrier net shall not be made except where prior authorization has been provided by the Department.

2. Within 24 hours of any impingement on any Old Road Bay water intake apparatus (traveling screens, bar screens, barrier net, etc.) substantial enough to cause modification to plant operations, the permittee shall submit written notification to the Department. Within

30 days of each occurrence, the permittee shall submit a written report to the Department. Reports shall identify the cause of the problem, plant reaction, and precautions to be taken to avoid similar impingements in the future. Modification to plant operations due to impingement of leaves or ice need not be reported.

K. REAPPLICATION FOR A PERMIT

Unless the Department grants permission for a later date, the permittee shall submit a renewal application by no later than 18 months prior to expiration. In the event that a timely and sufficient reapplication has been submitted and the Department is unable, through no fault of the permittee, to issue a new permit before the expiration date of this permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable.

L. RETENTION BASINS AT OUTFALLS 012, 013, 014, 017, AND 021

The monitoring locations for outfalls 012, 013, 014, 017, and 021, referenced in this permit are located at the ends of retention basins in which waste treatment takes place through oil skimming and other processes. Daily maximum effluent limitations for oil & grease and other parameters, discharge restrictions, pollution prevention requirements, and monitoring requirements in connection therewith, are imposed and are fully enforceable at these monitoring points. The locations of these monitoring points have been selected such that they are not locations of waters of the United States as defined under the Clean Water Act.

M. FLOW BASIS FOR ANNUAL DISCHARGE PERMIT FEE

The Department will calculate permit fees annually and will invoice the permittee based upon average discharge flow. Permit fees are payable in advance to the Department by July 1 of each fiscal year (July 1 through June 30).

The permittee shall provide to the Department's Industrial Discharge Permits Division by May 1 of each year an updated average discharge flow value for the next billing period if the flow volume used to calculate the most recent annual permit fee (or, if the permit was renewed within the past year, the flow volume used to calculate the application fee) differs significantly from either of the following flow determinations:

a. average flow data from the current fiscal year as reported on the permittee's discharge monitoring reports, or

b. the estimated flow volume for the next billing period based upon recent changes at the facility.

The permittee shall include with their flow revision notification a summary of flow data reported on discharge monitoring reports for the previous year and any other supporting documentation to be used as the basis for the flow determination.

N. COLD ROLLING MILL PRODUCTION

After 12 months of production operation of the new Cold Rolling Mill, the permittee shall submit to the Department a final measure of reasonable measure

of production with appropriate documentation. If this measure is significantly lower than the estimate used to derive the permit limits, the permit limits shall be adjusted downward without requiring a major modification of the permit upon concurrence of the permittee. Otherwise, the permit will be re-opened as a major permit modification.

O. ORGANICS MONITORING AT OUTFALL 014

The permittee shall collect grab samples from Outfall 014 once per quarter for one year. Samples shall be analyzed using EPA Methods 601 and 602. The results shall be submitted in a report within one year of the effective date of the permit to the Industrial Discharge Permits Division.

P. OTHER REQUIREMENTS

1. There shall be no discharge of polychlorinated biphenyl compounds (PCBs). The permittee shall not discharge wastewater containing PCBs from any transformer sump to waters of the State.

2. The permittee is prohibited from discharging oil tank bottom wastes to waters of the State without prior approval from the Department.

3. Within 90 days after the permit effective date, the permittee shall submit to the Department for approval a pollution prevention plan and schedule to reduce or eliminate the discharge via Outfall 001 of loop seal water from seal numbers 24A and 26A. The permittee is prohibited from discharging gas main condensate and loop seal contact water from all outfalls except Outfall 001.

4. The permittee is prohibited from discharging process wastewater from any outfall except as authorized under Special Conditions A.1 through A.9. For the purpose of this special condition, storm water associated with industrial activity is not considered process wastewater.

5. The permittee is prohibited from discharging water treated with copper sulfate from High Head Reservoir.

6. The permittee is prohibited from discharging chromate solutions and/or rinse water from any processing step subsequent to the chromate step associated with the hot coating lines.

7. The permittee is prohibited from discharging chromium-bearing process solutions or rinse waters to Tin Mill Canal except via Outfall 114. Leaks and spills of such wastes at locations that drain to any other outfall shall be reported and addressed under the bypass conditions of this permit.

8. The permittee is prohibited from discharging solvents and other emulsifying agents, detergents and other cleaners at plant garages #1 and #3 (due to their potential to interfere with gravity oil-water separation used at these facilities for wastewater treatment) except where an approved plan has been submitted to the Department for the use of short-term emulsifying agents.

9. The permittee is prohibited from discharging leachate from any outfall.

10. The permittee is prohibited from discharging any wastestream from any outfall which is not explicitly identified in this permit or, for storm

water sources only, any storm water outfall not identified under the requirements for a storm water pollution prevention plan in Special Condition Y.

11. The permittee is prohibited from discharging any of the following wastestreams except where specifically authorized under Special Conditions A.1 through A.9: water originating from vehicle and equipment washing, steam cleaning wastewater, wastewater from wet scrubbers, boiler blow down, contact cooling water, and discharges originating from the cleaning out of oil/water separators or sumps.

12. The permittee shall include in the storm water pollution prevention plan (required under Special Condition Y) provisions to prevent the discharge of the following wastestreams except via Outfalls 101, 114, and 014: waste discharges to floor drains or sinks connected to the storm sewer or storm drainage system; washwater from cleaning plant floor areas or material receiving areas, and discharges from bermed areas with a visible oil sheen or other visible signs of contamination.

13. The permittee is authorized to discharge steam condensate, air conditioner condensate, drinking fountain water, limited quantities of noncontact cooling water (less than 10 gallons per minute) and freeze protection water via Outfall 016 and Outfall 032. The permittee shall ensure that discharges of freeze protection water and noncontact cooling water from chlorinated water supply systems are in compliance with COMAR 26.08.03.06 (chlorine regulation).

14. In addition to the storm water discharges authorized in Special Conditions A.1 - A.9, the permittee is authorized to discharge storm water via outfalls 013, 015, 016, 018, 019, 032, 033, 034, 054, 055, 056, 059, 065, 068, 069, 070 and 071 until the implementation date of the pollution prevention plan required under Special Condition Y, at which time storm water discharges are authorized according to the specifications of the pollution prevention plan, including any additional stormwater outfalls not specifically designated at the time of issuance of this permit.

15. The permittee may be authorized to discharge wastewater from the hydrostatic testing of petroleum storage tanks and piping upon prior approval from the Department.

16. The permittee shall submit to the Department a schedule for the remaining intermittent discharge from outfall 121. This schedule shall be submitted within 90 days of the effective date of the permit.

17. The permittee shall submit to the Department within 12 months after the permit effective date the results of a study to determine the feasibility and schedule for upgrading to titanium the remaining heat exchange surface and oil coolers which are part of the Outfall 001 cooling water system.

Q. AMMONIA

Jan 27th

Within 12 months after final promulgation of Maryland water quality standards for ammonia, the permittee shall submit to the Department the results of a study to demonstrate whether the discharge at Outfall 001 achieves compliance with those standards. The study results shall be submitted in the form of a

permit modification application, which will open the public participation process.

R. BIOMONITORING PROGRAM

1. Within three months of the effective date of the permit, the permittee shall submit to the Department for approval a study plan to evaluate wastewater toxicity at outfalls 001, 012, 014 and 017 using biomonitoring. The study plan should include a discussion of:

   a. wastewater and production variability
   b. sampling methods
   c. source of test organisms
   d. source of dilution water
   e. testing procedures
   f. data analysis
   g. quality control
   h. testing schedule

2. The testing program for Outfall 001 and Outfall 014 shall consist of definitive quarterly chronic testing. Following the end of the compliance schedule for the water quality based permit limitations, the Department may reduce the monitoring frequency upon request by the permittee when four consecutive quarterly tests have been successfully completed.

   a. Each quarterly testing shall include the Ceriodaphnia survival and reproduction test and the fathead minnow larval survival and growth test.

   b. If the receiving water is estuarine, the permittee shall substitute estuarine species for those species specified above. Approved estuarine species for chronic testing are sheepshead minnow, inland silversides, and mysid shrimp. In all cases, testing must include one vertebrate species and one invertebrate species.

3. The testing program for Outfalls 012 and 017 shall consist of two definitive acute testing events, three months apart. This testing shall be initiated no later than three months following the Department's acceptance of the study plan or according to an approved schedule in the study plan.

   a. Each of the two testing events shall include a 48-hour static renewal test using fathead minnow and a 48-hour static renewal test using a daphnid species.

   b. If the receiving water is estuarine, the permittee may substitute estuarine species for those species specified above. Approved estuarine species for acute testing are sheepshead minnows, silversides, grass shrimp, and mysid shrimp. In all cases, testing must include one vertebrate species and one invertebrate species.

4. The samples used for biomonitoring shall be collected at the same time and location as the samples analyzed for the effluent limitations and monitoring requirements for this outfall. For chlorinated effluents, samples shall be collected after dechlorination.

5. The following EPA documents discuss the appropriate methods:

   a. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, May, 1988, EPA/600/4-87/028.

   b. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, March 1989, EPA/600/4-89/001.

   Acute testing shall be conducted in accordance with the procedures described in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, August 1993, EPA/600/4-90/027F.

6. Acute test results shall be submitted to the Department within one month of completion of each set of tests. Chronic test results shall be submitted to the Department within one month of completion of each set of tests.

7. Test results shall be reported in accordance with MDE/WMA "Reporting Requirements for Effluent Biomonitoring Data".

8. As a minimum, the reported chronic results shall be expressed as NOEC, LOEC, ChV, and IC_{25}.

9. If significant mortality occurs during chronic tests, 48-hour LC50s shall be calculated and reported along with the chronic results.

10. If testing is not performed in accordance with MDE-approved study plan, additional testing may be required by the Department.

11. If the test results indicate that the effluent is toxic, additional biomonitoring or a toxicity reduction evaluation will be required by the Department.

12. If plant processes or operations change so that there is a significant change in the nature of the wastewater, the Department may require the permittee to conduct a new set of tests.

13. Submit all biomonitoring related materials to:

Maryland Department of the Environment
Water Management Administration
Inspection and Compliance Program
2500 Broening Highway
Baltimore, Maryland 21224

S. TOXICITY REDUCTION EVALUATION

The permittee shall conduct a Toxicity Reduction Evaluation (TRE) when a review of toxicity test data by the Department indicates unacceptable acute or chronic effluent toxicity. A TRE is an investigation conducted to identify the causative agents of effluent toxicity, isolate the source(s), determine the effectiveness of control options, implement the necessary control measures and then confirm the reduction in toxicity.

1. Within 90 days following notification by the Department that a TRE is required, the permittee shall submit a plan of study and schedule for conducting a TRE. The permittee shall conduct the TRE study consistent with the submitted plan and schedule.

2. This plan should follow the framework presented in Generalized Methods for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).

3. Beginning 60 days following the date of the Department's acceptance of the TRE study plan and every 60 days thereafter, the permittee shall submit progress reports including all relevant test data to the Department. This shall continue until completion of the toxicity reduction confirmation.

4. Within 60 days following completion of the toxicity identification, or the source identification phase of the TRE, the permittee shall submit to the Department a plan and schedule for implementing those measures necessary to eliminate acute toxicity and/or reduce chronic toxicity to acceptable levels. The implementation of these measures shall begin immediately upon submission of this plan.

5. Within 60 days after completing implementation of the control measures to eliminate or reduce toxicity, the permittee shall submit to the Department for approval a study plan to confirm the elimination or reduction of toxicity by using biomonitoring.

6. If, for any reason, the implemented measures do not result in compliance with the Department's toxicity limitations, the permittee shall continue the TRE.

T. (Reserved)

U. METALS AND CYANIDE STUDY

1. Within six months after the effective date of the permit, the permittee shall submit to the Department for comment (and a copy to EPA Region III) a study plan and schedule for evaluating compliance with state water quality standards for dissolved nickel at outfall 001; dissolved copper, dissolved lead, and cyanide at Outfall 012; dissolved copper at Outfall 013; and dissolved copper, dissolved lead, and dissolved nickel at Outfall 017. The plan shall include but not be limited to consideration of background levels in the receiving stream, appropriate sampling methodology including clean sampling methods, monitoring frequency, and length of study period.

2. The study plan submission shall also include the results of metals scans using EPA Method 200.8 (ICP-MS) and for cyanide using EPA Method OIA-1677 (or comparable test methods) for two sampling events at outfalls 001, 012, 014, and 017.

3. Department comments on the required study plan will be provided to the permittee within 60 days after the permittee's submission of the plan, and the permittee shall finalize the plan within 60 days of receiving comments. The study results shall be submitted in the form of a permit modification application within 30 months after the effective date of the permit.

4. The nickel monthly average limitations at Outfall 014 have been adjusted based on a mixing zone. Within 30 months after the effective date of this permit, the permittee shall submit to the Department, in the form of a major permit modification application, dilution calculations and appropriate demonstration, using dye studies or models, that the resulting mixing zone is consistent with the chronic mixing zone requirements under COMAR 26.08.02.05D.

5. Upon sufficient demonstration that the source of cyanide discharging via Outfall 014 is from the intake water from the BRWWTP, and that no reasonable potential for violation of the water quality standard for cyanide exists from Bethlehem Steel's industrial operations leading to these outfalls, monitoring without limits will then apply to cyanide (amenable) at Outfall 014 in lieu of cyanide (amenable) requirements at Special Condition A.4. The Department's determination of "sufficient demonstration" will not be complete until the public participation process for Back River's NPDES permit no. MD0021555 has been re-opened to address cyanide.

V. NUTRIENT POLLUTION PREVENTION PROGRAM

1. Within six months of the effective date of the permit, the permittee shall submit a plan to the Department (and a copy to the U.S.E.P.A. Chesapeake Bay Program Office) to evaluate methods to reduce nutrient discharges. Such a plan shall include, but not be limited to,

   a. Substitution, reuse, recycle of industrial water which contains zinc phosphate;

   b. Substitution of zinc phosphate with an alternative corrosion control program for industrial water; and

   c. Substitution, reuse, recycle of sodium nitrite solutions.

2. The permittee shall submit an annual report by each anniversary date of the permit that provides information about its usage of phosphorus and nitrogen process chemicals and efforts to reduce through pollution prevention minimization.

3. Within six months of the effective date of the permit, the permittee shall submit a plan for reducing total nitrogen loads from Monitoring Point 101.

W. POLLUTION PREVENTION and WASTE MINIMIZATION ACTIVITIES

1. The "Chesapeake 2000 Bay Agreement" includes the following goal:

   "Through continual improvement of pollution prevention measures and other voluntary means, strive for zero release of chemical contaminants from point sources, ... Particular emphasis shall be placed on achieving, by 2010, elimination of mixing zones for persistent or bioaccumulative toxics."

2. Consistent with this goal, no later than 30 months after the effective date of this permit, the permittee shall submit a plan to implement pollution prevention measures to reach the goal for elimination of the nickel mixing zone at Outfall 014 by 2010.

3. The permittee shall also annually submit to the Department a summary of the progress in waste minimization efforts required of Bethlehem Steel Corporation under the 1997 U.S.E.P.A and MDE Consent Decree that will result in reduction of metals releases, a summary of the annual average (lbs/day) loading releases of metals including copper for each of the preceding three years, and any plans for additional pollution prevention activities that may provide a reduction in the release of chemical contaminants. The permittee shall include with the submission a summary of the progress toward the Consent Decree goal of a 50% reduction in toxics releases.

X. PERMIT REOPENER FOR WATER QUALITY-BASED EFFLUENT LIMITS

This permit may be modified, or alternatively, revoked and reissued, to implement revised or additional water quality based limitations for reasons including, but not limited to, the following:

a. monitoring data;
b. revised mixing zone analysis;
c. revised minimum levels;
d. revised Maryland water quality standards; or
d. implementation of a total maximum daily load (TMDL).

Y. POLLUTION PREVENTION PLAN FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

1. Definitions

Best Management Practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Section 313 water priority chemical means a chemical or chemical categories that are: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986); 2) are present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR Part 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 CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to EPCRA Section 313; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

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 (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

2. Storm Water Pollution Prevention Plans - General

The permittee shall develop a storm water pollution prevention plan for each area of the facility with point source discharges of storm water associated with industrial activity except for areas occupied by tenants. The storm water pollution prevention plan shall be prepared in accordance with sound engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.

a. In developing this plan, the permittee shall use as a reference "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices" or, when it is available, an EPA-published summary document on the same subject. These documents can be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (phone: 703-487-4600).

b. The plan shall be signed in accordance with General Condition C.18 and be retained on site in accordance with General Condition C.1 of this permit. The permittee shall comply with the terms of the plan within 18 months after the effective date of the permit. Schedules for corrective action necessary to achieve conformance with the plan may be authorized for periods beyond the plan implementation date. The permittee shall make plans available upon request to the Department, and in the case of a storm water discharge associated with industrial activity which discharges to a municipal separate storm sewer system, to the municipal operator of the system.

c. The plan, and any subsequent amendments to the plan, shall be submitted to the Department for review. The Department may notify the permittee, at any time, that the plan does not meet one or more of the minimum requirements of this Part. After such notification from the Department, the permittee shall make changes to the plan to meet the objections of the Department and shall submit to the Department a written certification that the requested changes have

been made. Unless otherwise provided by the Department, the permittee shall have 90 days after such notification to make the necessary changes.

d. The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to the waters of the State or whenever an inspection, comprehensive site evaluation, monitoring data, or other information indicates that the storm water pollution prevention plan is ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by the Department in the same manner as 2.c above.

3. Storm Water Pollution Prevention Plan - Contents

The plan shall include, at a minimum, the following items:

a. Description of Potential Pollutant Sources

The plan shall provide a description of potential sources which may be reasonably expected to add significant amounts of pollutants to storm water discharges. The plan shall identify all activities and significant materials which may potentially be significant pollutant sources. The plan shall include:

i. A site map indicating an outline of the drainage area of each storm water outfall; each existing structural control measure to reduce pollutants in storm water runoff; and surface water bodies, including drainage ditches and wetlands. The location of the following activities where such activities are exposed to precipitation shall also be included: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes such as spent solvents or baths, sand, slag or dross, liquid storage tanks or drums, processing areas including pollution control equipment such as baghouses, and storage areas of raw materials such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. This list shall also include a description of areas of the facility where settling or deposition of particulate matter from processing operations such as furnace or oven emissions is likely.

ii. A topographic map (or other map, if a topographic map is unavailable), extending one-quarter of a mile beyond the property boundaries of the facility. The requirements of this condition may be included in the site map required under 3.a.i. above, if appropriate.

iii. A narrative description of significant materials that have been treated, stored, or disposed in a manner which allowed exposure to storm water, including but not limited to leaks or spills, at anytime from three years prior to the effective date of this permit and until the time the present method of on-site storage or disposal was initiated; materials management practices employed to minimize contact of these

materials with storm water runoff; materials loading and access areas; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

iv. For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an estimate of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity; and

v. A summary of all existing sampling data describing pollutants in storm water discharges.

vi. Identification of all tenants and the areas of the facility for which tenants have responsibility for storm water.

b. Storm Water Management Controls

The permittee shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

i. Preventive Maintenance. A preventive maintenance program that involves timely inspection and maintenance of storm water management devices (cleaning oil/water separators, catch basins) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

ii. Good Housekeeping. Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. The pollution prevention plan should consider implementation of the following measures where applicable.

(a) Establish a cleaning or maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, particularly areas of material loading/unloading, material storage and handling, and processing.

(b) Pave areas of vehicle traffic or material storage where vegetative or other stabilization methods are not practical. Institute sweeping programs in these areas as well.

(c) For unstabilized areas of the facility where sweeping is not practical, storm water 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 should be considered.

iii. Source Controls. The permittee shall consider preventive measures to minimize the potential exposure of all significant materials to precipitation and storm water runoff. The permittee should consider in a narrative description the implementation of the following measures to reduce the exposure of all materials to storm water:

(a) Relocating all materials, including raw materials, intermediate products, material handling equipment, obsolete equipment, and wastes currently stored outside to inside locations.

(b) Establishment of a schedule for removal of wastes and obsolete equipment to minimize the volume of these materials stored onsite that may be exposed to storm water.

(c) Substitution of less hazardous materials, or materials less likely to contaminate storm water, or substitution of recyclable materials for nonrecyclables wherever possible.

(d) Constructing permanent or semipermanent covers, or other similar forms of protection over stockpiled materials, material handling and processing equipment. Options include roofs, tarps, and covers. This may also include the use of containment bins or covered dumpsters for raw materials, waste materials and nonrecyclable waste materials.

(e) Dikes, berms, curbs, trenches, or other equivalent measures to divert run-on from material storage, processing, or waste disposal areas.

iv. Spill Prevention and Response Procedures. Areas where potential spills that can contribute pollutants to storm water discharges may occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

v. Sediment and Erosion Control. The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. The plan shall also contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those

that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

vi. Management of Runoff. Facilities shall consider implementation of the following storm water management practices to address pollutants of concern:

(a) Vegetative buffer strips, filter fabric fence, sediment filtering boom, or other equivalent measures, that effectively trap or remove sediment prior to discharge through an inlet or catch basin.

(b) Media filtration such as catch basin filters and sand filters.

(c) Oil/water separators or the equivalent.

(d) Structural BMPs such as settling basins, sediment traps, retention or detention ponds, recycling ponds or other equivalent measures.

vii. Visual Inspections. Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure that appropriate response has been taken in response to the inspection. Records of inspections shall be maintained at the facility, for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department. Inspections shall address, at a minimum, the following areas where applicable:

(a) Air pollution control equipment such as baghouses, electrostatic precipitators, scrubbers, and cyclones, should be inspected on a routine basis for any signs of disrepair such as leaks, corrosion, or improper operation that could limit their efficiency and lead to excessive emissions. The permittee should consider monitoring air flow at inlets and outlets, or equivalent measures, to check for leaks or blockage in ducts. Visual inspections shall be made for corrosion, leaks, or signs of particulate deposition or visible emissions that could indicate leaks.

(b) All process or material handling equipment such as conveyors, cranes, and vehicles should be inspected for leaks, drips, etc. or for the potential losses of materials.

(c) Material storage areas such as piles, bins or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks or drums, should be examined for signs of material losses due to wind or storm water runoff.

(d) The permittee shall conduct inspections at specific intervals identified in the plan for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of Section 313 water priority chemicals to waters of the United States, action to stop the leak or otherwise prevent the significant release of Section 313 water priority chemicals to waters of the United States shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or noncontainment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

viii. Recordkeeping and Internal Reporting Procedures. Incidents, such as spills or other discharges, along with other information describing the quality and quantity of storm water discharges shall be included in the records. Inspections and maintenance activities shall be documented and recorded.

c. Comprehensive Site Compliance Evaluation

A site inspection shall be conducted annually by appropriate responsible personnel to verify that the description of potential pollutant sources required under 3.a. is accurate, the drainage map has been updated to reflect current conditions, and the controls to reduce pollutants identified in the storm water pollution prevention plan are being implemented and are adequate. Where significant settling or deposition from process emissions are observed during proper operation of existing equipment, the permittee shall consider ways to reduce these emissions including

but not limited to: upgrading or replacing existing equipment; collecting runoff from areas of deposition for treatment or recycling; or changes in materials or processes to reduce the generation of particulate matter. A report summarizing the results of the inspection shall be submitted to the Department for approval no later than 4 weeks after the inspection. The report shall include a timeframe for implementing corrections to any deficiencies relating to the implementation of the storm water pollution prevention plan identified as a result of the inspection.

d. Consistency with Other Plans

Storm water management programs may include requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Clean Water Act or Best Management Practices (BMPs) programs otherwise required this permit and may incorporate any part of such plans into the storm water pollution prevention plan by reference.

e. Special Requirements for Storm Water Discharges Associated with Industrial Activity to Municipal Separate Storm Sewer Systems Serving a Population of 100,000 or More

Areas of the facility with storm water associated with industrial activity discharging to a municipal separate storm sewer system shall comply with applicable NPDES requirements in municipal storm water management programs provided the permittee has been notified of such conditions by the operator of the municipal separate storm sewer system that receives the permittee's discharge. The permittee shall make the storm water pollution prevention plan available to the municipal operator of the system upon request.

f. Salt Storage

Storage piles of salt used for de-icing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation.

g. Pollution Prevention Committee

The description of the storm water Pollution Prevention Committee shall identify specific individuals within the plant organization who are responsible for developing the storm water pollution prevention plan and assisting the plant manager in its implementation, maintenance, and revision. The activities and responsibilities of the committee should address all aspects of the permittee's storm water pollution prevention plan.

h. Employee Training

Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics, such as spill response, good housekeeping and material management practices. A pollution prevention plan shall identify periodic dates for such training.

4. Additional Requirements for SARA Title III, Section 313 Water Priority Chemicals

Storm water pollution prevention plans for facilities subject to reporting requirements under SARA Title III, Section 313 (42 U.S.C.§11023) are required to include, in addition to the information listed in condition 3., a discussion of the permittee's conformance with the following appropriate guidelines:

a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

i. Curbing, culverting, gutters, sewers or other forms of drainage control to prevent or minimize the potential for storm water runoff to come into contact with significant sources of pollutants; or

ii. Roofs, covers, or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.

b. The storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations, and guidelines.

i. Liquid storage areas where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals. No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage, such as pressure and temperature, etc. Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

ii. Material storage areas for Section 313 water priority chemicals other than liquids. Material storage areas for Section 313 water priority chemicals other than liquids which are subject to runoff, leaching, or wind blowing shall incorporate drainage or other control features which will minimize the discharge of Section 313 water priority chemicals. Drainage control shall minimize storm water contact with Section 313 water priority chemicals.

iii. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges

of Section 313 water priority chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

iv. In plant areas where Section 313 water priority chemicals are transferred, processed or otherwise handled. Piping, processing equipment and materials handling equipment shall be designed and operated so as to prevent discharges of Section 313 chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Additional protection, such as covers or guards to prevent wind blowing, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system shall be provided, as appropriate, to control the releases.

v. Discharges from secondary containment areas.

(a) Drainage from secondary containment shall be restrained by valves or other positive means to prevent a spill or other excessive leakage of Section 313 water priority chemicals into the drainage system. After a visual inspection of the storm water and determination that no product is present, containment areas may be emptied by pumps or ejectors; however, these shall be manually activated.

(b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas shall, as far as is practical, be of manual, open-and-close design.

(c) Records of the frequency and estimated volume (in gallons) of discharges from containment areas shall be kept, at the facility, for a minimum of three years.

(d) If the facility's drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

(e) Facility site runoff other than from areas covered by (i), (ii), (iii) or (iv). Other areas of the facility [those not addressed in paragraphs (i), (ii), (iii) or (iv)], from which runoff which may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

c. Facility Security

The facility shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge. Security systems shall be described in the plan and address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

d. Risk Identification and Assessment/Material Inventory

The storm water pollution prevention plan shall assess the potential of various sources at the plant to contribute pollutants to storm water discharges associated with industrial activity. The plan shall include an inventory of the types of materials handled. The permittee shall include in the plan a description of releases to land or water of SARA Title III water priority chemicals that have occurred at any time beginning three years prior to the effective date of this permit. Each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced, or discharged: the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants.

II. GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements taken as required herein shall be taken at such times as to be representative of the quantity and quality of the discharges during the specified monitoring periods.

2. REPORTING-MONITORING RESULTS SUBMITTED MONTHLY

Monitoring results obtained during each calendar month shall be summarized on a Discharge Monitoring Report Form (EPA No. 3320-1) and submitted to the Department postmarked no later than the 28th day of the following month. Reporting periods shall end on the last day of each month. Duplicate signed copies of the Discharge Monitoring Reports shall be submitted to:

Maryland Department of the Environment
Water Management Administration
Inspection and Compliance Program
2500 Broening Highway
Baltimore, Maryland 21224

and to

U.S. Environmental Protection Agency Region III
Office of Compliance and Enforcement
NDPES Branch (3WP31)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

3. SAMPLING AND ANALYSIS METHODS

The analytical and sampling methods used shall conform to procedures for the analysis of pollutants as identified in Title 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless otherwise specified.

4. DATA RECORDING REQUIREMENTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date, and time of sampling or measurement;
b. the person(s) who performed the sampling or measurement;
c. the dates and times the analyses were performed;
d. the person(s) who performed the analyses;
e. the analytical techniques or methods used; and
f. the results of all required analyses.

5. MONITORING EQUIPMENT MAINTENANCE

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation to insure accuracy of measurements.

6. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors any pollutant, using approved analytical methods as specified above, at the locations designated herein more frequently than required by this permit, the results of such monitoring, including the increased frequency, shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report form (EPA No. 3320-1).

7. RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and original recordings from continuous monitoring instrumentation shall be retained for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department..

B. MANAGEMENT REQUIREMENTS

1. CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the terms and conditions of this permit. Anticipated

facility expansions, production increases or decreases, or process modifications, which will result in new, different, or an increased discharge of pollutants, shall be reported by the permittee by submission of a new application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Department. Following such notice, the permit may be modified by the Department to specify and limit any pollutants not previously limited. If the anticipated change is from a new source or a new discharge, the permittee shall submit a permit application for a major permit modification, which may also be used to update any pending renewal application, or provide application for a new permit.

2. NONCOMPLIANCE WITH EFFLUENT LIMITATIONS

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or daily minimum effluent limitation specified in this permit, the permittee shall notify the Inspection and Compliance Program by telephone at (410) 631-3510 within 24 hours of becoming aware of the noncompliance. Within five calendar days, the permittee shall provide the Department with the following information in writing:

a. a description of the noncomplying discharge including its impact upon the receiving waters;

b. cause of noncompliance;

c. anticipated time the condition of noncompliance is expected to continue or if such condition has been corrected, the duration of the period of noncompliance;

d. steps taken by the permittee to reduce and eliminate the noncomplying discharge:

e. steps to be taken by the permittee to prevent recurrence of the condition of noncompliance; and

f. a description of the accelerated or additional monitoring by the permittee to determine the nature and impact of the noncomplying discharge.

3. FACILITIES OPERATION

All treatment, control and monitoring facilities, or systems installed or used by the permittee, are to be maintained in good working order and operated efficiently.

4. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. BYPASSING

Any bypass of treatment facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

a. the bypass is unavoidable to prevent a loss of life, personal injury or substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources;

b. there are no feasible alternatives;

c. notification is received by the Department within 24 hours (if orally notified, then followed by a written submission within five calendar days of the permittee's becoming aware of the bypass). Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten calendar days before the date of bypass or at the earliest possible date if the period of advance knowledge is less than ten calendar days; and

d. the bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects.

6. CONDITIONS NECESSARY FOR DEMONSTRATION OF AN UPSET

An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based effluent limitations only if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

a. an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. the permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

c. the permittee submitted a 24-hour notification of upset in accordance with the reporting requirements of General Condition II.B.2 above;

d. the permittee submitted, within five calendar days of becoming aware of the upset, documentation to support and justify the upset; and

e. the permittee complied with any remedial measures required to minimize adverse impact.

7. REMOVED SUBSTANCES

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, shall be disposed of in a manner to prevent any removed substances or runoff from such substances from entering or from being placed in a location where they may enter the waters of the State.

8. POWER FAILURE

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. provide an alternative power source sufficient to operate the wastewater collection and treatment facilities or,

b. halt, reduce or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater collection and treatment facilities.

C. RESPONSIBILITIES

1. RIGHT OF ENTRY

The permittee shall permit the Secretary of the Department, the Regional Administrator for the Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

a. enter upon the permittee's premises where an effluent source is located or where any records are required to be kept under the terms and conditions of this permit;

b. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

c. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;

d. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit; and

e. sample, at reasonable times, any discharge of pollutants.

2. TRANSFER OF OWNERSHIP OR CONTROL OF FACILITIES

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permit may be transferred to another person if:

a. the permittee notifies the Department in writing, of the proposed transfer;

b. a written agreement, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for compliance with the liability for the terms and conditions of this permit, is submitted to the Department; and

c. neither the current permittee nor the new permittee receive notification from the Department, within 30 calendar days, of intent to modify, revoke, reissue or terminate the existing permit.

3. REAPPLICATION FOR A PERMIT - (see Special Condition K)

4. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data shall be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

5. PERMIT MODIFICATION

A permit may be modified by the Department upon written request of the permittee and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in 40 CFR § 122.62 and 122.63.

6. PERMIT MODIFICATION, SUSPENSION, OR REVOCATION

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked and reissued in whole or in part during its term for causes including, but not limited to, the following:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. a determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

7. TOXIC POLLUTANTS

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such toxic effluent standard or prohibition) is established by the U.S. Environmental Protection Agency, or pursuant to Section 9-314 of the Environment Article, Annotated Code of Maryland, for a toxic pollutant which is present in the discharges authorized herein and such standard is more stringent than any limitation upon such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified. Any effluent standard established in this case for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even absent permit modification.

8. OIL AND HAZARDOUS SUBSTANCES PROHIBITED

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland.

9. CIVIL AND CRIMINAL LIABILITY

Except as provided in permit conditions on "bypassing," "upset," and "power failure," nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from civil or criminal responsibilities and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local, or other State law or regulation.

10. PROPERTY RIGHTS/COMPLIANCE WITH OTHER REQUIREMENTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

11. SEVERABILITY

The provisions of this permit are severable. If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

12. WATER CONSTRUCTION AND OBSTRUCTION

This permit does not authorize the construction or placing of physical structures, facilities, or debris, or the undertaking of related activities in any waters of the State.

13. COMPLIANCE WITH WATER POLLUTION ABATEMENT STATUTES

The permittee shall comply at all times with the provisions of the Environment Article, Title 7, Subtitle 2 and Title 9, Subtitle 3 of the Annotated Code of Maryland and the Clean Water Act, 33 U.S.C. § 1251 et seq.

14. ACTION ON VIOLATIONS

The issue or reissue of this permit does not constitute a decision by the State not to proceed in administrative, civil, or criminal action for any violations of State law or regulations occurring before the issue or reissue of this permit, nor a waiver of the State's right to do so.

15. CIVIL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act or in a permit issued under Section 404 of the Act, is subject to a civil penalty not to exceed $27,500 per day for each violation.

16. CRIMINAL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Clean Water Act provides that:

a. any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.

b. any person who knowingly violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.

c. any person who knowingly violates Section 301, 302, 306, 307, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or in a permit issued under Section 404 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, is subject to a fine of not more $25,000 or imprisonment of not more than 15 years, or both.

d. any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method required to be maintained under the Act, is subject to a fine of not more than $10,000 or by imprisonment for not more than two (2) years, or by both.

17. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

18. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Director shall be signed and certified as required by 40 CFR 122.22.

19. REOPENER CLAUSE FOR PERMITS

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or

approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit or

b. controls any pollutant not limited in this permit. This permit, as modified or reissued under this paragraph, shall also contain any other requirements of the Act then applicable.

D. AUTHORITY TO ISSUE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

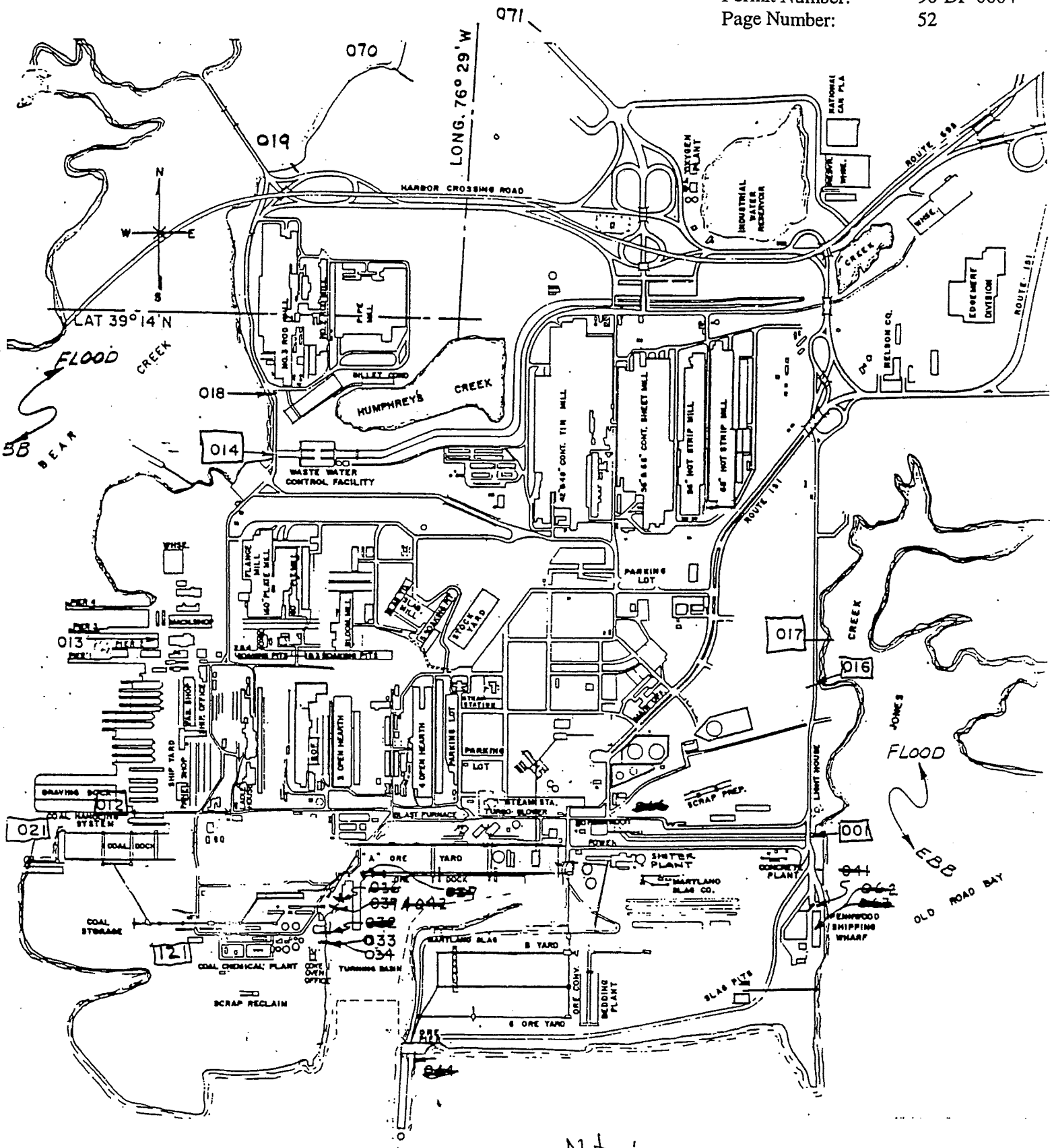
On September 5, 1974, the Administrator of the U.S. Environmental Protection Agency approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters pursuant to Section 402 of the Clean Water Act, 33 U.S.C. Section 1342.

Pursuant to the aforementioned approval, this discharge permit is both a State of Maryland discharge permit and a NPDES permit.

This permit and the authorization to discharge shall expire at midnight on the expiration date. The permittee shall not discharge after that date unless a new application has been submitted to the Department in accordance with the provisions of General Condition II.C.3 of this permit.

J. L. Hearn

J. L. Hearn, Director
Water Management Administration



Notes;

1. ☐ – indicates process or cooling water outfall
2. Other designated storm water outfall locations to be identified under storm water pollution prevention plan.

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

2500 Broening Highway • Baltimore, Maryland 21224
(410) 631-3000 • 1-800-633-6101 • http://www.mde.state.md.us

Parris N. Glendening
Governor

Jane T. Nishida
Secretary

May 25, 2001

Robert J. Abate, Manager
Safety, Health and Environment
Sparrows Point Division
Bethlehem Steel Corporation
5111 North Point Blvd.
Sparrows Point, Maryland 21219

Re: State Discharge Permit 90-DP-0064, NPDES No. MD0001201

Dear Mr. Abate:

Corrections to typographical errors and minor clarifications to the above referenced permit are enclosed. The text revisions include the following:

- Page 2, Special Condition A.1, Outfall 001: Thermal discharge units are MBtu/day (million Btu/day).

- Page 4, Special Condition A.1, Outfall 001: Conversion factor in Footnote No. 5 is 0.348 MBtu/hour. Flow estimates at Outfall 001 under footnote 5 may be determined using hourly readings of noncontact cooling water from Pennwood Power Station derived from pump operations and pump curves, metered flows from MP 101, and estimates of other miscellaneous flow to Outfall 001, in accordance with the definition of "estimated" in Special Condition B.14 of the permit.

- Page 6, Special Condition A.2, MP 101: Footnote No. 3 applies only to oil and grease and does not apply to cyanide (available and total). The sample type for oil and grease is grab.

- Page 8, Special Condition A.3, Outfall 012: Dissolved oxygen shall be reported for its minimum value, not a daily maximum.

- Page 11, Special Condition A.4, Outfall 014: The sample type for oil and grease is grab.

- Page 12, Special Condition A.4, Outfall 014: Footnote No. 11 does not apply to total lead because the final limits were effective on the issuance of the permit.

- Page 13, Special Condition A.4, Outfall 014: Footnote No. 3 applies to oil and grease, 1,1,1-trichloroethane, naphthalene, and tetrachloroethylene. The reference to Method 1664 applies only to oil and grease (method number is now specified on page 11). A single grab sample monthly for the March and April reporting periods will be acceptable for 1,1,1-trichloroethane and tetrachloroethylene.

- Page 14, Special Condition A.4, Outfall 014: Interim copper limitation in Footnote No. 11 is 0.025 mg/l, not 0.25 mg/l.

- Page 18, Special Condition A.7, Outfall 017: Footnote No. 2 does not apply to total phosphorus and orthophosphate; and dissolved oxygen shall be reported for its minimum value, not a daily maximum.

- Page 20, Special Condition A.8, Outfall 021: The sample type for oil and grease is grab. The method number for Oil and Grease is specified here instead of in Footnote 4. Footnote 6 now clarifies that the minimum flow requirement at the final outfall is applicable only when the bio-oxidation plant (Monitoring Point 121) is discharging.

- Page 21, Special Condition A.8, Outfall 021: The reference to Method 1664 (Oil and Grease) in Footnote 4 (benzene) has been removed.

Sampling requirements for naphthalene and benzo(a)pyrene at MP121 and for cyanide and total cyanide at Outfall 001, Outfall 014, and MP101 may be implemented as individual grab samples taken at least two hours apart and preserved appropriately as individual aliquots. The aliquots shall be composited in the laboratory into a single sample prior to analysis. A minimum of three samples shall be collected, and the resulting single composited sample result must be representative of a 24-hour period.

24-hour automatic compositing will be required for monitoring GC/MS acid fraction organics at MP 101 and naphthalene at Outfall 014 and shall be implemented no later than July 1, 2004. In the interim, the composite sampling requirements may be implemented as individual grab samples taken at least two hours apart and preserved appropriately as individual aliquots. The aliquots shall be composited in the laboratory into a single sample prior to analysis. A minimum of three samples shall be collected, and the resulting single composited sample result must be representative of a 24-hour period.

Reporting is required of all monitored parameters even if not clearly specified on the pre-printed Discharge Monitoring Reports (DMRs). Please inform us of any remaining discrepancies between the permit and the printed DMRs.

If you have any questions regarding the above clarifications, please call me at (410) 631-3661.

Sincerely,

Edwal F. Stone, Chief
Industrial Discharge Permits Division
Water Management Administration

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Enclosures

cc: Patricia Gleason, EPA Region III (with enclosures)
Kim Coble, Chesapeake Bay Foundation (with enclosures)
Rena Steinzor, University of Maryland Environmental Law Clinic
Dave Lyons

APPENDIX D

Standard Forms

Non-Stormwater Discharge Inspection Reports

Non-Storm Water Inspection Report

Date of Inspection: _____ Time: _____

Inspected by (printed name): _____

Signature: _____

Description of type of inspection (check those that apply):

- visual observation
- dye tests
- smoke tests
- TV line survey
- analysis of accurate schematics
- sampling/monitoring
- other (specify) _____

Outfalls/on-site drainage points inspected: _____
_____

Observations/Results/Actions Taken: _____
_____
_____
_____
_____
_____
_____

Are there any non-storm water discharges? If yes, what type?

- ❑ yes _____
- ❑ no

Is the discharge authorized under this permit?

- ❑ yes
- ❑ no

Is the discharge covered under another National Pollutant Discharge Elimination System (NPDES) permit?

- ❑ yes
- ❑ no

NON-STORM WATER DISCHARGE ASSESSMENT 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 ensure 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.

_____	_____
Name	Official Title
_____	_____
Signature	Date

Employee Training Records

Employee Training Record

Date of Session: _____ Time: _____

Trainer: _____ Topic_____

****

Employees attending (names, printed):	Signature:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Specifics of Training: _____

_____

_____

_____

_____

_____

_____

Facility Inspection Reports

Quarterly Visual Monitoring Form

Fill out a separate form for each outfall sampled.

Sample Location					
Quarter / Year:		**Date / Time Collected:**		**Date / Time Examined:**	
Qualifying Storm Event?	Yes No	**Runoff Source:**	Rainfall Snowmelt		
Collector's Name & Title					
Examiner's Name & Title					

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

9. If there are any visible indicators of pollution identify (1) where the pollution may come from and (2) any corrective actions taken.

Stormwater Collector's Signature and Date:

Stormwater Examiner's Signature and Date:

Note – Sample should be collected and analyzed in a colorless glass or plastic bottle.

Instructions for Completing the Visual Monitoring Form

Per PART V. INSPECTIONS, MONITORING, AND REPORTING, you must collect a stormwater sample from each outfall once each quarter for the entire permit term and conduct a visual assessment of each sample. You must follow the monitoring procedures outlined in Part V.C. These samples should be collected in such a manner that they are representative of the stormwater discharge from that outfall. Each assessment must be kept onsite with your SWPPP and available for inspection and review by the Department at anytime.

First, fill out all information on the top of the visual monitoring form. A qualifying storm event is any storm where there is a measurable discharge. Then, take a grab sample in a clear container. Evaluate the sample in a well-lit area for the following parameters:

1. **Color:** Record the best description of the sample color in the appropriate space on the form.
2. **Clarity**: This parameter refers to how cloudy the sample is. It is *usually* an indication of fewer pollutants in the water if the sample is clear or transparent. If the clarity has changed since the last sample, try to identify what might have caused this to happen.
   - **Clear** – Sample doesn't block any light; can be seen through regardless of color.
   - **Cloudy** – Sample blocks some light; objects not clear but can be identified looking through the sample.
   - **Very Cloudy** – Sample blocks most light; objects cannot be identified looking through the sample.
   - **Opaque** – Sample blocks all light; objects cannot be seen when looking through the sample.
3. **Oil Sheen:** Record whether or not an oil sheen is present. If a film of iridescent color is noted on the surface of the sample or a rainbow effect appears to be floating on the surface of the water, this usually indicates oil is present.
4. **Odor:** If sample has no odor other than natural rainwater or snowmelt, write "NO" on the visual monitoring form. Note the presence of any of the following odors if detected, such as gasoline, diesel, oil, solvents (WD-40, other petroleum products, etc.), garbage, fishy, sweet/sugary, any other unusual odors not normally present in clean runoff from the area sampled.
5. **Floating Solids:** A contaminated flow may contain solids or liquids floating on the surface. Identifying floatables can aid in finding the source of the contamination. Examples of floatables are spoiled food products, oils, plant parts, solvents, sawdust, foams and fuel. Give a general description of the type of floating solids present (wood chips, leaf debris, algae, etc) in the general comments section for each sample. Identify amount of floating solids as described below.
   - **High** – More than 20% of the surface of the sample is covered with floating solids.
   - **Moderate** – Less than 20% of the surface of the sample is covered with floating solids.
   - **Slight** – Only a few floating particles observed on the surface of the sample.
   - **None** – No floating solids present on the surface of the sample.
6. **Suspended solids:** Record whether or not suspended solids are present in the sample. Suspended solids are particles floating inside the column of water, not on top, and may contribute to changes in water color or clarity. Cracked or deteriorated concrete or peeling surface paint at an outfall usually indicates the presence of severely contaminated discharges. Contaminants causing this type of damage are usually very acidic or basic.

---------- WAIT 30 MINUTES ----------

Leave the sample undisturbed for 30 minutes to allow the water and anything in it to settle.

7. **Settled Solids:** After 30 minutes has passed, give a general description of the type of settled solids present (sand, decayed plant matter, rust particles, etc.) in the general comments section.
8. **Foam:** After completing #7, shake the bottle gently. Record foam results on the form as they most closely match one of the descriptions listed below.
   - **None** – Most bubbles break down within ten (10) seconds of shaking; only a few large bubbles persist longer than ten (10) seconds.
   - **Moderate** – Many small bubbles are present but these bubbles persist for less than two (minutes) after shaking.
   - **High** – Many small bubbles are present and they persist longer than two (2) minutes after shaking.
9. Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample. This should include the identified source if there are visible indicators present in the sample. The person performing test must sign and date each form**.**

Routine Facility Inspection Form

Date: _____ Time: _____

Conducted by: _____

Signature: _____

Area/Equipment/BMP Inspected	Observations	Actions Taken

Discharge Monitoring Reports

APPENDIX E

Completed Forms, Inspection Logs, and Monitoring Reports

Non-Stormwater Discharge Inspection Reports

Employee Training Records

Facility Inspection Reports

Discharge Monitoring Reports

APPENDIX F

Spill/Discharge Reporting Forms

Standard Spill/Discharge Reporting Forms

MARYLAND DEPARTMENT of the ENVIRONMENT
1800 WASHINGTON BOULEVARD
BALTIMORE , MARYLAND. 21230
(410) 537-3000
1-800-633-6101 (within Maryland)
http://www.mde.state.md.us

State of Maryland
Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore , Maryland. 21230-1721

24 HOUR SPILL REPORTING
(Toll Free) 1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** * * *FIRE DEPARTMENT PERSONNEL , SEE REVERSE* * * ***

ADC Map Coord _____

Date of spill: Mo. __ __ / Day __ __ / Yr. 20 __ __ Time of spill: __ __ __ __ Hours (24 hour clock)

Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address:
_____
_____
City / Town _____
MD County _____
Zip _____

Product Name:
_____
(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)
Container Type:
_____
(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)

Capacity of Vessel, Vehicle or Tank:
_____ Gallons
Amount ***IN*** Vessel, Vehicle or Tank:
_____ Gallons
Estimated ***Amount Spilled:***
_____ Gallons

Transportation Incident:
_____
(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)
Fixed Facility Incident:
_____
(Indicate Type of Industrial , Commercial , Residential etc.)

☐ Contained on Land
☐ Entered Storm Drain or Ditch
☐ Entered Sanitary Sewer
☐ Is Below Ground
☐ Entered surface waters:
_____
Waterway Name

Vehicle Tag Number and State:
_____ _____
DOT or ICC MC Number:
_____
Hull Numbers and Name**:**
_____ _____

Person(s) Responsible for Spill: (Driver if Vehicle)
Name:_____
Address:_____
_____
City/State: _____ Zip: _____
Phone: _____
Drivers Lic.No._____ State:_____

Be Sure to Complete Both Sections
Don't Forget to Sign Below

Company Responsible for Spill: (N/A if private citizen.)
Name:_____
Address:_____
_____
City/State: _____ Zip: _____
Phone: _____
Fed. Employer ID No. _____

Cause of Spill:
☐ Motor Vehicle Accident
☐ Personnel Error/Vandalism
☐ Tank/Container/Pipe Leak
☐ Mechanical Failure
☐ Transfer Accident
☐ _____

Identify All Groups that *Participated* in Spill Mitigation :
☐ Responsible Party
☐ **MDE ERD** # _____ # _____
☐ Federal : _____
☐ State : _____
☐ Local : _____
☐ Contractor: _____

Materials used *by You* to contain/clean-up spill:
Sorbent Dust: _____ Bags
Sorbent Pads: _____ each or bales
Sorbent Booms: _____ each or bales
Sorbent Sweeps: _____ each or bales
Overpack Drums : _____ ea. Steel or Poly
Other:_____

Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Describe Containment , Removal and Clean-up operations , including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrance of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: _____ **Company or Fire Department:**_____
Address : _____ **City / State / Zip** _____
Telephone _____ **Signature** _____

MARYLAND DEPARTMENT of the ENVIRONMENT
1800 WASHINGTON BOULEVARD
BALTIMORE , MARYLAND. 21230
(410) 537-3000
1-800-633-6101 (within Maryland)
http://www.mde.state.md.us

State of Maryland
Department of the Environment
Emergency Response Division
1800 Washington Blvd. Suite #105
Baltimore , Maryland. 21230-1721

24 HOUR SPILL REPORTING
(Toll Free)1-866-633-4686
EMERGENCY RESPONSE OFFICE
(410) 537-3975
RESPONSE OFFICE FACSIMILE
(410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (Environmental Article 4-401 (i) ; the "Person Responsible for the discharge includes , The owner of the discharged oil , The owner , operator and / or the person in charge of the oil storage facility, vessel , barge , or vehicle involved at the time of or immediately before the discharge ; and Any person who through act or ommission , causes the discharge."

**** * * Fire Department * * * and Local or State Government Agencies : Unless you are the responsible party as defined above , Please indicate " Unknown " in any box reuesting information that is unknown or unavailable to you at the time of report.***

This Space for continuation and additional information.

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.

Print Name: _____ **Company or Fire Department:** _____

Address : _____ **City / State / Zip** _____

Telephone _____ **Signature** _____

Discharge Notification Form		
General information when reporting a spill to outside authorities: Name: Address: Telephone: Primary Contact:		
Type of material:	Discharge Date and Time:	
Quantity released:	Discovery Date and Time:	
Quantity released to a water body:	Discharge Duration:	
Location/Source:		
Actions taken to stop, remove, and mitigate impacts of the discharge:		
Affected media: air water soil	Stormwater or sanitary sewer dike/berm/oil-water separator other: _____	
Notification person:	Telephone contact: Business: 24-hr:	
Nature of discharges, environmental/health effects, and damages: Injuries, fatalities or evacuation required?		
Part B: Notification Checklist		
	Date and time	Name of person receiving call
Discharge in any amount		
Facility Manager		
Discharge in amount exceeding 10 gallons and *not affecting a water body or groundwater*		
MDE		
Discharge of a Reportable Quantity or any relsease affecting (or threatening to affect) a water body		
MDE		
National Response Center		

Agency Notification Standard Report

Information contained in this report, and any supporting documentation, must be submitted to the USEPA Region 3 Regional Administrator, and to MDE, as soon as practicable following the qualifying incident.

Facility:
Owner/operator:
Name of person filing report:
Location:
Maximum storage capacity:
Daily throughput:
Nature of qualifying incident(s): __ Discharge to navigable waters or adjoining shorelines exceeding 1,000 gallons __ Second discharge exceeding 42 gallons within a 12-month period.
Description of facility (attach maps, flow diagrams, and topographical maps):
Cause of the discharge(s), including a failure analysis of the system and subsystems in which the failure occurred:
Corrective actions and countermeasures taken, including a description of equipment repairs and replacements:
Additional preventive measures taken or contemplated to minimize possibility of recurrence:
Other pertinent information:

Completed Spill/Discharge Reporting Forms

MCM MANAGEMENT CORP Industrial Services

January 2, 2014

Mr. Al Simkins
Oil Control Program
Waste Management Administration
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230

RE: MCM Management Oil Spill Report (Oil Operations Permit No. 2010-OPT-2078B)

Dear Mr. Simkins,

As required in our Oil Operations Permit (Permit No. 2010-OPT-2078B), MCM Management (MCM) is submitting this report detailing the December 2, 2013 spill of 40 gallons of diesel fuel. The spill occurred from the locomotive engine onto soil on either side of the railroad tracks. MDE was notified of the details of this spill (Spill Report No. 12-2-2013-1455) and approximately 60 cubic yards of contaminated soil was immediately removed and taken to the on-site landfill (Greys Landfill) for disposal.

The railroad conducted a root cause analysis of the cause of the oil spill. The results of their investigation and corrective actions taken are included in this submittal.

Please call me if you have any questions or need any additional information.

Sincerely,

Brandon J. Bonanno
Environmental Manager

Enclosure

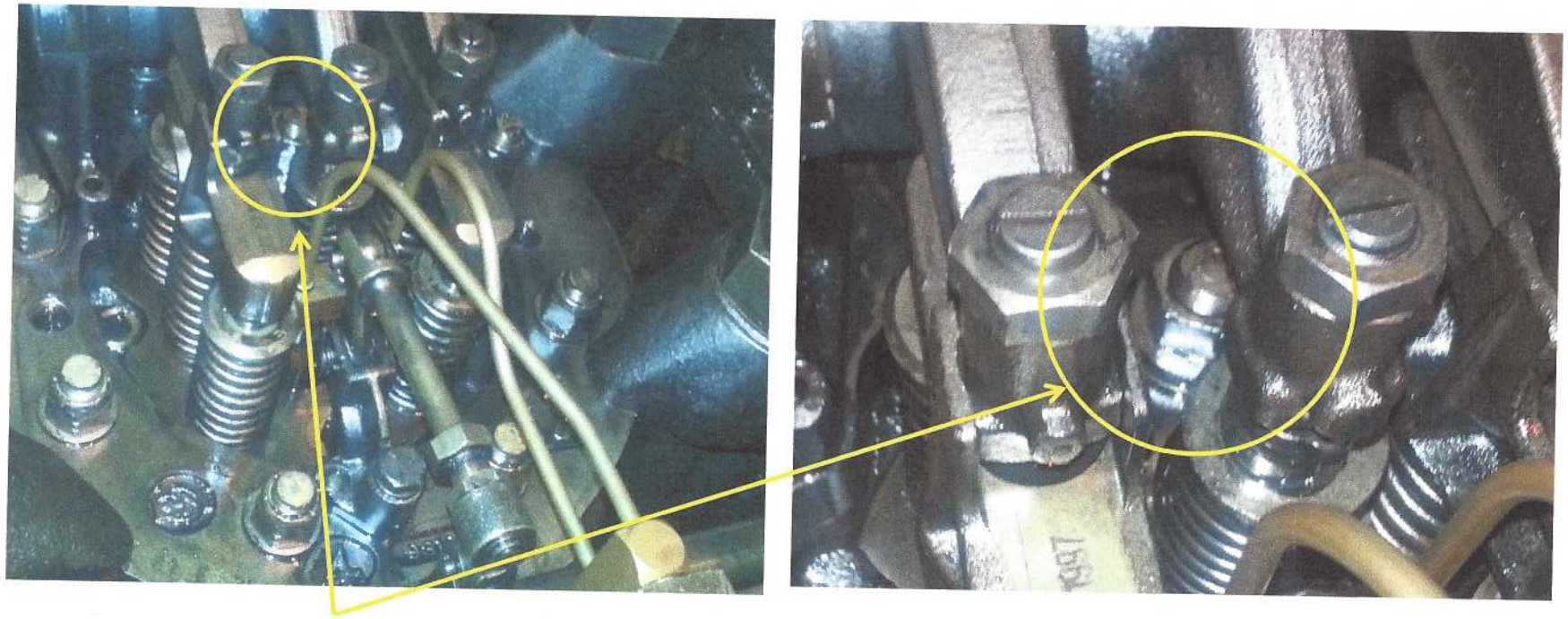
Fuel Spill

Track A-15 - 12/02/2013

- The nut that holds the injector crab was loose (due to thread stripping) and caused the injector to jump up and down. This caused the fuel jumper to fatigue and eventually breaks.
- Because of this, the fuel was injected directly into the engine.
- The engine has a top deck which overflowed due to the increased amount of fluid.
- The defective parts were not part of the standard 90 day inspection but will know be include as a periodical inspection to ensure we can prevent this from happening again.

Fuel Spill
Track A-15 - 12/02/2013

Pictures of good parts

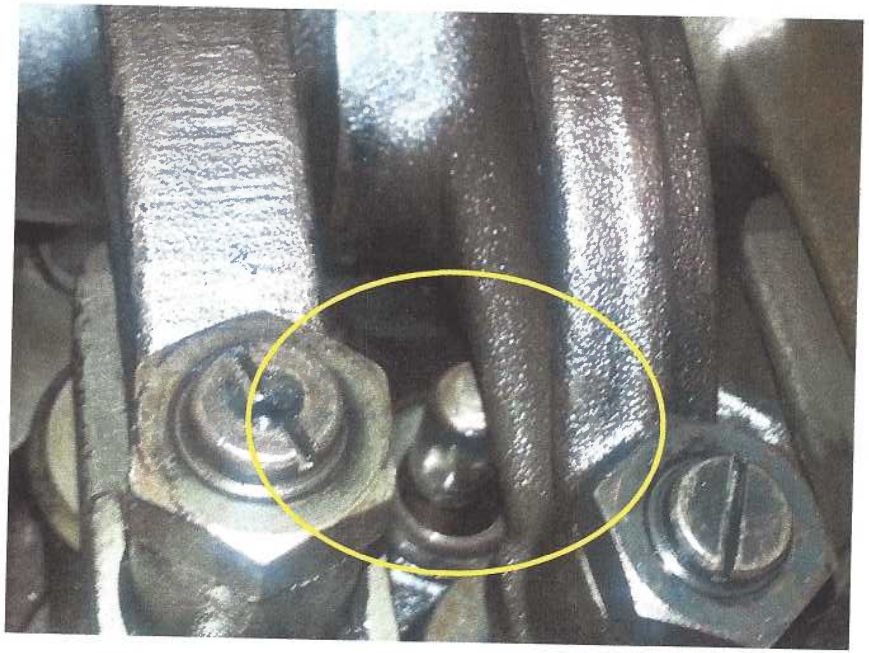


This is correct positioning of the nut that holds the Injector crab.

Fuel Spill
Track A-15 - 12/02/2013

Broken Parts from injector

Stripped stud



APPENDIX G

MDE Oil Operations Permit Number 2010-OPT-2078B

Please Note: MDE's Land Management Administration conducts compliance inspections under the Oil Operations Permit.

MDE
MARYLAND DEPARTMENT OF THE ENVIRONMENT
Oil Control Program, Suite 620, 1800 Washington Boulevard • Baltimore MD 21230
410-537-3442 • 410-537-3092 (fax) 1-800-633-6101

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

JUL 30 2013

CERTIFIED MAIL

Mr. Mike Vogler
MCM Management Corp
1430 Sparrows Point Boulevard
Sparrows Point MD 21219

Dear Mr. Vogler:

This is in response to the correspondence to the Department dated November 19, 2012 requesting the change of owner for Oil Operations Permits 2010-OPT-2078A and the change in tank inventory reporting. We have modified your permit to reflect these changes. Please insert the enclosed modified pages into your copy of the validated permit replacing or supplementing the appropriate existing pages. The effective date of the modification is indicated on the new cover page. The effective date for those conditions not affected by the modification remains as specified on the first page of the permit.

Should you have any questions concerning the modification, please call Mr. Albert E. Simkins Jr. at (410) 537-3402.

Sincerely,

Horacio Tablada, Director
Land Management Administration

HT:as

Enclosures

cc: Mr. Thomas Walter
Mr. Gregory Sonberg
Ms. Barbara Brown

OIL OPERATIONS PERMIT

Oil Operations Permit Number	**2010-OPT-2078B**
Effective Date	May 18, 2010
Expiration Date	May 18, 2015
Effective Date of Modification	July 30, 2013

Pursuant to the provisions of Title 4 of the Environment Article, Annotated Code of Maryland and regulations promulgated thereunder, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes:

MCM Management Corporation
35980 Woodyard Avenue
Bloomfield Hills MI 48304

to operate an oil facility:

Located at:

1430 Sparrows Point Boulevard
Baltimore, Maryland

in accordance with the special and general conditions imposed by this permit.

This Oil Operations Permit is issued in addition to, and not in substitution of, the requirements of other permits or authorizations granted for this facility.

REPORT ANY OIL SPILL OR DISCHARGE OF OIL IMMEDIATELY TO THE DEPARTMENT OF THE ENVIRONMENT

(866) 633-4686
(24 Hours)

AND THE APPROPRIATE FEDERAL AUTHORITY

This permit authorizes the delivery of oil by truck tank or by transport in Maryland and the storage of oil in the aboveground storage systems as listed in Attachment 1 dated 2011 and revised February 2013. Underground oil storage systems are authorized pursuant to the provisions of Code of Maryland Regulations (COMAR) 26.10.02.

* added This permit authorizes the solidification of oil sludge, oil refuse, and/or oil mixed with other waste. Tank bottoms shall be limited to residue remaining in the bottom and sides of oil storage tanks whose sole use has been for the storage of oil.

I. SPECIAL CONDITIONS

A. The permittee shall implement the following:

1. Measure and record in writing the liquid levels of oil storage systems at your facility prior to filling as required by Code of Maryland Regulations 26.10.01.12B (9).

2. Deliver oil by truck tank or by transport consistent with Code of Maryland Regulations 26.10.01.16 and 26.10.01.17.

3. For oil delivery by truck tank or transport and in all instances where the tank is accessible, drivers shall measure the tank ullage (available capacity) prior to filling.

4. Provide the truck tank or transport delivery vehicle(s) with spill clean-up material to promptly contain, collect and remove oil spillage.

5. Provide fire extinguishers on transport or truck tank vehicles in accordance with NFPA 385, 2000 edition.

6. The Maryland Department of the Environment's emergency spill reporting telephone number, 1-866-633-4686, must be conspicuously posted in all truck tanks and transports receiving or delivering oil in Maryland.

7. Meet minimum vehicle insurance coverage for the transport of all types of oil, including gasoline.

8. Perform preventative maintenance annually or every 25,000 miles for truck tanks, transports, and vacuum tanks in accordance with 49 CFR 396 and COMAR 11.14.

9. Inspect and test truck tanks, transports, or vacuum tanks used for transporting flammable petroleum liquids in accordance with 49 CFR 180.407.

10. Obtain U.S. DOT numbers for interstate truck tanks, transports, and vacuum tanks or Maryland State Highway Administration identification numbers for intrastate truck tanks, transports, and vacuum tanks.

* denotes modification 9/2010

I. SPECIAL CONDITIONS (continued)

A. 11. Register all placarded truck tanks, transports, and vacuum tanks in accordance with 49 CFR 107.

12. Conduct driver safety training requirements as specified in 49 CFR 172.700 and COMAR 26.10.01.16D.

13. Locations where vehicles are permitted to be domiciled in Maryland shall meet zoning requirements for the parking of commercial truck tanks, transports, and vacuum tanks.

** modified 14. Provide to the Department an updated listing of aboveground oil storage tanks on a quarterly ~~annual~~ basis, to include tank identification number, tank size, product stored, and type of secondary containment.

15. Oil Spills.

a. Initial notification to the Department of all oil spills shall be in accordance with General Condition C of this permit. Small (up to 5 gallons) amounts of oil or fuel discharged in an area not likely to pollute waters of the State, which have been expeditiously contained and removed, not including oil or fuel that entered a drain, shall be exempted from the notification requirements in General Condition C of this permit.

b. Oil spills greater than or equal to 50 gallons require reporting in accordance with General Condition E of this permit.

c. Provide a written report to the Department on a monthly basis that has a summary of all oil spills less than 50 gallons. The report shall provide the following information regarding each spill:

(1) Date of spill.
(2) Location.
(3) Product.
(4) Quantity.
(5) Waters of the State affected
(6) Final disposition.

completed 16. ~~All wiring in the secondary containment area of the 15,000-gallon diesel fuel (541) aboveground storage tank shall be of a type specified by and installed in accordance with NFPA 70, National Electric Code~~.

** denotes modification 7/2013

I. SPECIAL CONDITIONS (continued)

* added A. 17. Oil sludge, oil refuse, and/or oil mixed with other waste solidified at this facility may not contain:

a. A hazardous substance as defined in Title 7, Subtitle 2 of the Environment Article.
b. Sludge, refuse or other mixed waste removed from a gasoline tank system.

* added 18. Solidification of oil sludge, oil refuse, and/or oil mixed with other waste shall be processed in batches in three reinforced concrete solidification areas (Pits 1, 2 & 3) located at Dock 36A

* added 19. Maintain a tracking log for each solidification batch generated by this facility which shall include the following information for each source that is part of the batch: building number or facility process name where the oil sludge, oil refuse and/or oil mixed with other waste originated from, and the source of the material including the approximate quantity.

* added 20. Storm water entering the solidification area shall be either included in the solidification process or removed and disposed of at a facility permitted for the treatment of oily water. Storm water that enters the solidification area shall not be discharged to surface or ground waters of the State.

* added 21. At the end of each workday, the area surrounding the sludge solidification area shall be cleaned of all oily substances.

* added 22. The end product from the solidification process shall be disposed of at either the Grey's Landfill or at an U.S. EPA and/or State permitted facility that can accept the material. The end product is not considered oil-contaminated soil and shall not be disposed of at facilities that are permitted to treat oil-contaminated soils.

* added 23. Maintain all records as required by this permit for a minimum of three years including all approvals, certifications and testing data.

* added 24. The end product shall be sampled and analyzed quarterly, using the EPA methods prescribed for the following:

a. PCB (Method 8080)
b. TCLP (Method 1311) (metals)
c. TPH (Test Method 8015 M GRO & DRO)
d. TPH (Method 9071)

* added 25. Perform a visual inspection of the solidification areas. The solidification areas shall be empty and clean prior to the visual inspection.

* denotes modification 9/2010

I. SPECIAL CONDITIONS (continued)

B. Schedule of Compliance

1. Schedule

The permittee shall achieve compliance with the alterations, modifications, or improvements specified by the Department in accordance with the following schedule:

* added

a. Special Conditions A.1 through A.15 and A.17 through A.24 shall be placed in effect upon receipt of this permit.

completed

b. ~~Special Condition A.16 shall be completed within 90 days after the effective date of this permit~~.

* added

c. Special Condition A.25 shall be performed annually beginning in 2011.

2. Notification

No later than 14 calendar days following the date identified in the above Schedule of Compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the case of noncompliance the notice shall include:

a. a description of the noncompliance;

b. a description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirement;

c. a description of any factors which tend to explain or mitigate the noncompliance; and

d. the date that compliance with the elapsed schedule requirement will be achieved.

II. GENERAL CONDITIONS

A. Compliance with Regulations

The permittee's operations shall comply with all of the applicable requirements in COMAR 26.10.01.01.-.12, 26.10.01.16 -.21, and 26.10.15 for the handling and cleanup of oil. The permittee is not authorized by this permit to discharge oil or cause oil to be discharged into waters of the State.

* denotes modification 9/2010

II. GENERAL CONDITIONS (continued)

B. Plan for Notification, Containment and Clean-Up of Oil Spills

A Maryland Department of the Environment "Plan for Notification, Containment and Clean-Up of Oil Spills", herein referred to as the "Plan", shall be completed by the permittee. The permittee shall comply with its "Plan", incorporated herein as a reference. The "Plan" shall be reviewed annually and updated by the permittee, as necessary. The Department shall be notified in writing by the permittee of any change in the "Plan".

C. Immediate Telephone Report Required of Oil Discharge or Spill

The permittee shall notify the Department immediately, but not later than two hours after detecting a spill and also notify the appropriate Federal authority of any such discharge or spill of oil or other petroleum products. The Department shall be notified for any oil spill, regardless of the size, source, or the cause of the discharge or spill.

Such report shall be made by telephone to the telephone number listed on Page One of this permit, and shall include as a minimum the following information:

1. time of discharge;
2. location of discharge;
3. type and quantity of oil;
4. assistance required;
5. name, address, and telephone number of person making the report; and,
6. all other pertinent and necessary information requested by the Department.

D. Responsibility for Cleanup

The permittee has the primary responsibility for the immediate commencement of the control, containment, and removal of any oil discharged or spilled, and the restoration of the natural resources of the State. Failure to act promptly and responsibly may result in the control, containment, and removal of the oil and restoration by the Department or its agent with the costs assessed to the permittee.

E. Written Report Required on Removal and Cleanup of Spilled Oil

In the event a discharge or spill of oil has occurred, the permittee shall immediately commence control, containment, removal, and restoration operations. The permittee shall submit to the Department a written report within 10 days after completion of the control, containment, removal, and restoration operations. The written report shall include the following:

1. date, time, and place of spill;
2. amount and type of oil spilled;
3. complete description of circumstances contributing to the spill;

II. GENERAL CONDITIONS (continued)

E. Written Report Required on Removal and Cleanup of Spilled Oil (continued)

4. complete description of containment, removal, clean-up, and restoration operations including disposal sites and costs of operations;
5. procedures, methods, and precautions instituted to prevent a recurrence of an oil spill from the facility involved; and,
6. other information considered necessary or required by the Department for a complete description of the spill incident.

F. Facility Operation and Maintenance

1. Maintenance

All treatment, control, and monitoring facilities or systems installed or used by the permittee shall at all times be maintained in good working order and operated efficiently.

2. Change in Operation

The operation of this oil operations facility shall be consistent with the terms and conditions of this permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased oil operations shall be reported by the permittee by submission of a new application or by notice to the Department. Following such notice, the permit may be modified by the Department by the addition or revision of permit conditions.

G. Removed Oil, Used Oils, Waste Oils, or Oily Substances

Oils, used oil, waste oil, oily solids or sludges, or other oil contaminated substances generated by, or removed from the operations of this permitted facility shall be disposed of in a manner to prevent any such removed substances or runoff from such substances from entering or from being placed in a location where they are likely to pollute waters of the State.

H. Monitoring by Permittee Required

The permittee shall supervise and check, on a regular schedule, all aspects of the oil operations involved, and shall identify and correct any deficiency in operational procedure and any actual or potential defect or weakness in the operating system so as to prevent occurrences of oil spills.

II. GENERAL CONDITIONS (continued)

I. Records Retention Required

All records and information resulting from the monitoring activities required by this permit shall be retained for a minimum of three (3) years. This retention time may be extended during the course of litigation or when so requested by the Department.

J. Right of Entry

The permittee shall permit authorized representatives of the Department, upon presentation of appropriate credentials, entry into the permittee's facilities to conduct inspections necessary to monitor compliance with the terms and conditions of this permit. The permittee shall provide such assistance as may be necessary to effectively and safely conduct such inspections.

K. Permit Modification, Suspension, or Revocation

1. Request by Permittee

a. Any substantial change either in the size or scope of the operation or in the information and data previously supplied to the Department in the "Oil Operations Permit Application" shall require a permit modification.

b. A permit may be modified by the Department upon written request of the permittee.

2. Action by the Department

a. This permit may be suspended or revoked upon a final, unreviewable determination that the permittee lacks, or is in violation of, any federal, state or local approval necessary to conduct the activity authorized by this permit.

b. In issuing this permit, the Department has relied upon certain information or data provided by the permittee in the permit application. If such information should be false or inaccurate, this permit may be modified, suspended, or revoked.

c. Failure to report substantial changes as described in K.1.a. above may constitute a basis for suspension or revocation of the permit.

II. GENERAL CONDITIONS (continued)

L. Transfer of Ownership or Control of Facilities

In the event of any change in control or ownership of the facilities for which this permit has been issued:

1. The permittee shall notify, in writing, the succeeding owner or his assigned representative of the existence of this permit and of any outstanding violations of the permit. A copy of this notification shall be forwarded to the Department at least 30 days prior to said change in control or ownership.

2. The succeeding owner or his assigned representative shall notify the Department in writing, that the succeeding owner accepts the terms and conditions of the permit. Notification shall be made to the Department within 30 days after said change in ownership occurs.

M. Civil and Criminal Liability

Nothing in this permit shall be construed to preclude initiation of any legal action by the Department nor relieve the permittee from civil or criminal penalties for noncompliance with Title 4 of the Environment Article, Annotated Code of Maryland, or any local, federal, or other State laws or regulations.

N. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of State or local laws or regulations.

O. Miscellaneous Provisions

1. All permits and files of the Department relating to such permits shall be available for public inspection.

2. The State of Maryland is not precluded by the issuance of this permit from imposing other changes relating to the operations of the facility.

P. Severability

If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provisions shall be considered severed and deleted from this permit.

II. GENERAL CONDITIONS (continued)

Q. Permit Expiration

This permit shall expire at midnight on the expiration date of the permit. In order to receive authorization to continue operation of these oil operations facilities beyond the above date of expiration, the permittee shall submit such information, and/or forms as are required by the Department no later than 60 days prior to the above date of expiration.

Horacio Tablada, Director
Land Management Administration

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719
410-537-3442 410-537-3092 (fax) 1-800-633-6101, ext. 3442

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

CROSS REFERENCE GUIDE FOR COMAR 26.10.01.16

A. COMAR 11.16.01 (incorporates federal transportation regulations as described)

1. 49 CFR 107.501-107.504 (Subpart F – Registration of Cargo Tank Motor Vehicle Manufacturers and Repairers and Cargo Tank Motor Vehicle Assemblers)
2. 49 CFR 107.601-107.620 (Subpart G – Registration of Persons Who Offer or Transport Hazardous Materials)
3. 49 CFR 171 (Subpart C – Hazardous Materials Regulations)
4. 49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
5. 49 CFR 173 Shippers – General Requirements for Shipments and Packaging
6. 49 CFR 174 Carriage by Rail
7. 49 CFR 175 Carriage by Aircraft
8. 49 CFR 176 Carriage by Vessel
9. 49 CFR 177 Carriage by Public Highway
10. 49 CFR 178 Specifications for Packaging
11. 49 CFR 179 Specifications for Tank Cars
12. 49 CFR 180 Continuing Qualification and Maintenance of Packaging

B. COMAR 11.21.01 (incorporates federal motor carrier safety regulations as described)

1. 49 CFR 40 Transportation Workplace Drug Testing Programs
2. 49 CFR 382 Controlled Substances and Alcohol Use and Testing
3. 49 CFR 390 Federal Motor Carrier Safety Regulations, General
4. 49 CFR 391 Qualifications of Drivers
5. 49 CFR 392 Driving of Commercial Motor Vehicles
6. 49 CFR 393 Parts and Accessories Necessary for Safe Operation
7. 49 CFR 395 Hours of Service of Drivers
8. 49 CFR 396 Inspection, Repair and Maintenance
9. 49 CFR 397 Transportation of Hazardous Materials; Driving and Parking Rules
10. 49 CFR 398 Transportation of Migrant Workers
11. 49 CFR 399 Employee Safety and Health Standards

Severstal Sparrows Point, LLC.
2011 Tank Inspection Log

TANK NUMBER		TANK LOCATION	LOCATION MILL	STORED MAXIMUM	STORED PRODUCT
15	A	HUB TD 372 DIESEL TANK	HUB	5,400	DIESEL FUEL
15	B	HUB TD 372 DIESEL TANK	HUB	5,400	DIESEL FUEL
65		NO. 1 REPAIR SHOP	NO. 1 REPAIR	275	DEXRON 2
66		NO. 1 REPAIR SHOP	NO. 1 REPAIR	275	GEAR LUBE 80W90
67		NO. 1 REPAIR SHOP	NO. 1 REPAIR	500	TECTION S 15W40 MOTOR OIL
197		NO. 3 REPAIR SHOP	NO. 3 REPAIR SHOP	500	USED OIL
200		NO. 3 REPAIR SHOP CAR WASH BAY	NO. 3 REPAIR SHOP	500	DEXRON 3
201		NO. 3 REPAIR SHOP CAR WASH BAY	NO. 3 REPAIR SHOP	500	GEAR LUBE C
202		NO. 3 REPAIR SHOP CAR WASH BAY	NO. 3 REPAIR SHOP	1,000	PARADENE AW
203		NO. 3 REPAIR SHOP CAR WASH BAY	NO. 3 REPAIR SHOP	1,000	TECTION S 15W40
493		PLANT GARAGE (EAST) DIESEL TANK	PLTGAR	10,000	DIESEL FUEL
494		PLANT GARAGE (WEST) DIESEL TANK	PLTGAR	10,000	DIESEL FUEL
511		PLANT GARAGE UST	PLTGAR	12,000	GASOLINE
541		SLAB HAULER REPAIR FACILITY	SHRF	15,000	DIESEL FUEL
543		SLAB HAULER REPAIR FACILITY	SHRF	500	USED OIL
546		SLAB HAULER REPAIR FACILITY	SHRF	500	DIESEL ALL
547		SLAB HAULER REPAIR FACILITY	SHRF	550	CASTROL AP GEAR LUBE
548		SLAB HAULER REPAIR FACILITY	SHRF	550	TRANS C
555		NO. 1 REPAIR SHOP	NO. 1 REPAIR SHOP	2,000	PARADENE AW
556		NO. 1 REPAIR SHOP	NO. 1 REPAIR SHOP	275	UNIVERSAL TRACTOR FLUID
558		SLAB HAULER REPAIR FACILITY	SHRF	500	BLUE HYDRAULIC OIL
559		SLAB HAULER REPAIR FACILITY	SHRF	300	80W140 ESGL
560		SLAB HAULER REPAIR FACILITY	SHRF	350	CASTROL HYPURON
561		SLAB HAULER REPAIR FACILITY	SHRF	300	TRANS C-50
800		PLANT GARAGE LOW SULFUR DIESEL	PLANT GARAGE	500	LOW SULFUR DIESEL FUEL
802		PLANT GARAGE	PLANT GARAGE	250	KEROSENE
809		SLAB HAULER REPAIR SHOP	SLAB HAULER REPAIR	500	CASTROL HYPURON 15W-40
810		PLANT GARAGE	PLANT GARAGE	2,000	GASOLINE

APPENDIX H

Greys Landfill Facility Operation Manual

Please Note: MDE's Land Management Administration conducts compliance inspections and/or provides comments regarding the Operations Manual for Greys Landfill.

GREYS LANDFILL FACILITY
OPERATIONS MANUAL

TABLE OF CONTENTS **PAGE NUMBER**

1.0 INTRODUCTION

1.1 BACKGROUND

Greys Landfill is a waste disposal landfill located within Sparrows Point site property. The landfill is currently used for the disposal of non-hazardous waste associated with ongoing environmental compliance and decommissioning/demolition actions at the Sparrows Point site. This manual provides procedures and requirements for the landfill including waste placement and inundation compliance, waste acceptance, operating requirements, environmental monitoring and operational restrictions. The operating procedures and design plans and specifications described in this manual have been developed to meet applicable compliance requirements for operation of Greys Landfill as defined by the Multi-Media Consent Decree for the Sparrows Point Facility dated October 8, 1997.

1.2 DEFINITIONS

CHS - Controlled Hazardous Substances

Facility - Sparrows Point Facility

HCWWTP - Humphreys Creek Wastewater Treatment Plant

Landfill - Greys Landfill

MDE - Maryland Department of the Environment

NAVD (1988) - North American Vertical Datum (1988)

OSHA - Occupational Safety and Health Administration

SPLLC – Sparrows Point LLC

MCM –MCM Management Corporation

2.0 SITE INFORMATION

2.1 ENVIRONMENTAL CONTACT LIST

The following is a list of entities involved with the design, operation and maintenance of Greys Landfill at the Sparrows Point site.

Operations and Maintenance:

Sparrows Point LLC
Contact: Site Manager
Sparrows Point LLC Office
1430 Sparrows Point Blvd.
Sparrows Point, Maryland 21219
Bill Trentzsch (314) 686-5611

MCM Management Corporation
Contact: Environmental Manager
MCM Management Site Office
1430 Sparrows Point Blvd.
Sparrows Point, Maryland 21219
Brandon Bonanno (410) 292-6356

2.2 SITE LOCATION AND DESCRIPTION

Greys Landfill is located at the northwestern portion of the Sparrows Point property. The landfill is situated adjacent to Interstate Route 695 that provides a boundary to the south of the landfill and Peninsula Highway that is north of the landfill. The existing landfill area is approximately 40 acres in size and is characterized by waste deposits and graded side slopes developed during many years of waste and miscellaneous slag filling operations. Current surface elevations of the waste materials generally range from 90 to 110 feet in elevation. Filling operations in this area began in approximately 1970 as determined by aerial photograph records. The waste materials are currently being spread and compacted on the top surface of the landfill with operating procedures that are outlined in detail in the following sections.

3.0 GREYS LANDFILL WASTE PLACEMENT

3.1 WASTE PLACEMENT TO AVOID WATERS OF THE STATE

Drawing Nos. 191462 through 191486 specify the horizontal and vertical extents and provides cross-sectional views of the future waste placement operations at the landfill. Waste placement at the landfill will be within the horizontal limit as specifically delineated on these drawings.

Future waste placement will not occur in locations with existing topographic elevations less than 50 NAVD (1988). This elevation is in excess of 40 feet above the 100-year flood elevation. Waste placement restrictions at this elevation will provide adequate vertical separation from maximum anticipated groundwater elevations that could occur during flood events.

3.2 ACCEPTABLE WASTES

Greys Landfill accepts only non-hazardous waste from commercial, industrial, construction, demolition and other activities occurring on the grounds of the Sparrows Point site.

The following waste streams have undergone adequate inspection and physical/chemical characterizations and therefore do not require inspection prior to unloading at Greys Landfill:

- HCWWTP Sludge (such as from centrifuge cake)
- Clean common borrow materials
- Asbestos

All other waste streams currently require inspection prior to unloading as a condition of acceptable waste disposal practices.

3.3 PROHIBITED WASTES

The following wastes are prohibited from disposal at the landfill;

- Controlled Hazardous Substances (CHS) as regulated and listed in COMAR 26.13;
- Liquid wastes and wastes containing free liquids;
- Infectious waste from hospitals, laboratories, and other health care facilities unless specifically authorized by MDE;
- Radioactive materials as defined in COMAR 26.12.01;
- Seepage, sewage sludge, processed sewage sludge, and any other product containing these materials, unless authorized by a sewage sludge utilization permit;
- Automobiles;
- Drums or tanks, unless empty and flattened or crushed with the ends removed, or empty with the tops removed;
- Animal carcasses;
- Chemical or petroleum spill cleanup material, unless;

a) The nature of the spilled substance is known,
b) The spill cleanup material is demonstrably not a CHS, and

c) The spilled material is contained in an absorbent of sufficient excess volume that the material deposited at the landfill will not exhibit free liquids as defined in the following section.

3.4 ASBESTOS DISPOSAL

Disposal of asbestos containing materials (ACM) occurs at Greys Landfill according to specific operating procedures. Asbestos disposal notice signs have been placed at Greys Landfill in accordance with federal requirements. ACM is packaged, transported and disposed of as follows:

Where possible and required by regulation, ACM material is bagged and labeled at the generation point as asbestos waste in accordance with COMAR 26.11.21. It is transported to Greys Landfill by truck and deposited in the assigned asbestos cell. A load checker views the load before it is dumped and during the dumping process to assure that no asbestos becomes airborne.

Asbestos manifests are generated prior to pickup and transportation to Greys Landfill. One copy is left with the generator. Driver then proceeds to Greys Landfill. Upon his arrival the manifest papers are given to the Landfill Coordinator who signs the manifest after determining, to his satisfaction, that the load in the truck is properly described in the manifest.

The Landfill Operator will give permission for the truck driver to place the asbestos in the designated asbestos disposal area. The truck driver will then display the proper warning signs on the truck, warning those in the area that asbestos is to be removed from the truck and will deposit the load in the designed disposal area. The waste asbestos must be unloaded carefully to prevent the emission of fibers into the air. The Landfill Operator will immediately cover the asbestos-containing waste material in the designated disposal area with a minimum of six inches of clean fill material.

The asbestos-containing waste material will not be compacted or driven over until sufficient cover has been applied to prevent the release of asbestos fibers to the atmosphere during compaction or application of other cover material. Once the waste is on the ground, a loader covers it with sufficient soil-like waste or soil. Cover material is placed over the deposited bags of asbestos before it is driven over to assure no asbestos fibers are released to the atmosphere.

The manifests are left with the Coordinator if present, or taken to the Truck Driver's supervisor if the Coordinator is not present. The manifests are ultimately given to Sparrows Point LLC site management for record keeping.

3.5 WASTE INSPECTION PROGRAM

Non-hazardous waste streams at the facility are inspected before or during unloading at the landfill to ensure that no unacceptable wastes are disposed of at the landfill. The waste inspection program consists of specific procedures to account for: 1) uniform and thoroughly controlled waste streams and 2) miscellaneous waste streams. Waste streams not identified as described in Section 3.2 above undergo the following inspection program to ensure compliance with the acceptable waste restrictions:

Waste streams are accepted at the landfill only on the day shift of operations; MCM or SPLLC inspection personnel will be present at the landfill to verify waste type and origin and compliance with acceptable waste restrictions outlined in 3.2 above.

It is the responsibility of the waste generator at the facility to confirm that the waste stream has been adequately inspected. Landfill inspection personnel have the authority to reject incoming loads until adequate inspection has been completed.

Waste streams that have not previously undergone inspection require approval before arrival at the landfill. Approval may require verification analyses to confirm compliance with acceptable waste restrictions outline in 3.2 above. These analyses may include Paint Filter Tests, CHS analyses, and/or analyses requested by the MDE to determine suitability for land filling.

Incidents that result in a load of unacceptable waste, as defined in Section 3.3, being unloaded in the landfill will be reported immediately to management personnel at SPLLC and MCM. SPLLC will provide appropriate telephone reporting to MDE at (410) 537-3424.

SPLLC will submit an appropriate written follow up report to MDE within five working days following an incident. The report will describe corrective measures taken or planned, to remove the unacceptable waste from the landfill and to remediate the impact of the prohibited disposal.

4.0 GREYS LANDFILL OPERATING PROCEDURES

4.1 UNLOADING

The design horizontal and vertical extents of the landfill are filled by the controlled placement of acceptable waste materials in vertical lifts. The operational placement is be conducted to maintain a limited working face and adequate surface drainage on the top surface of the landfill while placing stable, compacted lifts of waste material. The height of the landfill will increase in accordance with the design side slope configuration with the incremental placement of waste materials.

Survey control and bench marks have been established at the landfill. Proper grade control will be established and maintained to construct waste elevations, drainage swales, fill area limits and side slopes according to the design plans.

4.2 LANDFILL PROCEDURES FOR HIGH MOISTURE CONTENT WASTES

The HCWWTP sludge and other high moisture content wastes require moisture reduction efforts prior to stacking and compaction efforts. These wastes are characterized by as-generated moisture contents above optimum ranges for adequate compaction. Typically, effective manipulation and compaction of fine-grained materials requires moistures within 3 to 5% of optimum values as determined by moisture/maximum density relationships (Proctor Tests). The following procedures will be conducted to provide for moisture reduction and subsequent compaction of the materials in accordance with proper engineering practices:

- HCWWTP or other sludge waste will be admixed with 10 to 20 percent by volume of a common borrow mixture to provide moisture reduction and better handling properties.

- The sludge admixture will be spread in maximum 6” inch to 1 foot working lifts within a drying area which is sloped to provide positive drainage. Disking operations will be conducted as necessary to improve drying of the sludge cake.

- Working lifts of waste materials not to exceed 2 feet will be regraded after sufficient drying time has passed to provide for adequate compaction efforts. Compaction with a dozer or similar type equipment will be conducted to provide waste lifts compacted to the smallest practicable volume to ensure trackable surfaces for placement of subsequent lifts of waste materials and to ensure landfill stability and safety;

4.3 LANDFILL PROCEDURES FOR OTHER WASTES

Landfill procedures for other solid wastes will involve the following;

- The incoming wastes will be unloaded within an active working face of the landfill and spread with bulldozers to lift thicknesses of approximately 2 feet;

- Compaction with a dozer or similar type equipment will be conducted as feasible based on the bulkiness of materials to provide waste lifts compacted to the smallest practicable volume. At a

minimum, trackable surfaces will be constructed to support placement of subsequent lifts of waste materials and to ensure landfill stability and safety;

4.4 LANDFILL PROCEDURES FOR ASBESTOS WASTES

Landfill procedures for asbestos waste will include the following;

- Waste asbestos will be unloaded carefully to prevent the emission of fibers into the air;
- The area used for asbestos disposal will be restricted to the working face of the landfill, or a separate cell dedicated solely to asbestos disposal;
- The asbestos will be completely covered with soil or other refuse immediately upon unloading a load or group of loads scheduled to be delivered within one morning or one afternoon, and will not be compacted or driven over until sufficient cover has been applied to prevent the release of asbestos fibers to the atmosphere during compaction or application of other cover material.
- Operating and supervisory personnel will comply with OSHA requirements with respect to protective clothing and respiratory protection for protection against asbestos fibers;

4.5 PROCEDURES FOR COVERING WASTE

Daily and Intermediate Cover:

No daily or intermediate cover is required for the acceptable wastes. The anticipated waste types are physically stable, non-putrescible and are not attractants for disease or animal vectors. The active stacking process is essentially a continuous incremental stacking procedure that develops compacted lift surfaces of stable waste materials.

Procedures are in place for special wastes including asbestos materials that exhibit the potential for airborne transport to be covered immediately. These materials are isolated in a working lift that has a dedicated supply of cover soil.

Interim vegetation is established on side slopes that are anticipated to be exposed for extended periods of time. Establishment of vegetation minimizes maintenance requirements of the sediment and surface water control systems.

Final Cover:

Final cover including vegetation will be placed on the existing side slopes in a phased slope modification program and on future side slopes as the stack height reaches each storm water control bench (25 feet in vertical elevation). The periodic placement of final cover on the side slopes will facilitate erosion control and minimize maintenance requirements of the perimeter swales and sediment traps during the active life of the facility.

The final cover to be utilized on the landfill will be as follows (from top layer downward):

- Vegetation support layer consisting of 6 inches of earthen material

- 18 inches of earthen fill;
- Drainage layer consisting of 6 inches of granular material exhibiting permeability Have 1 x 10^{-3} cm/sec or greater or equivalent geosynthetic drainage net;
- Low permeability cap layer consisting of a minimum of 1 foot of suitable waste material compacted to exhibit a permeability of 1 x 10^{-5} cm/sec or less;

Vegetation will be established on the final cover. The applicable seeding methods and types to be used for vegetation will be selected in consideration of seasonal and other factors. Specifications for seed mixture applications are included with the sediment and erosion control plan.

4.6 GRADING AND DRAINAGE

Drawing Nos. 191462 through 191486 show grading and drainage design requirements that are implemented for the landfill. The grading and drainage design requirements are implemented to: a) minimize runoff onto the working faces and other fill areas of the landfill; b) prevent erosion and ponding within the working faces and other fill areas; and c) facilitate runoff from the surface of the landfill. The procedures are summarized as follows:

Perimeter dike/swale structures are constructed to divert perimeter surface water run-on and maintain positive drainage control for sediment and surface water run-off from active landfilling areas. Run-off is directed to a sediment basin prior to discharge;

A permanent sediment basin will be constructed to collect and control sediment from active landfill areas. Storage volume requirements and physical dimensions will be based on storm water design criteria for the drainage area. The basin will be drained by a pipe outlet structure installed to provide discharge from the basin to Bear Creek;

A high point grade ridge will be established on the active landfill surface to promote runoff. Slopes on the top of the waste stacks will be maintained at approximately 2 to 4 percent from the high point ridge line to promote water drainage to the side slopes and prevent ponding and excess surface infiltration on the stack surface;

Storm water control benches approximately 20 feet wide will be constructed at 25 foot vertical increments on the side slopes of the landfill to direct and control storm water runoff. The benches will be reverse graded and sloped to direct runoff flow to stabilized discharge points. Berms will be constructed along the benches to delineate drainage areas to support design criteria of subsequent storm water control systems for the discharge points;

Pipe slope drains will be constructed to transfer storm water from the stabilized discharge points on the control benches to the perimeter swale structures. Discharge points of the pipe slope drains/channels will include rock outlet protection as appropriate to minimize future maintenance requirements of the perimeter swales;

Phased landfill construction sequencing will be implemented to provide vegetative stabilized final cover, acceptable slope grades and storm water collection structures. Final cover will be installed as specific vertical bench elevations are established;

4.7 PERSONNEL AND EQUIPMENT

Adequate personnel and equipment are maintained at the landfill to ensure proper operation and prompt attention to correct problems associated with the construction and maintenance of the landfill. The following personnel and equipment are allocated to this facility during active landfilling operations; current telephone lists are established and maintained with this Operations Manual:

Personnel:	SPLLC and MCM Landfill Compliance Inspector
	Equipment Operator(s)
Equipment:	Bulldozer (s)
	Front End Loader
	Aeration Disk
	Water Truck
Services:	Surveying
	Technical Services Engineering Support
	Vegetation and Maintenance Contract Services

4.8 SUPERVISION

Greys Landfill operation and maintenance will be supervised by both SPLLC and MCM management personnel.

4.9 SECURITY AND ACCESS

Signs will be maintained at the entrances of the landfill that reads "DANGER – UNAUTHORIZED PERSONNEL KEEP OUT". The landfill has an access gate that will be kept closed when not in use. The Sparrows Point Security Department makes routine checks of the landfill area surroundings to maintain security of the landfill.

4.10 LITTER CONTROL

Litter control is not anticipated to be a concern at the landfill. The anticipated waste streams do not contain wastes (paper or lightweight materials) that would require windblown litter controls. Wastes that have the potential to have windblown materials will be covered to prevent litter concerns.

Dust control measures will be implemented as part of routine operations at the landfill. Dust control includes the use of a water tank truck on the haul roads and active working face of the landfill as required.

4.11 SCAVENGING AND SALVAGING

Scavenging and salvaging of any material from this landfill is prohibited.

4.12 OPERATIONAL RESTRICTIONS

Residual waste may not be burned at the landfill unless specifically permitted by MDE.

Open dumping is not permitted at the landfill;

The landfill may not be operated in such a manner that the concentration of explosive gases generated by a unit exceeds twenty-five percent (25%) of the lower explosive limit for the gases inside its structure.

4.13 PROTECTION OF GROUND WATER WELLS

It is understood that the ground water wells need to be maintained for environmental monitoring purposes. The wells are painted yellow to make them stand out, to minimize the possibility of damage. Monitoring requirements are presented in Section 6.0.

4.14 LANDFILL CONSTRUCTION- SURVEY AND CONSTRUCTION REQUIREMENTS

Supervision will oversee and direct the landfill construction to maintain compliance with the design plans and specifications.

5.0 GREYS LANDFILL ENVIRONMENTAL MONITORING REQUIREMENTS

An environmental program of monitoring and reporting has been developed in response to the Decree. SPLLC is responsible for the environmental monitoring requirements. These requirements include provisions to periodically collect and analyze groundwater related to the landfill.

5.1 GROUNDWATER MONITORING WELLS

A semi-annual groundwater monitoring program is conducted to investigate the impact of the landfill on the groundwater as required as part of the MultiMedia Consent Decree. Groundwater monitoring reports are submitted to the Maryland Department of the Environment subsequent to each monitoring event.

5.2 EXPLOSIVE GASES

An initial survey for explosive gases has been conducted around the perimeter of the landfill. Potential explosive gases were determined to not be present at the boundary of the landfill. Results of the survey indicate routine monitoring is not necessary as part of the compliance and monitoring program.

6.0 DISTRIBUTION

SPLLC Site Management Personnel

MCM Management Corporation Personnel

APPENDIX I

Spill Prevention, Control, and Countermeasure Plan

Please Note: MDE's Land Management Administration conducts compliance inspections and/or provides comments regarding the Spill, Prevention, Control and Countermeasure Plan.

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

MCM MANAGEMENT CORPORATION

1430 Sparrows Point Blvd.

Sparrows Point, MD 21219

August 15, 2013

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EXECUTIVE SUMMARY

The Environmental Protection Agency (EPA) requires facilities handling oil and oil products to prepare Spill Prevention, Control, and Countermeasure (SPCC) Plans. The requirements for the SPCC Plans are set forth in 40 CFR 112, Environmental Protection Agency Regulations on Oil Pollution Prevention. The purpose of the regulations is to establish procedures and to provide equipment to minimize the potential for oil discharges to navigable waters.

This SPCC Plan has been prepared for MCM Management Corporation (MCM) located at 1430 Sparrows Point Boulevard, Sparrows Point, Maryland.

The Sparrows Point facility stores oil products, such as gasoline, diesel fuel, No. 2 fuel oil, hydraulic oil, grease, and lubrication oil. Spill response and notification guidance is addressed in detail in this document. In the event of an oil spill at the Sparrows Point Division, the Environmental Affairs Officer (EAO) at the facility is responsible for guiding the clean-up response and making appropriate spill notifications. The EAOs are among the first persons to be contacted in the event of a spill. After assessing the nature of the problem, the EAO determines to what extent the Oil Spill Response Plan will be activated and notifies the appropriate departments, offices, and response teams. The EAO is also responsible for initiating contact with outside organizations. Response Plan personnel are identified in Table 2. There are a number of emergency response organizations listed in Table 3 that can be notified and may offer assistance to the Sparrows Point in the event of an oil spill. Further guidance for emergency response procedures are provided in Tables 2, 3, 4, and 5 and Figures 1, and Figures-2.

Professsional Engineer's Seal

I hereby certify that I am familiar with the requirements of 40 CFR Part 112 and that I or my agent has visited and examined the MCM Management in Sparrows Point, Baltimore County, Maryland. I certify this SPCC plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of 40 CFR Part 112. Furthermore, I certify that procedures for required inspections and testing have been established and that the Spill Prevention, Control, and Countermeasure Plan is believed to be adequate for the facility based upon levels of facility staffing and resources.

By: C. William Ruth

C. William Ruth, P.E.

Date: August 15, 2013

1.0 INTRODUCTION

The MCM Sparrows Point Facility (Sparrows Point-EPA ID#: MDD 053945432) is located at 1430 Sparrows Point Boulevard, Sparrows Point, Maryland (see Figure 1, Site Location Map). The facility has been in operation since 1887. This document has been prepared for MCM Sparrows Point to address the requirements of 40 CFR 112, Environmental Protection Agency Regulations on Oil Pollution Prevention. The document includes significant changes following the December, 2008 revisions to 40 CFR 112.

Detailed facility drawings are available on site for inspection by Environmental Protection Agency personnel as required. Professional Engineering (P.E.) certification for this SPCC plan is found after the executive summary.

1.1 OBJECTIVES AND IMPLEMENTATION

The overall purpose of this Spill Prevention, Control and Countermeasure (SPCC) Plan is to minimize the risks associated with the storage and handling of oil. The preparation of this plan had the following objectives:

1. To determine the possible routes by which oil spills could either be released to the environment or pose a threat to human health or safety.

2. To identify the equipment, structures, or other physical means that are available to either prevent or contain oil spills.

3. To review management procedures and good engineering practices within the facility to reduce the likelihood of a spill and to minimize any adverse impacts in the event of a spill.

MCM Sparrows Point management is committed to oil spill prevention by providing the necessary equipment, personnel training, and assistance required to prevent and control the discharge of any material into any waters of the United States. This policy is supported by the commitment letter included in Appendix A.

MCM Sparrows Point management also charges each employee with the responsibility for prevention and control of pollution incidents in the performance of his/her daily duties. Implementation of the SPCC Plan is a collaborative effort on the part of supervisors, operators, and facility staff. The activities of that implementation include:

- Identification of materials handled;

- Identification of potential spill sources;

- Establishment of a specific spill reporting procedure through the MCM Sparrows Point Environmental Department;

- Completion of a scheduled inspection program;
- Review of past incidents, spills, and countermeasures utilized;
- Coordination and execution of activities for spill cleanup;
- Notification of proper state and federal authorities;
- Establishment of training/educational programs;
- Review of Plan's adequacy; and
- Administration of appropriate changes.

The Manager of each operation is responsible for all operations and activities in his area, including equipment and personnel. Some of these responsibilities include the following:

- Insure that all emergency procedures and contingency plan goals are met through the proper supervision of appropriate foremen and operators,
- Assist the Response Coordinator with all activities in response to emergencies,
- Ensure spill training is conducted at least yearly and more often if deemed necessary by the Environment Department,
- Help update training procedures and incorporate any improvements into the daily routine, and
- Review and maintain all training records and equipment inspection records.

1.2 REGULATORY REQUIREMENTS

The following information has been provided to address the Federal Spill Prevention, Containment and Countermeasure regulations 40 CFR 112, Environmental Protection Agency Regulations on Oil Pollution Prevention.

Under these regulations, oil is defined to "...mean oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. "

This definition of oil covers all petroleum products from the heaviest residual oils through any light hydrocarbons which may be liquid at atmospheric temperatures and pressure (such as gasoline, light naphthas, and natural gas condensates). It also includes heavy or viscous materials (such as asphalt, tars, fats, and certain crudes)

which may be solid or semi-liquid at ambient temperatures and mixtures of oils and other substances such as contained in paints.

These regulations apply to non-transportation-related facilities handling or using oil and oil products which, because of their location, could be reasonably expected to discharge oil into a navigable waterway or adjoining shorelines.

The Federal regulations impose the following requirements for the submittal, review, and amendment of SPCC Plans:

1. Existing facilities covered by the regulations were required to have SPCC Plans prepared by 10 July 1974 (within six months after the effective date of the regulation). Plans for new facilities are to be prepared within six months after operations begin.

2. All SPCC Plans for existing facilities were to be fully implemented no later than 10 January 1975 (one year after the effective date of the regulations). Full implementation of plans for new facilities is required within one year of the date operations begin.

3. Review and evaluation of SPCC Plans by owners or operators is required at least once every five years from the date such facility becomes subject to these regulations.

4. Amendment of SPCC Plans by owners or operators is required:

    a. Within six months of a change in facility design, construction, operation, or maintenance which materially affects the facility's potential for the discharge of oil into a water body.

    b. As appropriate, within six months after completion of a five-year review of the plan.

    c. Whenever a facility discharges 1,000 gallons of oil into navigable waters or has two or more reportable spills greater than 42 gallons within twelve months.

Additional pertinent requirements of 40 CFR 112 are as follows:

1. Many SPCC Plans and any amendments thereto must be certified by a registered professional engineer. Minor administrative modifications of the plan, such as changes in names or telephone numbers, do not constitute an amendment to the Plan and, therefore, do not require certification by a professional engineer.

2. A complete copy of the plan must be maintained at the facility involved if such facility is normally attended at least eight hours per day. If the facility is not so attended, the plan may be kept at the nearest field office. The SPCC Plan must be

made available to the Regional Administrator for on-site review during normal working hours.

3. Additional regulatory requirements that apply to MCM Sparrows Point are as follows:

    a. MCM Sparrows Point is no longer required to comply with the Oil Pollution Act of 1990 (OPA 90) due to the decommissioning of the oil transfer facility and the reduction in the number of tanks now in-service.

    b. MCM Sparrows Point is located in Maryland, and is required to comply with the Code of Maryland Regulations (COMAR) 26.10 related to oil pollution control. This regulation also requires that MCM Sparrows Point obtain and comply with an oil handling permit issued by the Maryland Department of the Environment (MDE). MCM Sparrows Point is currently in compliance with this regulatory requirement, and currently holds MDE Permit 2005-OPT-2078.

    c. Oil Operations Permit No. 2010-OPT-2078B General Condition C requires that a report be made to MDE immediately and no later than 2 hours following detection of an oil spill. Small (up to 5 gallons) amounts of oil or fuel discharged in an area not likely to pollute waters of the State, which have been expeditiously contained and removed, not including oil or fuel that entered a drain, shall be exempt from the notification requirements in General Condition C of the Oil Operations permit.

2.0 GENERAL FACILITY DESCRIPTION

The MCM Sparrows Point is located at 1430 Sparrows Point Boulevard, Sparrows Point, Maryland (Figure 1). The MCM Sparrows Point facility was a steel production facility and its former operations cover approximately 2,000 acres. The facility continues to use a variety of oils, kerosene, and other petro-chemicals during the facility demolition process. MCM Sparrows Point manages approximately 20 oil storage tanks providing a maximum petro-chemical storage capacity of approximately 30 thousand gallons. All tanks with a storage capacity of 10,000 gallons or more are equipped with a secondary containment system. Some tanks that have a storage capacity of less than 10,000 gallons have direct secondary containment. However, containment for the majority of these smaller tanks is provided by a system of canals, booms, containment basins, wastewater treatment, buildings, and/or oil-water separators. A site plan of the facility is shown in Figure 2, showing locations of storage tanks, and outfalls. Storage tank details are provided in Appendix B, and in Table 8. The majority of MCM Sparrows Point is surrounded by creeks, bays, or other navigable waters and extensive measures have been taken to prevent the discharge of oil to these waters. These measures include, but are not limited to, the containment and diversionary structures and the oil spill contingency plan discussed below.

At MCM Sparrows Point, all process effluent and many storm water runoff streams from the facility are directed via canal and/or sewer to one of the seven (7) major outfalls that discharge to surrounding waterways. All of these outfalls are equipped with one or more of the following control designs to prevent unwanted discharge to the waterways: permanent booms or baffles; containment basins; and/or wastewater treatment. These outfalls are described in further detailed in Section 3.

2.1 PREVIOUS EVENTS AND PLANS FOR PREVENTING RECURRENCE

MCM Sparrows Point conducts a comprehensive review including a root cause analysis on each reportable spill that occurs at the facility. The results of the root cause analysis are evaluated for facility implementation to reduce the potential for future spills onsite.

2.2 POTENTIAL AREAS FOR SPILLS: PREDICTION AND CONTROL

The MCM Sparrows Point facility is designed to direct rainwater and other runoff from nearly all storage, and loading/unloading units to one of the facility's seven (7) permanently boomed outfalls via the Tin Mill canal or sewer system. These outfalls are designed with containment basins and/or harbor booms, oil baffles or other containment or treatment structures to control the discharge to the waterways.

2.2.1 MOTOR VEHICLE FUEL AND OIL PUMPING

Startups, shutdowns, operational upsets, and mechanical failures in an oil or motor vehicle fuel transfer operation may result in an emergency release of oil or motor

vehicle fuel. Since this potential exists, runoff from all loading/unloading units is conveyed to the facility's wastewater treatment facility, oil-water separators, and/or contained outfalls via the canal or sewer system. The oil or motor vehicle fuel contaminating the runoff is then collected and recycled by contracted oil recyclers.

2.2.2 MOTOR VEHICLE FUEL AND OIL STORAGE

The potential for tank rupture, leakage, or excessive overflow is always present when petroleum products are stored or transferred. All tanks are designed and constructed with compatible materials and with specific temperature and pressure limitations that are higher than the actual operating conditions. In addition, a preventive maintenance program is in place to identify any early indications of corrosion or leaks. Through this program, potential problems are noted and corrected before an incident occurs. Rainwater from the tank area is directed either to the wastewater treatment facility, oil-water separators, and/or a contained outfall.

Ruptures causing a product release may occur in transfer lines, flanges, and valves used to transport petroleum products from storage tanks to areas of consumption. However, the piping design and choice of construction material, and routine inspection program, has been successful in minimizing any occurrences.

Since most spills are caused by mechanical failure and/or human error, they have been significantly reduced through the use of the following:

- Sound process design;
- Sound process control and monitoring systems;
- Scheduled aboveground storage tank visual inspections and selected aboveground storage tank integrity testing; and
- Training of operating, maintenance, and technical personnel.

Because of the historical success of these procedures, the predicted potential for a major oil-related release to navigable waters of the United States is minimal. In the unlikely event of a catastrophic failure of a bulk storage tank, the oil or fuel would be contained within the facility's containment system. Further detail of the predicted flow - worst case scenario - is provided for the storage tanks in Appendix B and Figure 2.

2.3 CONTAINMENT AND DIVERSIONARY STRUCTURES

MCM Sparrows Point is equipped with containment and diversionary structures designed to prevent spilled oil from reaching waters of the United States. The types of containment and diversionary structures used include the following:

Dikes:

Secondary containment dikes surround all tanks with a capacity of 10,000 gallons or more and some smaller storage tanks. Smaller tanks without direct secondary containment are generally located within a building.

Booms and Baffles:

Permanent containment booms or baffles are utilized at each process outfall area to prevent spills from reaching the waterways.

Retention Ponds:

These provide temporary holding and sufficient settling time to separate and remove oil from the drainage water before discharge.

Sorbent Material:

These materials are effective in quickly containing and soaking up minor oil spills before the spill can migrate to drains or sewers.

Drainage System:

Areas with oil storage are drained to sewers which flow to either oil-water separators and/or permanently boomed outfalls. Oil and petro-chemicals are removed from the runoff and recycled by contractors. The drainage system and outfalls are discussed in more detail in Section 3.

2.4 OIL SPILL CONTINGENCY PLAN

The MCM operations at the facility are no longer subject to subject to 40 CFR 112.20.

All areas of the MCM Sparrows Point facility that could potentially release oil to navigable waters are protected by one or more of the containment methods discussed above.

MCM Sparrows Point management is committed to quickly and effectively cleaning up any oil spills that may occur (Appendix A). The facility has several emergency response/clean-up companies under contract (listed in Table 3). These contracted personnel will provide the majority of the response force and primary clean-up activities during a large or hazardous response. However, MCM Sparrows Point also employs several employees trained in spill response. These trained employees, under direction of the RC and the Environmental Manager, will respond to minor spills and may assist in the response to larger spills.

The general procedure for response to a spill is to first contain the spill with booms, oil absorbent, or other containment device to prevent its spread, particularly to any sewer or canal drains in the area. These containment materials are stored throughout the

Sparrows Point facility. Once the spill has been controlled, steps can then be taken to transfer the spilled material to containers, such as vactors, drums, or holding tanks. All collected material is tested, classified, and properly disposed of as follows:

- Non-PCB contaminated soils and materials are excavated and stabilized (kiln dust) by one of MCM Sparrows Point approved contractors. The material may be disposed of at our onsite landfill or shipped to an approved off site facility.

- PCB contaminated soils and materials are handled by a PCB trained environmental cleanup contractor. The PCB contaminated soils and materials are excavated and placed in labeled containers. The PCB contaminated soils and materials are then analyzed for PCB content. The PCB contaminated soils and materials are then transported offsite to an authorized PCB approved disposal facility.

Further spill response details are presented in Tables 4 and 5. A contact list, with names, titles, and phone numbers, for facility spill response personnel and emergency response organizations are provided in Tables 2 and 3.

3.0 FACILITY DRAINAGE DESCRIPTION

3.1 OUTFALL DESCRIPTION

The site grading at the MCM Sparrows Point facility is designed to provide containment and conveyance of contaminated water, tank drains, spillage, or leakage of raw materials and potentially contaminated storm water runoff to one of the seven (7) outfall areas via the canal or sewer system. The outfalls are equipped with wastewater treatment, catch basins, oil booms, oil baffles and/or oil-water separators. These additional control systems are all located outside potential flood areas. All of these outfall locations are inspected regularly by Environmental Liability Transfer (ELT) employees. The drainage and outfall areas are described below and further detailed in Figure 2.

Outfall 001 is located at the southeast perimeter of the Plant, just north of the Pennwood Wharf. This outfall and drainage area covers approximately 167 acres of the MCM Sparrows Point facility which included a variety of now shut down facilities and plant operations, such as the Pennwood Power Station and Electrical Repair Shops. This outfall has historically discharged mainly non-contact process wastewater (no longer discharged) and storm water runoff from these areas into Old Road Bay.

The outfall is equipped with a permanent oil retention boom which provides temporary containment of any potential oil spills. There is no permanent skimmer at this outfall so vactors or other devices are utilized to remove the oil for recycling or disposal. This outfall is inspected regularly by ELT.

Outfall 012 is located in the southwest portion of the facility between the former coal field docks and the shipyard graving docks. This outfall services general storm water runoff and non-contact cooling water from a variety of shutdown operations, including the Number 1 BOF Shop and Continuous Caster. The non-contact cooling water is no longer discharged with the operations shutdown.

Discharge control and oil containment is provided at this outfall by a fixed baffle along with several booms. Oil that is removed by vacuum tanker is collected and recycled. This outfall is inspected regularly by ELT.

Outfall 014 is located at the northwestern section of the facility and discharges the effluent from the Humphreys Creek Wastewater Treatment Plant (HCWWTP), into Bear Creek. The HCWWTP is an on-site treatment plant that treats oily, acidic, and other process wastewater generated from many of the now shutdown steel finishing operations, such as the Hot and Cold Finishing Mills and the Tin Mill. The drainage area contains the major portion of the facility's storage tank system. The HCWWTP also handles contaminated waters collected from other drainage areas, the storage tank containment dikes, and storm water runoff from approximately 1,180 acres, including areas outside the MCM Sparrows Point property. The HCWWTP provides pH adjustment, aeration, settling, and clarifying capabilities.

Wastewater and storm water runoff is conveyed to the wastewater treatment plant through a drainage canal system (Tin Mill Canal). This canal is equipped with a boom and skimmer comprehensive oil recovery system. All oil removed by these devices is collected and recycled. Discharge control at this outfall is further enhanced by the ability to temporarily divert discharge to a holding lagoon.

Outfall 016 is located north of Outfall 001 and discharges to Jones Creek, on the southeast side of the facility. This outfall only handles storm water runoff, the discharge contains no process water or wastewater.

The outfall is equipped with a fixed oil containment baffle and is inspected regularly by ELT.

Outfall 017 is situated just north of Outfall 016 and also discharges to Jones Creek. The drainage area handles the storm water runoff of approximately 216 acres of the facility, including the former Main Office Building, the Plant Garage, the Tractor Repair Shop, and Baltimore County (Fire Department, Parks and Recreation, and Bureau of Highways) and directs the flow to the Outfall via a canal. The wash water from the Plant Garage and the Tractor Repair shop are processed through an oil-water separator prior to discharge (see Section 3.1).

The canal is equipped with oil retention units. There is a fixed oil collection baffle and weir for initial oil retention in the canal. A containment boom at the outfall is in place to provide further oil retention. This outfall is inspected regularly by ELT.

Outfall 021 is located at the southwest corner of the facility and discharges into the Patapsco River, near the coal field. This area handles storm water from the now shutdown Coal and Coke Oven areas.

Oil retention and recovery equipment at this outfall is comprised of a large settling basin, a pile weir, a fixed oil baffle, and containment booms. The outfall has a pump discharge, which is not currently operating, but can be activated when necessary.

3.2 CONTAMINATED WATER

The MCM Sparrows Point facility Garage, the Tractor Repair Shop, and the Loco Crane Repair Shop perform routine maintenance on the trucks, vehicles, and other related equipment used throughout the facility. These operations include replenishing lubricating oil, replacing oil and air filters, oil, fuel, and cooling system repairs as well as structural repairs and the washing down of the equipment. As a result of these activities some petroleum products find their way into the building drains. This oil is passed through an oil/water separator (one at each location) where the oil is removed from the water and is captured. The captured oil is recovered and sent to an off site oil recycling facility for further processing. Any accumulated sludges are tested and disposed of as required.

During the course of cleaning and repairing process equipment, water becomes contaminated with petroleum products. This water is conveyed to the central wastewater treatment plant (HCWWTP) where the oil is mechanically and chemically separated from the water. The recovered oil is then transported to the off site oil recovery facility. The water is then treated in the normal manner prior to discharge from the facility.

3.3 PLANT EFFLUENTS

The majority of MCM Sparrows Point oil and wastewater streams are processed and treated through the Humphreys Creek Wastewater Treatment Plant (HCWWTP). This on-site plant provides pH adjustment, aeration, settling, and clarifying, as well as oil-water separation units stationed upstream in the drainage canal. All oil that is recovered is recycled. The sludge generated from the separators and the wastewater treatment plant are analyzed and disposed of appropriately. The HCWWTP effluent is discharged into Bear Creek at Outfall 014.

3.4 TANK FARM STORMWATER

Direct secondary containment is provided for most tanks with a capacity equal to or greater than 10,000 gallons and for some smaller tanks as well. These containment areas are designed to prevent a spill or excessive leakage of oil into the drainage areas by means of manually operated valves, oil/water separators, or direct containment. The containment areas are inspected on a regular basis for any storm water collected as a result of rainfall and for any sign of an oily sheen on the surface that may indicate spillage or leaks within the system. Dikes which are equipped with drain valves have such valves in the normally closed and locked position when not in active use.

For containment areas not connected to an oil/water separator, storm water and any light oil accumulation is removed primarily by a vactor and is transported to the central wastewater treatment facility for processing. If a heavy accumulation of oil is present the oil is removed by vactor, residual oil is cleaned from the dike surfaces, and the mixture is taken to an off site oil recovery facility.

For containment areas connected to oil/water separators, if heavy oil accumulation is not noted, the manual valve is opened and the contents are allowed to flow into the separator. If excessive oil is noted as a result of a leak or spill, a vactor is used to remove the contents of the dike. It should be noted that not all containment dikes are equipped with valves. For those that are, the valves are normally maintained in the closed and locked position when not in active use. Prior to each operation to empty a containment area, to the ground, the supervisor must fill out a Dike Drainage Log Sheet. A copy of this sheet is found in Appendix C. The log sheet makes note of the tank number, date of drainage, quantity and condition of the material within the dike, and how the material was drained.

The oil/water separators are routinely checked and any oil accumulated therein is collected and sent to an off site oil recovery facility for further processing. Sludge generated from the separators is analyzed and disposed of accordingly.

3.5 UNLOADING PAD MANAGEMENT

Trucks unload petroleum products at various locations at the facility on a daily basis. Since all of the unloading areas are not self contained, each of the stations is required (under MCM Sparrows Point policy) to use a containment vessel. The containment vessel is placed under hose connections to capture any minor incidental spillage which may occur during hose coupling and uncoupling. Figure 2 shows the major oil unloading areas onsite. Since MCM Sparrows Point has over 100 smaller tanks, it is impractical to show the unloading area associated with each of the smaller tanks on Figure 2.

Should a major spill occur and oil reaches the sewer, it would be captured at one of the boomed outfalls. From there it would be recovered, by mechanical means, and transported to an off site oil recovery facility for further processing. Contaminated water, which was also recovered, would be processed at the central wastewater processing facility (HCWWTP).

All areas which handle oil unloading are equipped with sorbent materials and material to dike off nearby sewers.

The facility also employs a driver/operator communication and procedural system that effectively minimizes any spills, leaks, overflows, and other unwanted release of oil. This communication is detailed in Section 6.

4.0 STORAGE TANKS, DRUMS, AND TRANSFORMERS

The majority of the oil used at the MCM Sparrows Point facility is either stored in storage tanks, drums, or transformers. These units are described below.

4.1 ABOVEGROUND, UNDERGROUND, PORTABLE, AND PARTIALLY BURIED STORAGE TANKS

All facility oil storage tanks are constructed according to good engineering practices with materials that are compatible with the anticipated contents and are also designed for temperature and pressures which exceed the actual operating conditions. Direct secondary containment is provided for all storage tanks that have a capacity of 10,000 gallons or more and for a few of the smaller tanks. Dike walls have been designed to be impervious to the contents of the tank. Permeability tests for these units have been done, per Maryland Department of the Environment standards, and are compliant with those standards. Additionally, the entire facility is designed to effectively contain and control all drainage before it is discharged to the surrounding waterways (see Section 3). Drainage from these diked areas and other non-diked storage tank areas are directed to one of the seven outfall locations.

Each oil storage tank undergoes a visual integrity inspection at least once per month by an outside environmental contractor. Inspection includes visual checks for structural integrity, leaks or other signs of deterioration. Visible leaks from tank seams, gaskets, rivets, and bolts are repaired expeditiously.

If a tank is found to have a leak or spill during its monthly inspection, or at any other time, the tank owner is contacted and instructed to complete cleanup and repairs as quickly and safely as possible. A written record of the inspection and follow up actions taken by the tank owner is kept on file for a period of at least five years. When the owner is finished remediation work the tank is reinspected to ensure that cleanup is complete. Tanks taken out of service are modified such that the loading lines are locked closed or blank flanged, and the tanks are labeled as "out of service".

If the spill is too large for the tank owner to handle the facility will call one of its contractors to handle the job. We currently have worked with the following firms:

1. Mobile Dredging and Pumping, Inc.

2. Triumvirate Environmental --- Based in Baltimore at a location which is approximately 30 minutes from the facility. Coast Guard Approved OSRO.

3. Clean Harbors of Baltimore --- Also based in Baltimore at a location which is also approximately 30 minutes from the facility. Clean Harbors is a certified US Coast Guard OSRO.

4. A to Z Environmental --- Based in Baltimore, this contractor can be onsite within 20 minutes of notification. Coast Guard Approved OSRO.

5. IMS Environmental --- Based in Baltimore, IMS Environmental is a certified US Coast Guard OSRO.

6. Clean Ventures ---- Based in Baltimore (just across the Key Bridge) is at a location approximately 15 minutes drive from the facility. Clean Ventures is a certified US Coast Guard OSRO.

7. ACE Environmental – Based in Baltimore.

8. FCC Environmental – A Coast Guard approved OSRO.

4.2 ON-SITE DRUM STORAGE AND PORTABLE TANKERS

MCM Sparrows Point also manages a small quantity of oil in drums. These drums are located at a variety of locations throughout the facility. The majority of these drums are stored inside; however, some are stored outside on pallets. All drum storage is located to be sufficiently removed from sewers, canals, drains, or other drainage access areas to limit the migration of potential oil spills. Spill containment equipment and drums are stationed near the drum storage areas. A sample drum inventory is provided on Table 6.

4.3 TRANSFORMERS

MCM Sparrows Point maintains a vast number of transformers which contain oil and may be considered a potential source of an oil leak or spill. Occasionally a transformer may be serviced onsite and any draining or refilling is done with a pump, clamped hoses, and a containment pan. All transformers are currently being tested for PCB content and being removed. All work is being performed by a certified contractor.

4.4 FAIL-SAFE ENGINEERING

Many storage tanks are equipped with level gauges and/or alarms which permits rapid determination of tank levels by operating personnel while other tanks are visually monitored to determine levels. The Pennwood tanks are equipped with high level cut off devices which arrest the flow into the tank at a specific level. All level sensing devices are inspected and tested on a regular basis.

5.0 FACILITY TRANSFER OPERATIONS, PUMPING, AND IN-PLANT PROCESS

The current MCM Sparrows Point operations do not utilize the former transfer operations, pumping, and in-plant processing.

6.0 FACILITY TANK TRUCK LOADING/UNLOADING

All unloading areas are equipped with containment buckets to contain minor spills and drips. The containment buckets are positioned under the hose connections to collect any oil that may drip during hose disconnection. Further containment is provided by the outfall drainage area containment system that is designed to hold at least the maximum capacity of any single compartment of a tank truck. All oil or motor vehicle fuel that is contained on the spill pad, in the containment bucket, or in the drainage area is either cleaned up with absorbents, transferred to the proper tank, or recycled.

Prior to any loading, unloading, or other transfers, the volumes of the tanks and vessels are verified and reconciled. Company policy also requires that tanks without level indicators are manually gauged prior to the unloading. This is done to ensure that the entire amount of material to be transferred will not exceed the designated tank or vessel remaining capacity. If the entire load to be transferred exceeds the capacity, loading or unloading procedures are terminated. If there is sufficient volume, then the truck operator stages his truck so that the loading or unloading lines of his vehicle are positioned above the spill containment pad. The delivery truck driver is responsible for securing the truck wheels (a MCM Sparrows Point supply contract requirement). Prior to hooking up any hoses, the operator and the driver inspect the connections to ensure that they are in good condition and will not leak, rupture, or otherwise fail. The containment buckets are placed under the connection to collect oil that may drip during disconnection. Following disconnection, the lower-most drains and outlets are inspected for leakage and repaired, if necessary.

When necessary, the plant operator and the truck driver are in constant communication during the loading or unloading process. Where no direct reading level gage or high level tank alarm is present the plant operator will visually monitor the tank level during the filling process and communicate to the truck driver. This communication system provides immediate verbal warnings of tank levels, status of initial inspections, and initiation of the filling process, loading or unloading completion, and when it is safe for the truck to depart. Methods such as physical barriers, warning signs, or verbal communications are used to prevent premature departure of the delivery vehicle before complete disconnection of the transfer hose is accomplished.

Tank cars and tanker trucks are not loaded at the facility. Small fuel trucks are filled at vehicle fueling facilities and are used to refuel mobile equipment in the field. These are inspected by the drivers before departing from the pumps.

These procedures effectively minimize the potential for oil or diesel spills during loading and unloading.

7.0 INSPECTIONS AND RECORDS

A comprehensive inspection is conducted and documented of all oil and fuel storage and transfer equipment and response equipment at the MCM Sparrows Point facility. These inspections are conducted monthly by the Environmental Affairs Office or its contractor. The Inspections include visual checks for structural integrity, leaks or other signs of deterioration. Visible leaks from tank seams, gaskets, rivets, and bolts are repaired expeditiously. Non-destructive testing per API 653 may also be performed, if necessary, to further evaluate the tank. Inspection procedures for storage tanks, piping, and safety devices are contained in Appendix C. Records of these inspections are maintained at the site for at least five years. The inspection records are not kept as part of this plan. They are kept on file by the Environmental Manager.

Direct containment structures are inspected by the Environmental Affairs Office for structural and physical integrity on a monthly basis. The inspection includes but is not limited to the following:

- Cracks in the containment pad or walls;
- Integrity and workability of valves, pumps, and pipes associated with the secondary containment systems;
- Liquid marks on the outside of the containment structure;
- The specific department is responsible for the integrity of flexible hoses used for the transfer of petroleum products.

Secondary containment structures at plant outfalls such as oil baffles, oil booms, and their supporting structures are inspected monthly as well by ELT.

Sample inspections sheets are found in Appendix C.

8.0 SECURITY

8.1 SITE SECURITY

Direct access to the MCM Sparrows Point facility is controlled by a combination of chain link fencing, berms, walls, and the surrounding waterways. The Sparrows Point facility is patrolled by a contract security force and access gates are controlled by the same contract security guards. The security force conducts routine facility patrols 24 hours per day, 365 days per year.

Plant access and subsequent area access, located away from vehicle entrances, within the plant are monitored by television and are also controlled through identification check points. Only authorized personnel are allowed to enter the facility and any restricted areas.

8.2 VALVES

All loading and unloading couplings that are not in use are capped and the valves are shut in the closed position. Master flow and drain valves located on tanks are locked in the closed position when they are not in use. Direct secondary containment drain valves are locked shut when not in use. Valves that are not in service are physically blanked off with a blank-flange. Tank drain valves are to be closed and locked when not in use.

8.3 STARTER CONTROLS ON PUMPS

All pumps associated with transfer at the MCM Sparrows Point Facility have pump controls that are clearly labeled as to on/off mode. Pump controls are maintained in the "off" position when pumps are not in use. Pumps taken out of service for extended periods of time have their power disconnected. Pump starter control units are either locked or inaccessible to unauthorized personnel.

8.4 PIPE MANIFOLDS

When a pipe is permanently removed from service, both inlet and outlet manifolds or valves are blank-flanged. Transfer connections are capped or blind-flanged when not in use and unused tanks and pipelines which have been emptied are blank-flanged and appropriately marked, or removed from service.

8.5 FACILITY ILLUMINATION

A lighting system sufficiently illuminates the entire facility. Intensified illumination is provided by mercury and sodium vapor lights at key points in the facility to permit efficient operation, and to assist in discovery of any spills during hours of darkness. The system is also equipped with back-up emergency lighting and generators. Plant personnel also have access to portable lighting units to assist with discovery of discharges at the outfalls during periods of darkness.

The facility is generally well lit but in places that are not; security personnel use hand held lights and vehicle lights to patrol for unauthorized individuals or vandals.

9.0 PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES

9.1 TRAINING PROGRAM

MCM Sparrows Point management provides operations and procedure training for all personnel involved in operating or maintaining oil handling equipment. A portion of this training is dedicated to the SPCC Plan and general oil handling. At least once per year, such site personnel are required to attend a SPCC review course, which is presented as part of a multi-training program.

The training program includes an overview of the SPCC plan, with training to ensure adequate understanding of the SPCC plan in the following subjects:

- The proper techniques for handling the storage, processing, or transfer of petroleum and petroleum products;
- The operation and maintenance of equipment to prevent spills and discharges;
- Procedures to be followed in the event of a spill or discharge; and
- Where a discharge or failure has occurred the training will also include a review of selected known facility discharges and failures, and any recently developed precautionary measures.

Furthermore, as a part of the personnel training and qualification program, employees operating or maintaining oil handling equipment receive training in the following areas:

- Inspection and maintenance procedures appropriate to job duties;
- Applicable pollution prevention laws and regulations (including 40 CFR 112); and
- Safety, fire prevention, pollution prevention, and required standards of performance.

9.2 DESIGNATED PERSON WITH AUTHORITY

The Labor Supervisor is responsible for immediate spill response and becomes the Response Coordinator (RC) in the event of a spill. The Environmental Manager assures that personnel are adequately trained to respond and coordinate spill response.

The Environmental Affairs Officers (EAOs) are the designated persons with overall responsibility for discharge prevention at the MCM Sparrows Point facility.

The Utility Manager and the Environmental Manager report directly to the Site Manager on matters of spills and spill prevention.

9.3 CONTINUED TRAINING

The Environmental Manager is responsible for providing briefings, training sessions, courses, and other educational efforts to every employee involved in operating and maintaining oil storage and transfer equipment. Training records and material covered in training are recorded (Appendix D) and kept electronically by the Environmental Manager. As necessary, employees are sent to continuing education courses and/or seminars in handling petroleum and petroleum products. As appropriate, each employee that handles oil, upon initial employment, is given instruction in oil handling. At least once per year, these employees are required to attend the SPCC review course

10.0 QUALIFIED OIL FILLED EQUIPMENT

10.1 FILLED EQUIPMENT

The MCM operations to not utilize oil filled equipment.

Appendices

Appendix A

Letter of Manpower Commitment

MCM SPARROWS POINT

Spill Prevention, Control, and Countermeasure Plan

Letter of Management Approval

This Spill Prevention, Control, and Countermeasure (SPCC) Plan has been developed to ensure that the activities at the MCM Sparrows Point facility, Sparrows Point, Maryland, are conducted in a manner that protects the environment, as well as the health and safety of our employees and neighbors. It is intended to fulfill the spill control requirements of 40 CFR 112.7.

In addition, MCM Sparrows Point has agreements with the spill response and cleanup organizations identified in the SPCC Plan, to perform oil spill cleanup work when required.

The management of this facility is committed to abide by the attached Environmental and Safety Compliance Policy of MCM Sparrows Point. As such, it is the intention of management of this facility to conduct our operations in accordance with the SPCC Plan presented herein. Full approval is extended by the undersigned to commit the necessary resources to implement the plan.

Signature: _____

Title: _____

Appendix B

List of Petroleum Storage Tanks

PETROLEUM STORAGE TANKS AT MCM SPARROWS POINT

Tank 1 - This tank is located at the Hub, TD 372. It has a capacity of 1,000 gallons and contains motor oil (Castrol Tection 15W40). The tank is a Steel minibulk and sits inside of the shop. Any spillage would be contained within the shop area. If the spillage got to the sewer it would flow to Outfall 001.

Tank 5 - This tank is located at the Hub shop, TD 372. It has a capacity of 500 gallons and contains Dexron III. The tank is a Steel minibulk tank and is located inside the shop. Spillage would normally be contained inside the shop. If the spillage got to the sewer it would flow to Outfall 001.

Tank 6 - This tank is located at the Hub Shop, TD 372. It has a capacity of 500 gallons and contains Castrol AP Gear Lube oil. The tank is a Steel minibulk tank and is located inside the shop. Spillage would normally be contained inside the shop. If the spillage got to the sewer it would flow to Outfall 001.

Tank 13 - This tank is located on the north side of the Hub shop. It is a steel tank and has a capacity of 1,000 gallons. It is used to contain used oil from oil changes of the vehicles which are maintained at the shop. The tank is surrounded by a concrete containment capable of holding 300 gallons. If the containment were to overflow the oil would flow across slag and could enter the sewer system leading to Outfall 001.

Tank 15A - This tank is located at the Hub, TD 372. It has a capacity of 5,400 gallons and contains diesel fuel. The tank is made of steel and is surrounded by a concrete dike. If the dike failed the oil would flow to Outfall 001.

Tank 15B - This tank is located at the Hub, TD 372. It has a capacity of 5,400 gallons and contains diesel fuel. The tank is made of steel and is surrounded by a concrete dike. If the dike failed the oil would flow to Outfall 001.

Tank 65 - This tank is located in the No. 1 Mobile Equipment Repair Shop. It has a capacity of 275 gallons and contains Dexron II. The tank is a Steel minibulk tank. Spillage would be contained inside the shop building.

Tank 66 - This tank is located in the No. 1 Mobile Equipment Repair Shop. It has a capacity of 275 gallons and contains Gear Lube 80W90. The tank is a Steel minibulk tank. Spillage would be contained inside the shop building.

Tank 67 - This tank is located in the No. 1 Mobile Equipment Repair Shop. It has a capacity of 500 gallons and contains Tection S 15W40 motor oil. The tank is a Steel minibulk tank. Spillage would be contained inside the shop building.

Tank 197 - This tank is located inside of the Plant Garage. The tank is made of steel and contains used oil drained from the vehicles which the garage services. It has a capacity of 500 gallons. Spilled oil would be contained inside of the building.

Tank 200 - This tank is located in the car wash bay of the Plant Garage. The tank is a Steel minibulk tank and holds 500 gallons of Dexron III. The tank sits on a concrete floor and any small spillage would be contained on the floor. A large spill would allow some oil to enter the floor drain and flow to the oil/water separator which is located on the outside of the building on the west side. The separator discharges to Outfall 017.

Tank 201 - This tank is located in the car wash bay of the Plant Garage. The tank is a Steel minibulk tank and holds 500 gallons of Gear Lube C. The tank sits on a concrete floor and any small spillage would be contained on the floor. A large spill would allow some oil to enter the floor drain and flow to the oil/water separator which is located on the outside of the building on the west side. The separator discharges to Outfall 017.

Tank 202 - This tank is located in the car wash bay of the Plant Garage. The tank is a Steel minibulk tank and holds 1,000 gallons of Paradene AW oil. The tank sits on a concrete floor and any small spillage would be contained on the floor. The tank is a double walled tank. A large spill would allow some oil to enter the floor drain and flow to the oil/water separator which is located on the outside of the building on the west side. The separator discharges to Outfall 017.

Tank 203 - This tank is located in the car wash bay of the Plant Garage. The tank is a Steel minibulk tank and holds 1,000 gallons of Tection 15W40 oil. The tank sits on a concrete floor and any small spillage would be contained on the floor. The tank is a double walled tank. A large spill would allow some oil to enter the floor drain and flow to the oil/water separator which is located on the outside of the building on the west side. The separator discharges to Outfall 017.

Tank 434 - This tank is located at the No. 1 Mobile Equipment Repair Shop. It is a steel tank which has a capacity of 1,000 gallons and contains used oil. The used oil is drained from the mobile equipment which is serviced by the shop. Any spillage from the tank would be contained on an asphalt paved surface. If the oil got to a sewer it would flow to Outfall 017.

Tank 493 (EAST) - This tank is located at the Plant Garage. It is a steel tank which contains 10,000 gallons of low sulfur diesel fuel. The tank is surrounded by a steel walled/floored dike which can hold the contents of the tank. If the dike were to fail the oil would flow across asphalt paved ground and could enter the plant sewer system. The oil would eventually flow to Outfall 017.

Tank 494 (WEST) - This tank is located at the Plant Garage. It is a steel tank which contains 10,000 gallons of low sulfur diesel fuel. The tank is surrounded by a steel walled/floored dike which can hold the contents of the tank. If the dike were to fail the oil would flow across asphalt paved ground and could enter the plant sewer system. The oil would eventually flow to Outfall 017.

Tank 541 - This tank is located at the Slab Hauler Repair Facility. The tank has a capacity of 15,000 gallons and contains diesel fuel. The tank is made of steel and is surrounded by a line earthen dike.

Tank 542 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 500 gallons and contains used oil. The tank is constructed of steel and any spillage would remain near the base of the tank.

Tank 543 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 500 gallons and contains used oil. The tank is constructed of steel and any spillage would remain near the base of the tank.

Tank 544 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 1000 gallons and contains used oil. The tank is constructed of steel and any spillage would remain near the base of the tank.

Tank 546 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 500 gallons and contains motor oil (Diesel All). The tank is a Steel Minibulk and is located inside of the facility. Spillage would most likely remain inside the building.

Tank 547 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 500 gallons and contains Castrol AP Gear Lube. The tank is a Steel Minibulk and is located inside of the facility. Any spillage would most likely stay inside of the building.

Tank 548 - This tank is located at the Slab Hauler Repair Facility. It has a capacity of 500 gallons and contains Trans C (hydraulic oil). The tank is a Steel Minibulk and is located inside of the facility. Any spillage would most likely stay inside of the facility.

Tank 554 – This tank is located at the No. 2 Mobile Equipment Shop. The tank has a capacity of 1000 gallons and contains Paradene AW hydraulic fluid. The tank is located inside of the shop and is made of steel. Any spillage would most likely be contained in the shop but if it got to a sewer it would flow to Outfall 001.

Tank 555 – This tank is located at the No. 1 Mobile Equipment Shop. The tank has a capacity of 2000 gallons and contains Paradene AW hydraulic fluid. The tank is made of steel and is located outside of the building on the east side. Any spillage would fall on asphalt and if it went to the sewer it would flow to Outfall 017.

Tank 556 – This tank is located at No. 1 Mobile Equipment Shop. The tank has a capacity of 275 gallons and contains Universal Tractor Fluid. The tank is made of steel and is located outside of the building on the east side. Any spillage would fall on asphalt and if it went to the sewer it would flow to Outfall 017.

Tank 557 – This tank is located at No. 2 Mobile Equipment Shop. The tank contains 275 gallons of Universal Tractor Fluid. It is constructed of steel and is located inside of the shop. Any spillage would most likely be contained in the shop but if it got to a sewer it would flow to Outfall 001.

Tank 558 – This tank is located in the Slab Hauler Repair Facility. It contains 500 gallons of blue hydraulic oil. The tank is a steel Castrol minibulk tank and is located inside of the shop. Any spillage would most likely stay inside of the building.

Tank 559 – This tank is located in the Slab Hauler Repair Facility. It contains 500 gallons of 80W140 ESGL oil. The tank is a steel Castrol minibulk tank and is located inside of the shop. Any spillage would most likely stay inside of the building.

Tank 560 - This tank is located in the Slab Hauler Repair Facility. It contains 350 gallons of Castrol Hypuron hydraulic oil. The tank is made of steel and is located inside of the shop. Any spillage would most likely stay inside of the building.

Tank 561 - This tank is located in the Slab Hauler Repair Facility. It contains 350 gallons of Trans C-50 hydraulic oil. The tank is made of steel and is located inside of the shop. Any spillage would most likely stay inside of the building.

Tank 800 – This tank is located at the Plant Garage and holds 500 gallons of low sulfur diesel fuel. The tank is made of steel, is double walled, and is surrounded by a steel dike. Should oil leak from the dike it would end up at Outfall 016.

Tank 802 – This tank is located at the Plant Garage. It is a steel minibulk tank and holds 250 gallons of kerosene. The tank is double walled.

Tank 809 – This tank is located at the Slab hauler Repair Shop. It contains 500 gallons of Castrol Hypuron 15W40. The tank is a steel minibulk located inside of the shop. Spillage would remain inside of the shop.

Gas – This is a 2,000 gallon steel double walled tank that hold gasoline at the plant garage. Spillage should be contained on the ground near the tank. If it did get to a sewer it would flow to Outfall 017 and be contained there.

Appendix C

Facility Inspection Forms

ABOVE GROUND STORAGE TANK INSPECTION FORM

Tank Number and Location: _____

Date: _____

Tank Size: _____

Tank Contents: _____

Check tank for leaks, (Yes/No)

Drip Marks: _____

Discoloration of tank: _____

Puddles of spilled or leaked material: _____

Corrosion: _____

Cracks: _____

Localized dead vegetation: _____

Presence of drip pans with covers: _____

Check foundation for: (Yes/No)

Cracks: _____

Discoloration: _____

Puddles of spilled or leaked material: _____

Settling: _____

Gaps between tank and foundation: _____

Damage caused by vegetation growth: _____

Check Piping For: (Yes/No)

Droplets of stored material: _____

Discoloration: _____

Corrosion: _____

Bowing of pipe between supports: _____

Evidence of seepage at valves or seals: _____

Localized dead vegetation: _____

Contact with earth: _____

Tank drain valve closed and locked: _____

Check Secondary Containment For: (Yes/No)

Cracks: _____

Discoloration: _____

Standing Liquid: _____

Corrosion: _____

Drain valve is closed and locked: _____

Excessive vegetation growth: _____

Inspector's Signature: _____

DIKE DRAINING LOG

DATE: _____

TANK NUMBER: _____

NAME OF RESPONSIBLE INDIVIDUAL: _____

QUANTITY OF MATERIAL IN THE DIKE: _____

IS THERE OIL IN THE DIKE?

_____

HOW WAS THE MATERIAL DRAINED? - (TO GROUND, VACUUM TRUCK ETC.)

_____

IF THERE IS OIL IN THE DIKE NO DRAINAGE TO THE GROUND IS PERMITTED. REMEMBER TO CLOSE AND LOCK THE DIKE DRAIN VALVE, IF EQUIPPED, WHEN DRAINING IS COMPLETE.

THIS FORM IS TO REMAIN ON FILE, IN A LOGBOOK, FOR THREE YEARS.

OUTFALL INSPECTION SHEET

ELT Inspection sites

Date: _____

OUTFALL 001

1. Check for holes in oil boom. _____
2. Is boom secured properly? _____
3. Are there unusual conditions noted? _____

OUTFALL 012

1. Check for holes in oil baffle. _____
2. Check booms for holes. _____
3. Are booms secured properly? _____
4. Are there unusual conditions noted? _____

OUTFALL 014

1. Check for holes in dam. _____
2. Are there unusual conditions noted? _____
3. Are the effluent pumps operating? _____

OUTFALL 016

1. Check for holes in oil baffle. _____
2. Check booms for holes. _____
3. Are booms secured properly? _____
4. Are there unusual conditions noted? _____

OUTFALL 017

1. Check for holes in oil baffle. _____

2. Check booms for holes. _____

3. Are booms secured properly? _____

4. Are there unusual conditions noted? _____

OUTFALL 021

1. Check for holes in the dam. _____

2. Check booms for holes. _____

3. Are booms secured properly? _____

4. Are unusual conditions noted? _____

Notes:

Inspector: _____

Appendix D

Facility Personnel Training Forms

(Stored on Computer System)

Appendix E

Certification of Substantial Harm Criteria Determination

APPENDIX J

MCM Dust Control Plan

Please Note: MDE's Air and Radiation Management Administration conducts compliance inspections and/or provides comments regarding the MCM Dust Control Plan.

SPARROWS POINT
ROAD WATERING PLAN

Prepared by:

MCM Management Corporation

Overview

The following plan depicts the road watering routes that will be used to satisfy terms of the MCM Management Corporation (MCM) Air Quality State Operating Permit issued by the Maryland Department of the Environment (MDE).

The schedule included in the plan will be followed as closely as possible with the following exceptions:

- Road watering will be curtailed or stopped during periods of rainy weather
- Road watering will be curtailed or stopped when freezing weather is expected or ice and/or snow cover the plant roads.
- During times of emergency, holidays, equipment breakdown, or circumstances beyond the control of MCM this schedule may be altered or curtailed

MCM will periodically amend this plan based on the demolition scheduled and areas of the plant that are active. MCM will provide the revised plan to MDE.

Road Watering Routes

The attached plant map depicts the road watering routes for the facility. Road watering is being conducted by the following companies at the facility:

- MCM
- Kinder Morgan
- Fritz

MCM

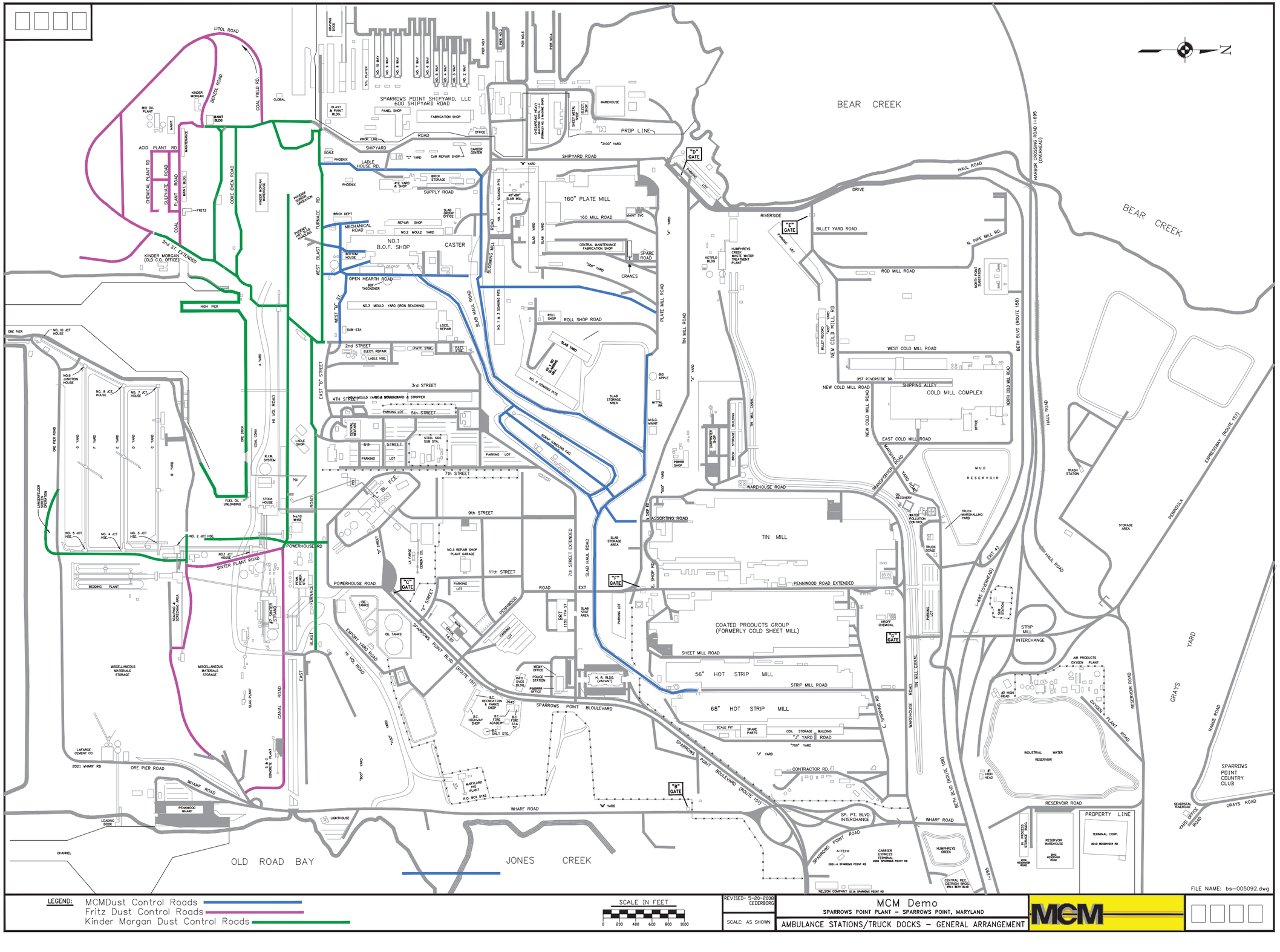
MCM currently operates a water truck on a standard operating schedule of Monday – Friday from 0700 – 1730 on the routes depicted on the attached plant map. MCM will also water the haul route to Greys Landfill when MCM is transporting material to the landfill.

Kinder Morgan

Kinder Morgan operates two (2) water trucks on a standard operating schedule of Monday – Friday from 0600 -1600 on the routes depicted on the attached plant map. Kinder Morgan will also conduct road watering if material hauling takes place outside of the standard operating schedule.

Fritz

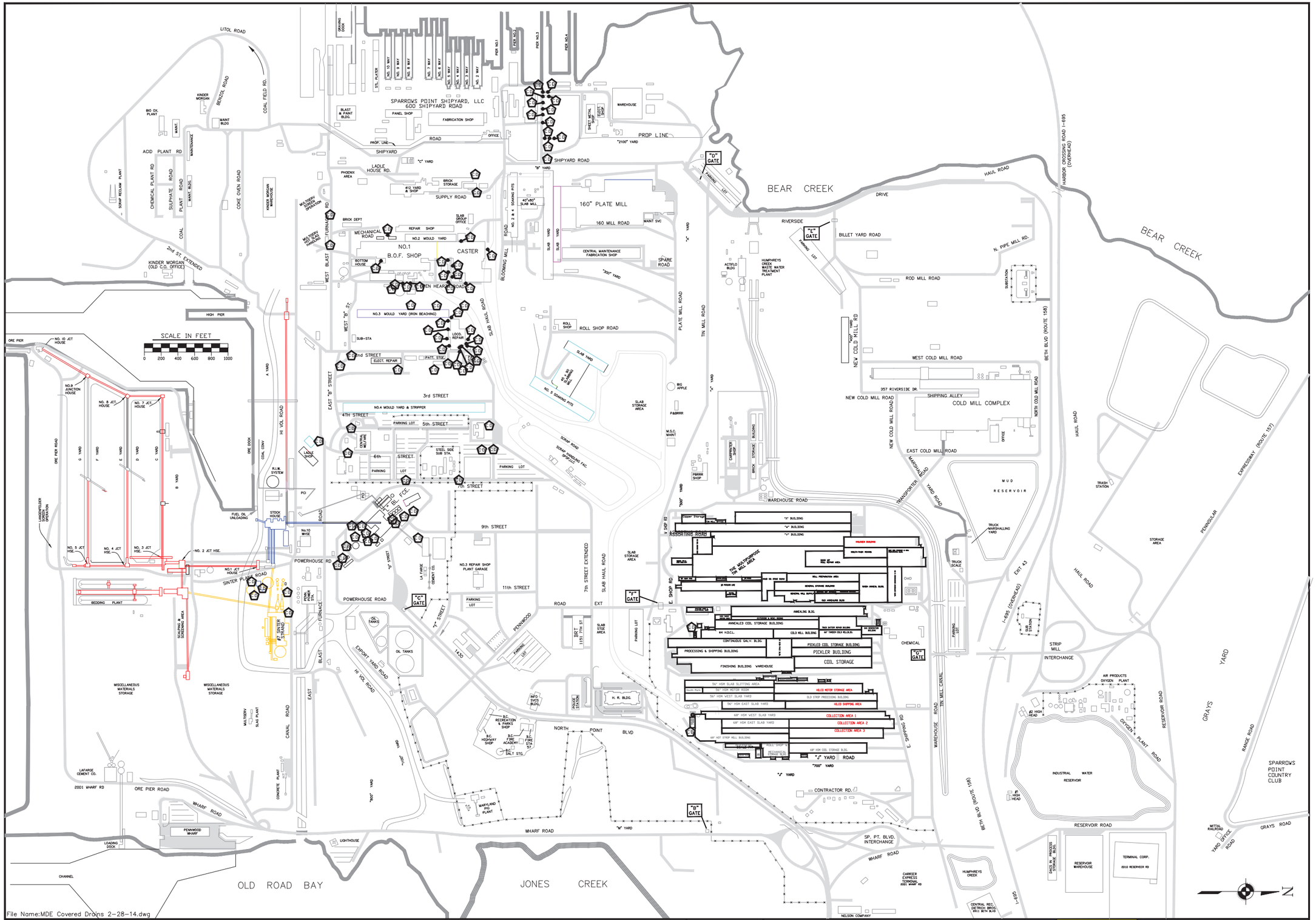
Fritz operates a water truck on a standard operating schedule of Monday – Friday from 0700 -1730 on the routes depicted on the attached plant map. Kinder Morgan will also conduct road watering if material hauling takes place outside of the standard operating schedule.


LITOL ROAD
BENZIE ROAD
COAL FIELD RD.
KINDER MORGAN
BIO OX PLANT
MAINT BLDG
ACID PLANT RD
CHEMICAL PLANT RD
SULPHATE ROAD
MAINT. BLDG.
FRITZ
COKE OVEN ROAD
KINDER MORGAN MONITOR
2nd ST. EXTENDED
KINDER MORGAN (OLD C.O. OFFICE)
HIGH PIER
ORE PIER
NO. 10 JCT HOUSE
NO.9 JUNCTION HOUSE
NO. 8 JCT. HOUSE
NO. 7 JCT. HOUSE
NO. 5 JCT. HSE.
NO. 4 JCT HSE.
NO. 3 JCT HSE.
NO. 2 JCT. HSE.
NO.1 JCT HOUSE
ORE DOCK
COAL CONV
H. VOL. ROAD
A YARD
G YARD
F YARD
E YARD
D YARD
C YARD
B YARD
R.L.W. SYSTEM
FUEL OIL UNLOADING
STOCK HOUSE
No.10 WHSE
POWERHOUSE RD
SINTER PLANT ROAD
BEDDING PLANT
#1 SINTER STRAND
SCALING & SCREENING AREA
MISCELLANEOUS MATERIALS STORAGE
SLAG PLANT
CANAL ROAD
S & G CONCRETE PLANT
LAFARGE CEMENT CO.
2001 WHARF RD
ORE PIER ROAD
WHARF ROAD
PENNWOOD WHARF
LOADING DOCK
CHANNEL
LIGHTHOUSE
OLD ROAD BAY
JONES CREEK
SPARROWS POINT SHIPYARD, LLC
600 SHIPYARD ROAD
GRAVING DOCK
PIER NO.1
PIER NO.2
PIER NO.3
PIER NO.4
STL. PLATER
NO. 10 BAY
NO. 9 BAY
NO. 8 BAY
NO. 7 BAY
NO. 6 BAY
NO. 5 BAY
NO. 4 BAY
NO. 3 BAY
NO. 2 BAY
BLAST & PAINT BLDG.
PANEL SHOP
FABRICATION SHOP
OFFICE
CHESAPEAKE HEAVY (FORMERLY J.A.KING DRY DOCK)
SHEET METAL ELECT. SHOP
WAREHOUSE
PROP. LINE
SHIPYARD ROAD
SHIPYARD
"2100" YARD
"D" GATE
PARKING LOT
SCALE
PHOENIX
CAREER CENTER
"C" YARD
CAR REPAIR SHOP
LADLE HOUSE RD.
"B" YARD
BRICK STORAGE
413 YARD & SHOP
SUPPLY ROAD
40"x80" SLAB MILL
160" PLATE MILL
160 MILL ROAD
MAINT SVC
CENTRAL MAINTENANCE FABRICATION SHOP
SPARE ROAD
"300" YARD
CRANES
"A" YARD
BRICK DEPT
REPAIR SHOP
SLAB OFFICE
MECHANICAL ROAD
NO.2 MOULD YARD
NO.1 B.O.F. SHOP
CASTER
BOTTOM HOUSE
OPEN HEARTH ROAD
SOP THICKENER
NO.3 MOULD YARD (IRON BEACHING)
WEST BLAST FURNACE RD
WEST "B" ST.
SUB-STA
LOCO. REPAIR
ROLL SHOP ROAD
ROLL SHOP
SLAB YARD
NO. 1 & 3 SOAKING PITS
NO. 2 SOAKING PITS
SLAB HAUL ROAD
BLOOMING MILL ROAD
PLATE MILL ROAD
TIN MILL ROAD
2nd STREET
ELECT. REPAIR
LADLE HSE.
PATT. STGE.
3rd STREET
4TH STREET
MOULD YARD & WOODBOARD & STRIPPER
PARKING LOT
5th. STREET
CENTRAL WELFARE
6th STREET
STEEL SIDE SUB STA.
PARKING LOT
7th STREET
T. BL. FCE.
9th STREET
EAST "B" STREET
LADLE SHOP
PCI
POWERHOUSE ROAD
"C" GATE
CONST. ST.
LA FARGE CEMENT CO.
NO.3 REPAIR SHOP PLANT GARAGE
11th STREET
PARKING LOT
7th STREET EXTENDED
SLAB HAUL ROAD
SLAB STGE AREA
"F" GATE
E. SHOP RD.
PENNWOOD ROAD EXTENDED
TIN MILL
ASSORTING ROAD
"700" YARD
PIPE RD
COATED PRODUCTS GROUP (FORMERLY COLD SHEET MILL)
SHEET MILL ROAD
56" HOT STRIP MILL
STRIP MILL ROAD
68" HOT STRIP MILL
SCALE PIT
SPARE PARTS
COIL STORAGE BUILDING
"J" YARD ROAD
"J" YARD
"700" YARD
CONTRACTOR RD.
SPARROWS POINT BOULEVARD (ROUTE 157)
SPARROWS POINT BLOULEVARD
"B" GATE
"W" YARD
WHARF ROAD
SP. PT. BLVD. INTERCHANGE
SPARROWS POINT ROAD
A-TECH
CARRIER EXPRESS TERMINAL
2001-H SPARROWS POINT RD
2001 SPARROWS POINT RD
NELSON COMPANY 2116 SPARROWS POINT RD
HUMPHREYS CREEK
CENTRAL REC. DETROIT BROS. 9913 BETH BLVD
I-695
BETH BLVD (ROUTE 158)
BEAR CREEK
HARBOR CROSSING ROAD I-695 (OVERHEAD)
HAUL ROAD
DRIVE
"E" GATE
RIVERSIDE
BILLET YARD ROAD
N. PIPE MILL RD.
ROD MILL ROAD
NORTH POINT SUBSTATION
ACIWLO BLDG
HUMPHREYS CREEK WASTE WATER PLANT
NEW COLD MILL YARD
BILLET RECORD YARD
NEW COLD MILL ROAD
WEST COLD MILL ROAD
357 RIVERSIDE DR.
SHIPPING ALLEY
COLD MILL COMPLEX
NORTH COLD MILL ROAD
EAST COLD MILL ROAD
OFFICE
MARSHALLING YARD
TRANSPORTER ROAD
YARD ROAD
MUD RESERVOIR
OIL RECOVERY
WATER POLLUTION CONTROL
TRUCK MARSHALLING YARD
TRUCK SCALE
TRASH STATION
EXPRESSWAY (ROUTE 157)
PENINSULA
STORAGE AREA
EXT. 43
I-695 (OVERHEAD)
SLAB STGE AREA
PARKING LOT
KROFT CHEMICAL
"G" GATE
STRIP MILL INTERCHANGE
AIR PRODUCTS OXYGEN PLANT
#2 HIGH HEAD
#1 HIGH HEAD
OXYGEN PLANT ROAD
RESERVOIR ROAD
INDUSTRIAL WATER RESERVOIR
GRAYS
YARD
RANGE ROAD
SPARROWS POINT COUNTRY CLUB
SEVERSTAL RAILROAD
YARD OFFICE ROAD
GRAYS ROAD
PROPERTY LINE
TERMINAL CORP.
2010 RESERVOIR RD
RESERVOIR WAREHOUSE
2012 RESERVOIR ROAD
2014 RESERVOIR ROAD
2016 PIPE MILL RD.
N
LEGEND:
MCMDust Control Roads
Fritz Dust Control Roads
Kinder Morgan Dust Control Roads
SCALE IN FEET
0 200 400 600 800 1000
REVISED- 5-20-2008 CEDERBORG
SCALE: AS SHOWN
MCM Demo
SPARROWS POINT PLANT - SPARROWS POINT, MARYLAND
AMBULANCE STATIONS/TRUCK DOCKS - GENERAL ARRANGEMENT
MCM
FILE NAME: bs-005092.dwg

APPENDIX K

Demolition Erosion & Sediment Control Figures

Inlet Location Maps



LEGEND:

⑫ Covered Drain (Geotextile Fabric & Gravel Filter Berm)

REVISED- 2-28-2014	EMCS
DRAWN- 7-17-2007	CEDERBORG

MCM – Abatement & Demolition Plans

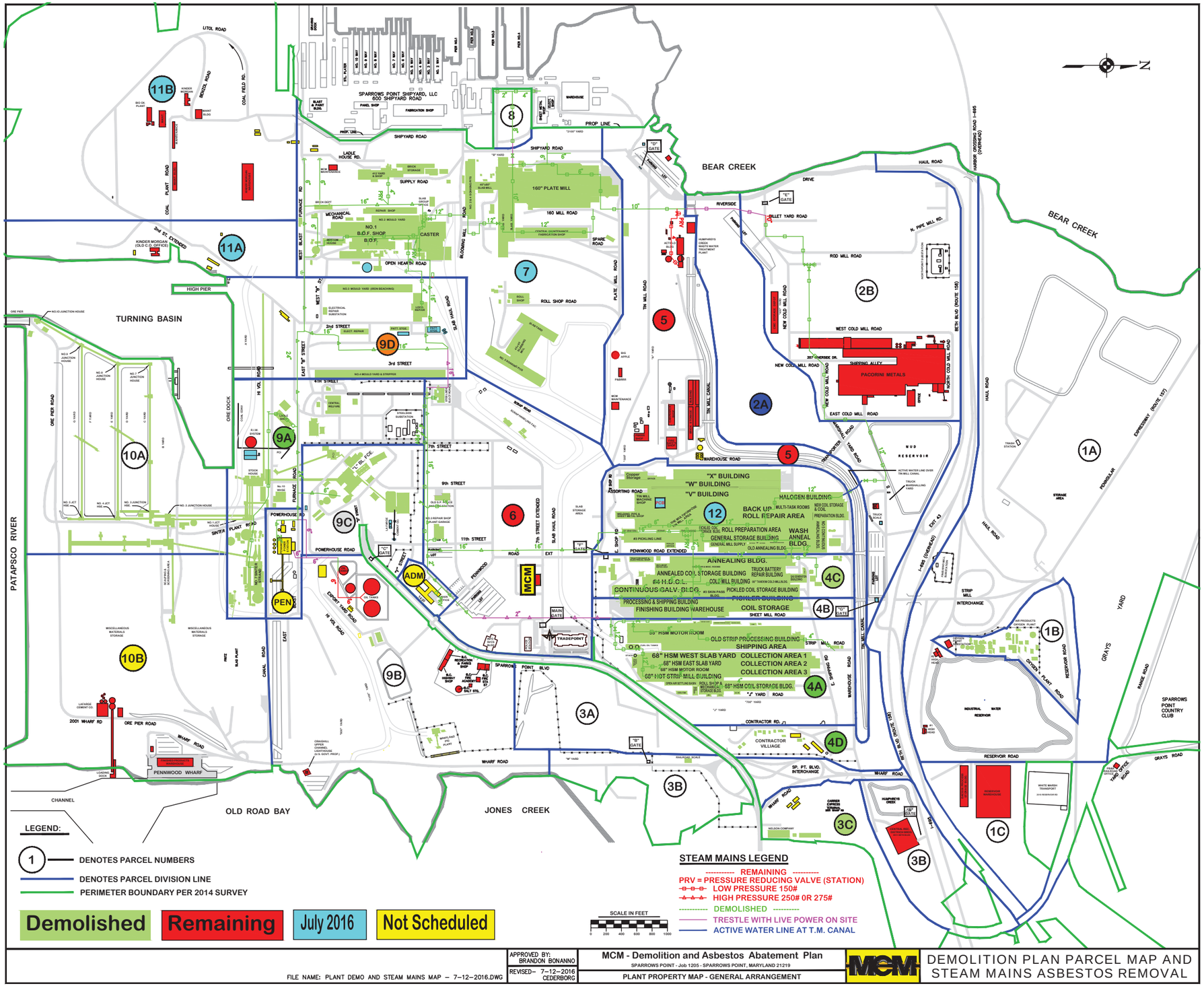
SPARROWS POINT – Job 1205 – SPARROWS POINT, MARYLAND

PROPERTY MAPS – GENERAL ARRANGEMENT

MCM

Covered Drains

Demolition Schedule



PARCEL NUMBER	FINISH DATE
1A	COMPLETE
1B	COMPLETE
1C	COMPLETE
2B	COMPLETE
3A	COMPLETE
3B	COMPLETE
4B	COMPLETE
8	COMPLETE
9B	COMPLETE
10A	COMPLETE
9D	2-29-2016
3C	3-31-2016
4C	3-31-2016
4A	5-31-2016
4D	5-31-2016
9A	5-31-2016
2A	6-30-2016
5	7-31-2016
6	7-31-2016
9C	9-30-2016
7	12-31-2016
11A	12-31-2016
11B	12-31-2016
12	12-31-2016
ADM	TBD
PEN	TBD
10B	TBD

Demolition Permits

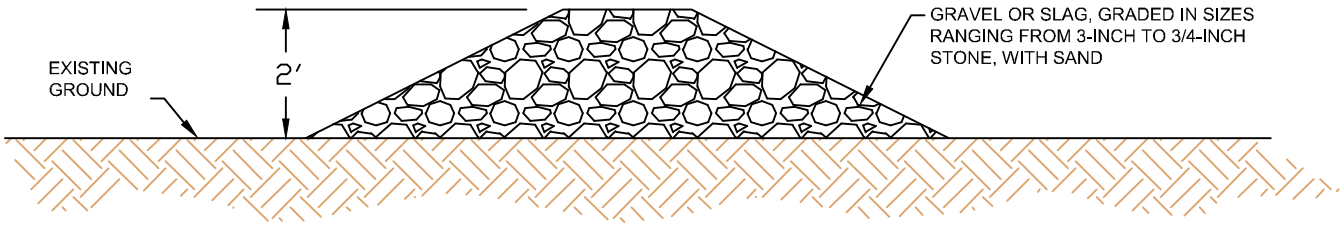
DEMO PERMITS
ISSUED BY BALTIMORE COUNTY

PERMIT #	DATE	AREA'S	STATUS	DEMO PERMIT CLOSED
B805259	1/3/2013	LADDLE/SUB REPAIR	FINISHED	6/15/2013
		STRIPPER YARD	FINISHED	6/15/2013
		SLAB MILL	FINISHED	6/15/2013
B809082	2/21/2013	45 X 90 MOLD YARD	FINISHED	6/15/2013
B809645	2/27/2013	7 ORE HOUSES AND	FINISHED	4/11/2014
		CONVEYORS	FINISHED	4/11/2014
B811759	3/22/2013	SINTER STRAND AND	FINISHED	4/11/2014
		9 ADJACENT BLDGS.	FINISHED	4/11/2014
B817694	5/31/2013	FAB SHOP BLDG	FINISHED	4/11/2014
B819759	6/26/2013	160 PLATE MILL	FINISHED	4/11/2014
B823157	8/1/2013	ELECTRIC REPAIR	FINISHED	4/11/2014
		CAR/BUGGY SHOP	FINISHED	4/11/2014
B823489	8/6/2013	STOCK HOUSE &	FINISHED	4/11/2014
		CONVEYORS	FINISHED	4/11/2014
B826786	9/17/2013	412 YARD BLDG.	FINISHED	4/11/2014
		BRICK STORAGE	FINISHED	4/11/2014
		40X80 SB	FINISHED	4/11/2014
		2 & 4 SB	FINISHED	4/11/2014
B828413	10/7/2013	BLASTING PERMIT		
		FOR ORE HANDLERS	FINISHED	4/11/2014
B828794	10/10/2013	BOTTOM HOUSE	FINISHED	4/11/2014
		BOTTOM PUMP HS	FINISHED	4/11/2014
		BOTTOM TANK	FINISHED	4/11/2014
		B.O.F.	ONGOING	
B832593	11/26/2013	COIL STORAGE	FINISHED	4/11/2014
		LOCO SHOP	FINISHED	4/11/2014
		LADLE HOUSE	FINISHED	4/11/2014
		PATTERN STORAGE	FINISHED	4/11/2014
		AIR CO BLDG	FINISHED	4/11/2014
		AC REPAIR SHOP	FINISHED	4/11/2014
B834707	12/30/2013	ROLL SHOP	FINISHED	4/11/2014

DEMO PERMITS
ISSUED BY BALTIMORE COUNTY

B836208	1/24/2014	56 SLAB SLITTING	FINISHED
B837681	2/18/2014	SOUTH PARK	FINISHED
		56 MOTOR ROOM	FINISHED
		56 WEST SLAB	FINISHED
B838442	2/26/2014	HILCO MOTOR STORE	FINISHED
B838971	3/6/2014	56HSM EAST SLAB	FINISHED
		FINISHING BLDG.	FINISHED
		OLD STRIP PROCESS	MDE
		HILCO SHIPPING AREA	MDE
B840200	3/21/2014	PICKLER BLDG.	FINISHED
B840430	3/25/2014	PROCESSING AND	FINISHED
		SHIPPING BLDG.	FINISHED
B840860	3/28/2014	SKIN PASS BLDG.	FINISHED
B842040	4/10/2014	PICKLER COIL BLDG.	DEMOING

Typical Details



NOTES

1. GRAVEL FILTER BERMS SHALL CONSIST OF GRAVEL STONE OR SLAG–GRADED IN SIZES OF APPROXIMATELY 3 INCH TO ¾ INCH MATERIAL CONSTRUCTED IN A 2 FEET HIGH BY 2 FEET WIDE BERM.
2. GRAVEL FILTER BERMS REQUIRE PERIODIC MAINTENANCE TO FUNCTION EFFECTIVELY. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF PONDED WATER SURROUNDING THE GRAVEL FILTER BERM DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE THE AGGREGATE/SLAG.
3. ACCUMULATED SEDIMENT REMOVED FROM THE GRAVEL FILTER BERM SHALL BE PLACED IN A MANNER TO PREVENT THE FUTURE EROSION AND TRANSPORT OF THE SEDIMENT.

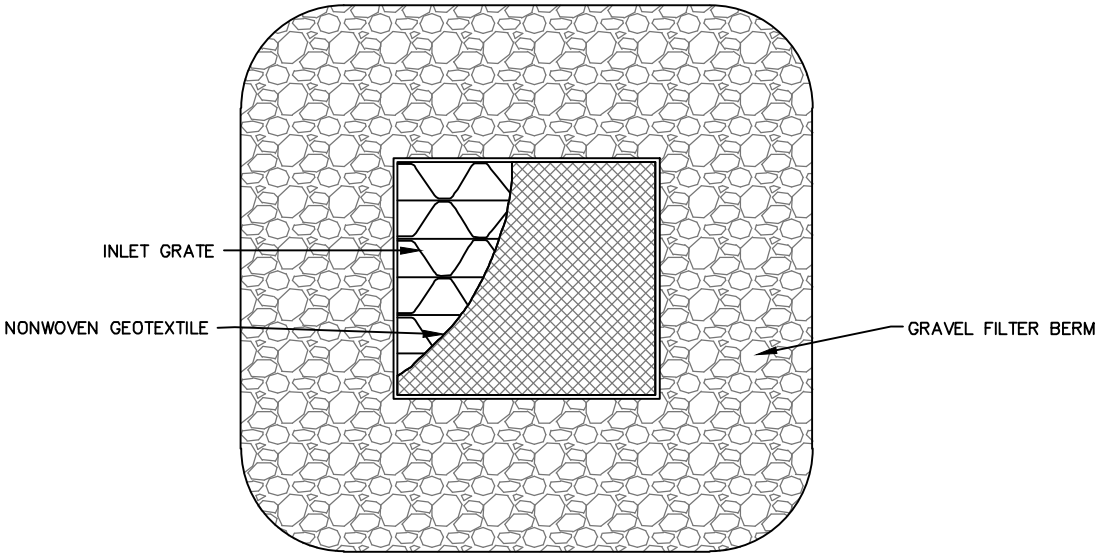
Gravel Filter Berm Detail

Sparrows Point Terminal, LLC
Stormwater Pollution Prevention Plan

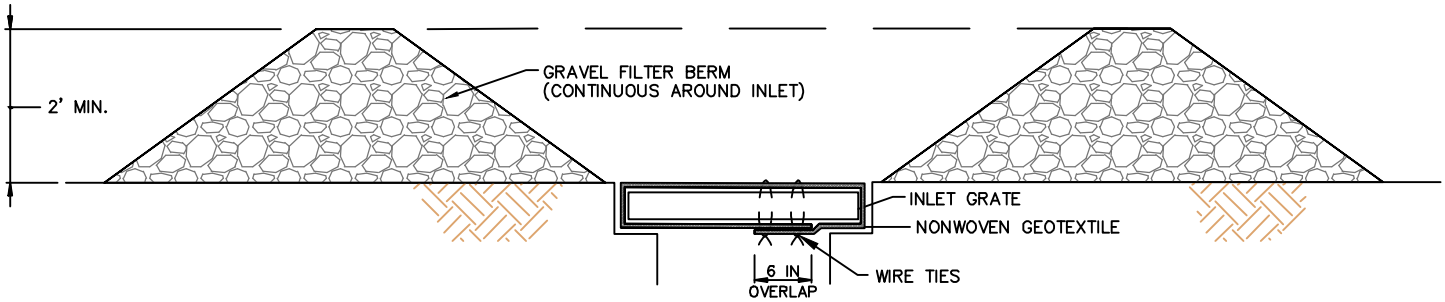
April 2014	Scale: NTS	M14101

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

Figure
K-1



PLAN / CUT AWAY VIEW
NOT TO SCALE



CROSS SECTION
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE. IF GRATE CANNOT BE REMOVED, EXTEND GEOTEXTILE OVER INLET GRATE AND BENEATH THE GRAVEL FILTER BERMS SURROUNDING THE INLET TO SECURE THE GEOTEXTILE.

2. PLACE GRAVEL FILTER BERM SURROUNDING THE PERIMETER OF THE INLET. GRAVEL FILTER BERM SHALL CONSIST OF CRUSHED AGGREGATE OR SLAG WITH THE METALS REMOVED.

3. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

Inlet Protection Detail

Sparrows Point Terminal, LLC
Stormwater Pollution Prevention Plan

March 2014	Scale: NTS	M14101

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

Figure
K-2

Completed Perimeter Erosion & Sediment Control Field Sketches

APPENDIX L

General Backfill Specifications

KCI TECHNOLOGIES

ISO 9001:2008 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7885

June 9, 2014

Mr. Brandon J. Bonanno
Environmental Manager
MCM Management Corporation
1430 Sparrows Point Boulevard
Sparrows Point, MD 21219
410-292-6356 direct
bbonanno@mcmdemo.com

Subject: Construction Material Testing and Inspection Services
Development of General Backfill Specifications
Sparrows Point, Baltimore County, Maryland

Greetings Mr. Bonanno,

In accordance with your request, KCI Technologies, Inc. is submitting this general backfill specifications report for the above referenced project. We understand that the Owner plans to demolish some of the existing structures/buildings at the Sparrows Point Steel Plant in order to allow for redevelopment at the site. As part of the redevelopment, the Owner proposes to use the existing on-site material stockpiles for the structural backfilling of pits/basements.

Our services for this project involved initial sampling and laboratory testing of representative on-site material stockpiles. We performed laboratory tests including sieve analysis, moisture content, Atterberg limits, and moisture-density. The laboratory test results indicated that the on-site material we tested consists of non-plastic, dark gray and brown, Well-Graded GRAVEL with Silt and SAND (GW, GW-GM) with fines content (silt/clay portions by weight passing the US No. 200 sieve size) typically less than 10 percent. The details laboratory test results are attached. In general, materials of this type are suitable for structural backfill.

We discuss below the work necessary for the structural backfilling of the pits/basements. Specifically, we provide guidance for subgrade preparation, placement and compaction of general backfill material, and related items necessary to complete the work specified.

References:

A. American Society of Testing and Materials (ASTM):
   i. D1557 – Lab Compaction Characteristics of Soil Using Modified Effort
   ii. D2922 – Density of Soil and Soil-Aggregate in Place by Nuclear-Methods (Shallow Depth).
B. Baltimore County Standard Specifications for Construction and Materials (2007)
C. Maryland State Highway Administration (MDSHA) Standard Specifications for Construction and Materials (2008)

General Backfill Material:

A. **Miscellaneous Backfill Material**: This material consists of masonry, concrete, and other available aggregate materials generated by demolition activities, and slag located on the site. It is the intent of the Owner to use these miscellaneous fill as backfill material.
B. **Structural Backfill Material**: The Owner has performed laboratory tests on approved on-site material samples obtained from stockpiles at selected locations. Tests included sieve analysis, moisture content, Atterberg limits, and moisture-density. The results of these tests are included in this report. Generally, the materials consist of non-plastic, dark gray and brown, Well-Graded GRAVEL with Silt and SAND (GW, GW-GM) with fines content (silt/clay portions by weight passing the US No. 200 sieve size) typically less than 10 percent. The tested on-site materials meet MDSHA and Baltimore County gradation requirements for Graded Aggregate Base (GAB) materials.

General Backfill Subgrade:

A. We understand that the backfilling operations will be in the exposed pits/basements with concrete slabs. If concrete slabs are not encountered, then prior to fill placement, subgrades should be verified by a Geotechnical Engineer or his or her representative to make sure loose/soft subgrade soils are densified in-place and/or undercut and replaced with suitable backfill material.
B. Scarify subgrade to a minimum depth of eight inches.
C. Subgrade compaction should continue until the surface is relatively even, rutting depth is less than two inches, and pumping does not occur. Areas where pumping or heavy rutting continues to occur will be undercut, backfilled with suitable materials and compacted until those conditions are satisfied. Any deleterious material such as organics, trash, plastic, and rebar encountered within the subgrade should be removed and replaced with a suitable fill material.

General Backfill Placement:

A. The miscellaneous backfill material may be placed up to minimum five feet below proposed finished site grades for 10-foot deep pits. If the pits are deeper than 10 feet, then 50 percent of the pit should be backfilled with the miscellaneous backfill material placed in successive 12-inch thick layers (maximum lift thickness) and crushed/tamped in-placed using the equipment bucket loader. The final 50 percent of the pit should be backfilled with the approved structural backfill material.
B. The structural backfill material should be placed within five feet of the proposed finished site grades. In cases where the pits are less than five-foot deep, the backfill material should consist only of the structural fill material.
C. Backfill materials should be free of deleterious materials such as trash, organics, plastic, and rebar.
D. Before filling operations begin, representative samples of each approved structural backfill material should be collected. The samples should be tested to determine the maximum dry density, optimum moisture content, natural moisture content, gradation, and plasticity of the

soil. These tests are needed for quality control during compaction and also to determine if the selected structural backfill material is acceptable.

E. Structural backfill material should be placed in loose lifts not exceeding eight inches in thickness.

F. The compacted structural backfill material should be developed, in general, by compacting successive eight-inch thick layers (maximum compacted lift thickness) of the approved material.

G. Compact structural backfill material to minimum 97 percent following ASTM D1557. The moisture content of the fill should be maintained within two percentage points of the optimum moisture content determined from the laboratory moisture-density relation.

H. Materials to be used as miscellaneous and structural backfill should comply with Baltimore County, MDSHA, and federal requirements, and should be approved by a Geotechnical Engineer registered in the State of Maryland. Placement of miscellaneous and structural backfill materials should be verified by a Geotechnical Engineer or his or her representative.

I. The Contractor should provide positive drainage and dewatering measures to control surficial water and groundwater during construction. Dewatering can be handled with ditching, sumps, and pumping. Run-off from adjacent areas should be diverted away from the construction area to prevent ponding of water in the pit/basements. Such measures will ensure that areas in which backfill are being placed are kept free from water and in relatively dry conditions.

Quality Control/Quality Assurance:

A. A construction quality assurance Monitor should be retained by the Owner to monitor Contractor's Compliance with above backfill specifications.

B. A construction quality control Monitor should be retained by the Contractor to monitor and test lifts to determine conformance with specified density and moisture. Test method should be in accordance with ASTM D1557 and ASTM D2922.

C. Contractor should rework areas identified by the construction quality control monitor as not meeting the placement criteria until those areas satisfy the placement criteria.

KCI Technologies, Inc. (KCI) appreciates the opportunity to provide our services on this project. If you have any questions with regard to this report or any other aspect of our services, please feel free to contact us at 410-316-7919.

Sincerely,

KCI Technologies, Inc.

Ransford Addei, P.E.
Senior Geotechnical Engineer

for Kwabena Ofori-Awuah, P.E., ENV SP
Chief Geotechnical Engineer

Attachments: Laboratory Test Results

SUMMARY OF LABORATORY TESTING

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

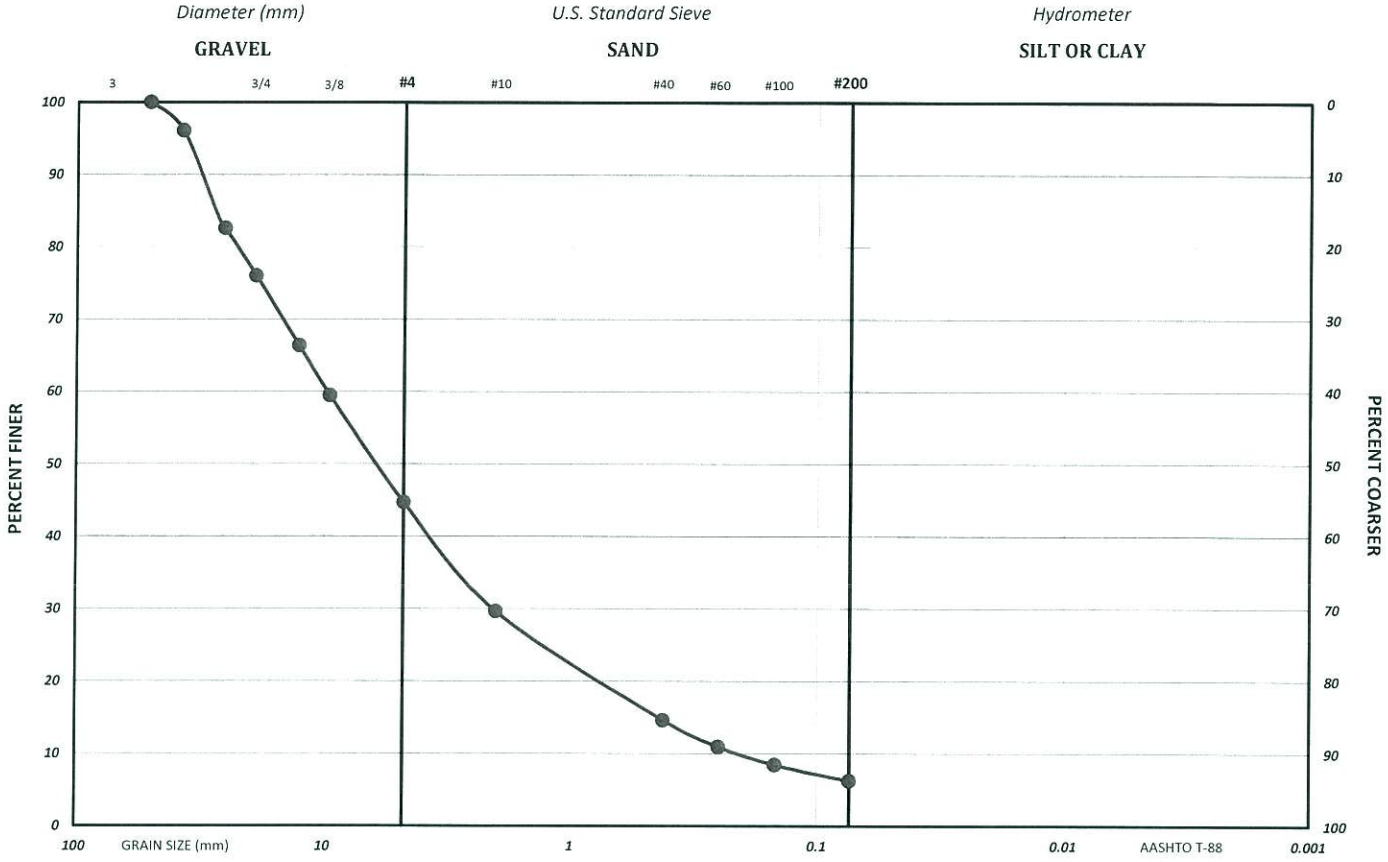
PROJECT #:	12146061	**SAMPLED:**	-	**JAY KAY TESTING**
SAMPLES:	5	**LOCATION:**	-	5233 Lehman Road, Suite 110
REPORT:	06/06/14	**REMARKS:**	-	Spring Grove, PA 17362
				Phone: (410) 259-5101

BORING	SAMPLE	DEPTH	MC %	OM %	LL	PL	PI	% FINES	USCS
S-1	Bulk	North-Front	3.4	-	NP	NP	NP	6.2	GW-GM
S-2	Bulk	North-Middle	3.3	-	NP	NP	NP	4.8	GW
S-3	Bulk	South	2.3	-	NP	NP	NP	4.0	GW
S-4	Bulk	East	2.4	-	NP	NP	NP	3.9	GW
S-5	Bulk	North-East	3.8	-	NP	NP	NP	6.0	GW-GM
Jay Kay Testing (AASHTO-Accredited)									

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-1	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Front'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	-	100.0	96.1	82.6	76.0	66.3	59.5	44.7	29.6	14.6	10.9	8.4	**6.2**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
55.3	**38.5**	24.0	31.3	15.1	15.0	8.4	2.11	46.39

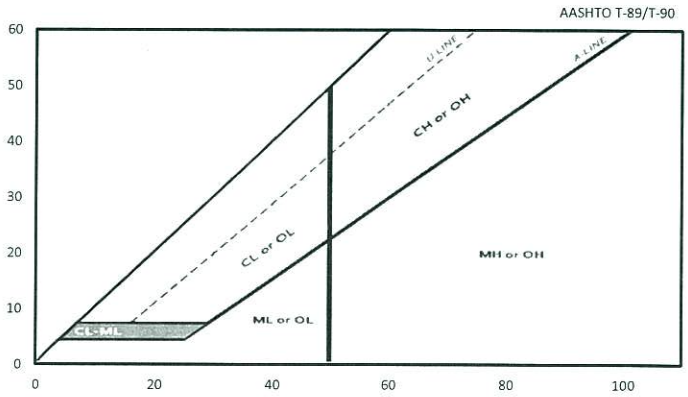
Moisture Content	3.4	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW-GM



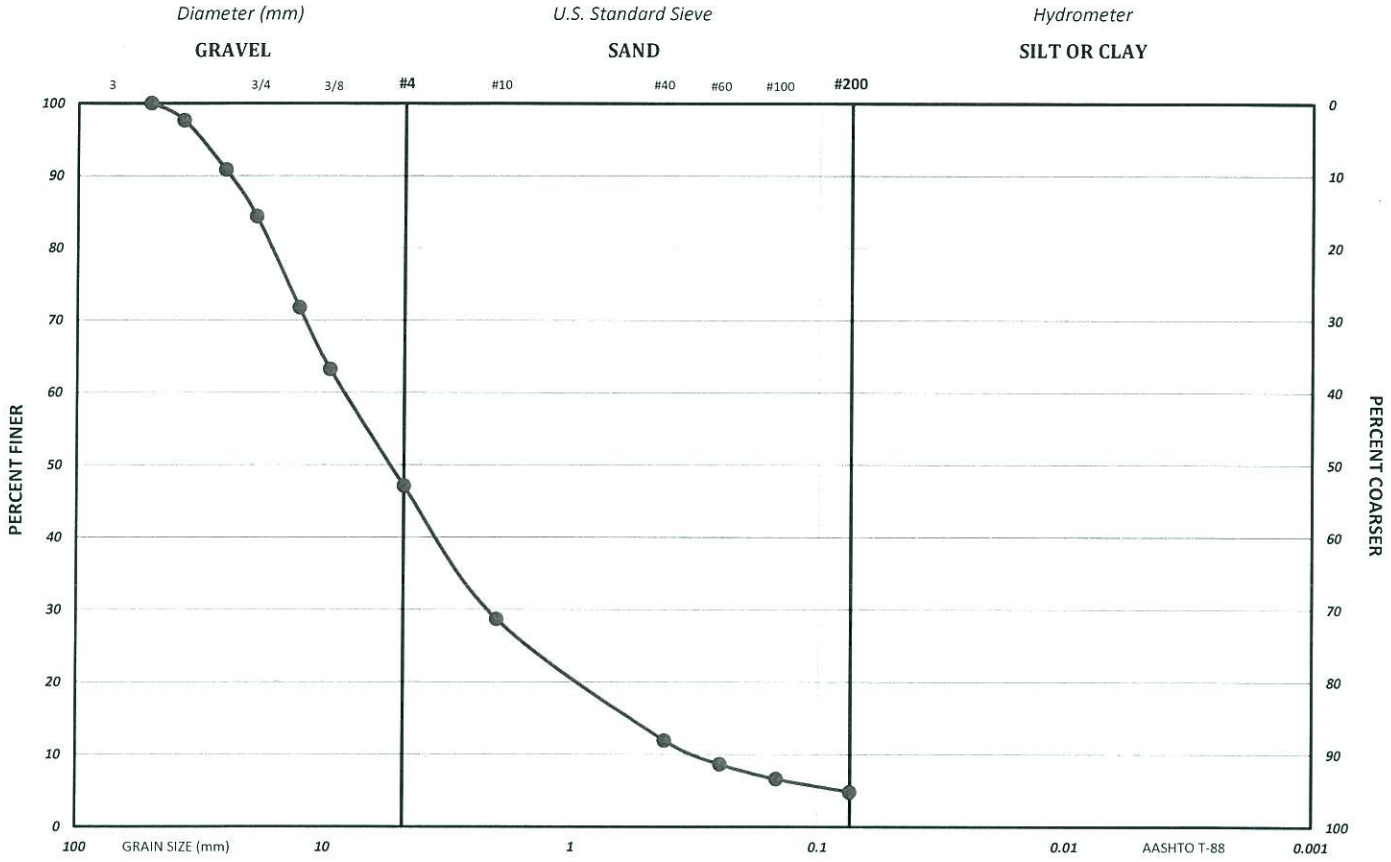
SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-2	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Middle'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	-	100.0	97.6	90.8	84.3	71.8	63.2	47.1	28.7	11.9	8.7	6.6	**4.8**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
52.9	**42.3**	15.7	37.2	18.4	16.8	7.1	1.83	25.54

Moisture Content	3.3	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

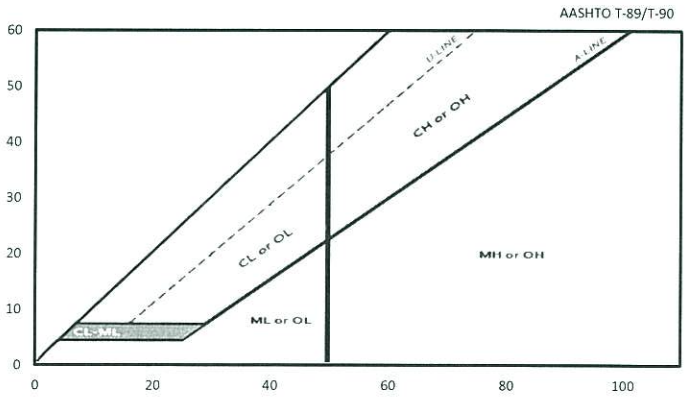
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW

SOIL DESCRIPTION

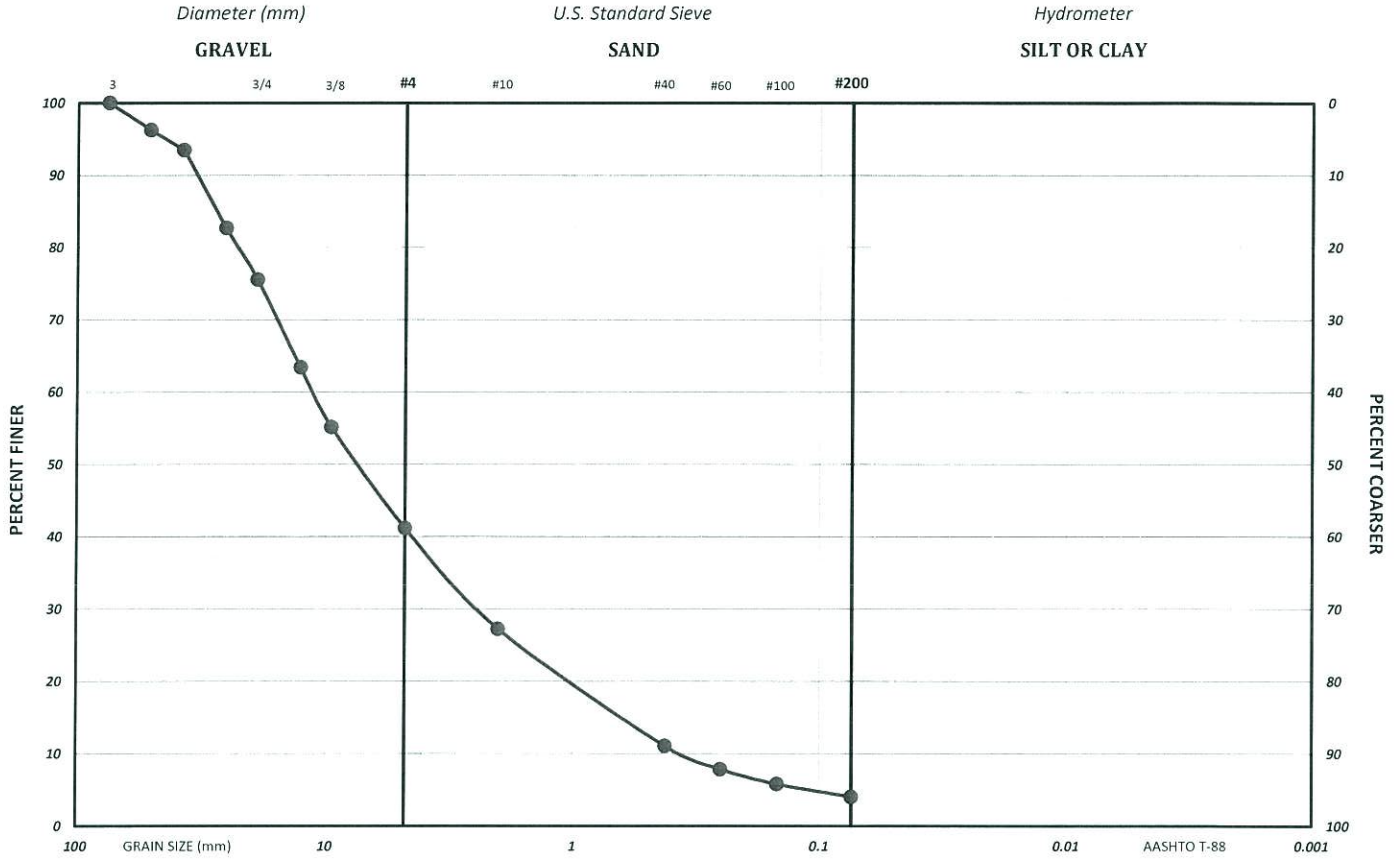
Dark gray brown well graded GRAVEL with sand



DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-3	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	South'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	96.2	93.5	82.7	75.5	63.4	55.2	41.2	27.2	11.0	7.8	5.8	**4.0**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
58.8	**37.2**	24.5	34.3	14.0	16.2	7.0	1.45	30.67

Moisture Content	2.3	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

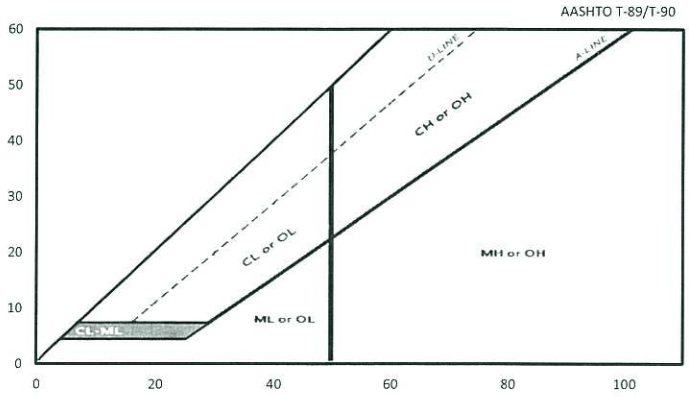
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW

SOIL DESCRIPTION

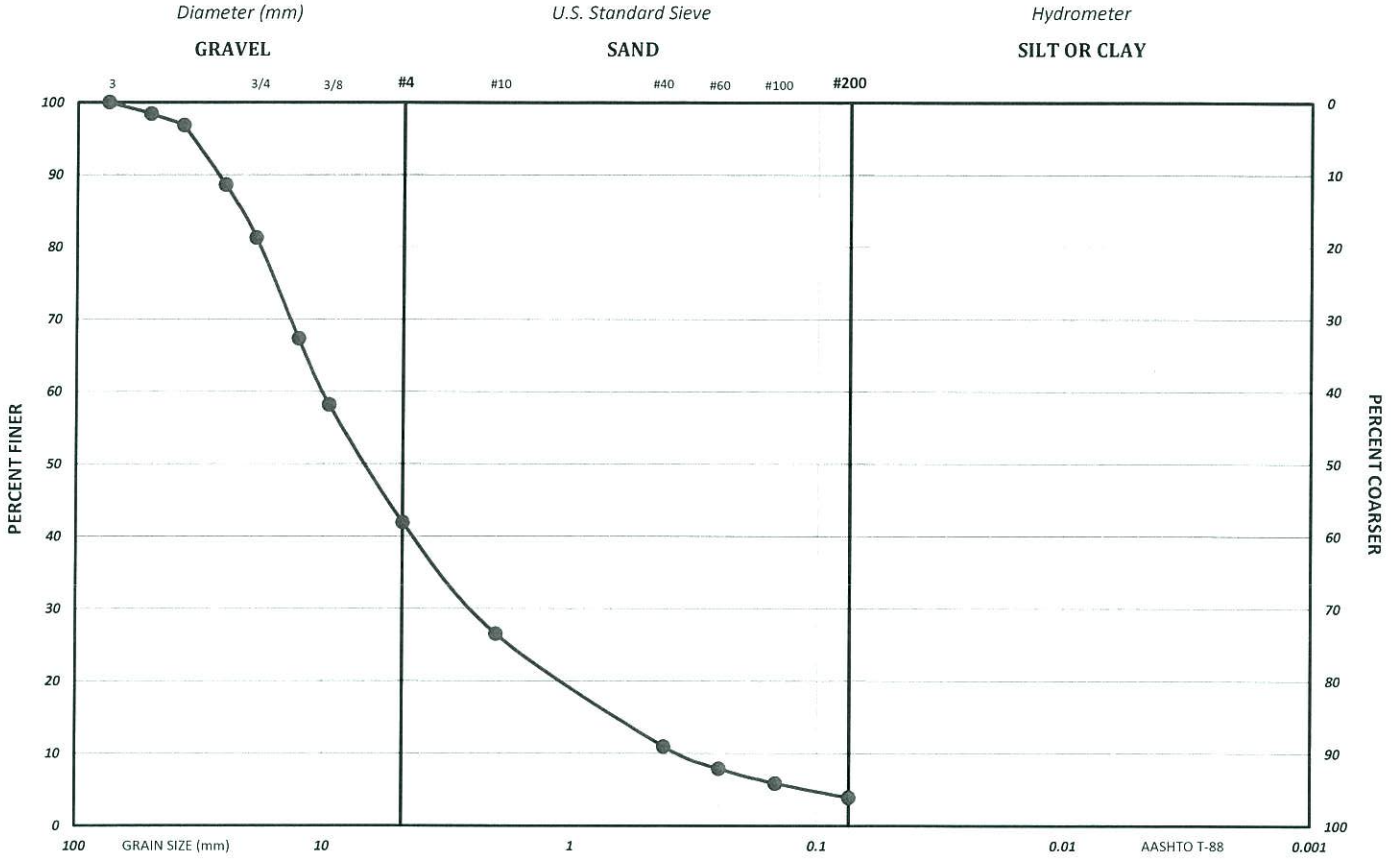
Dark gray brown well graded GRAVEL with sand



DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-4	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	98.4	96.8	88.6	81.3	67.3	58.1	41.9	26.5	11.0	7.9	5.9	**3.9**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
58.1	**38.0**	18.7	39.4	15.4	15.5	7.1	1.74	26.84

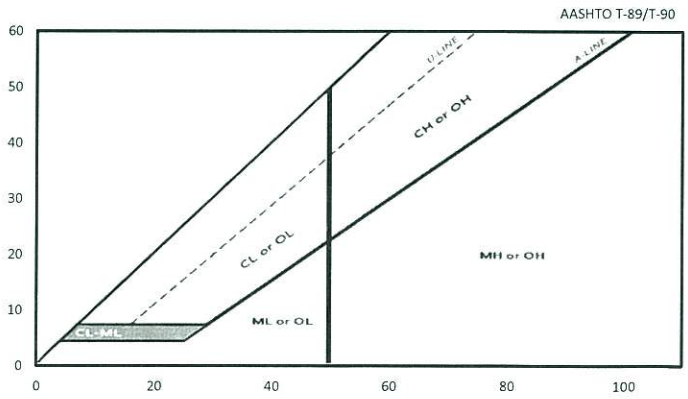
Moisture Content	2.4	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW



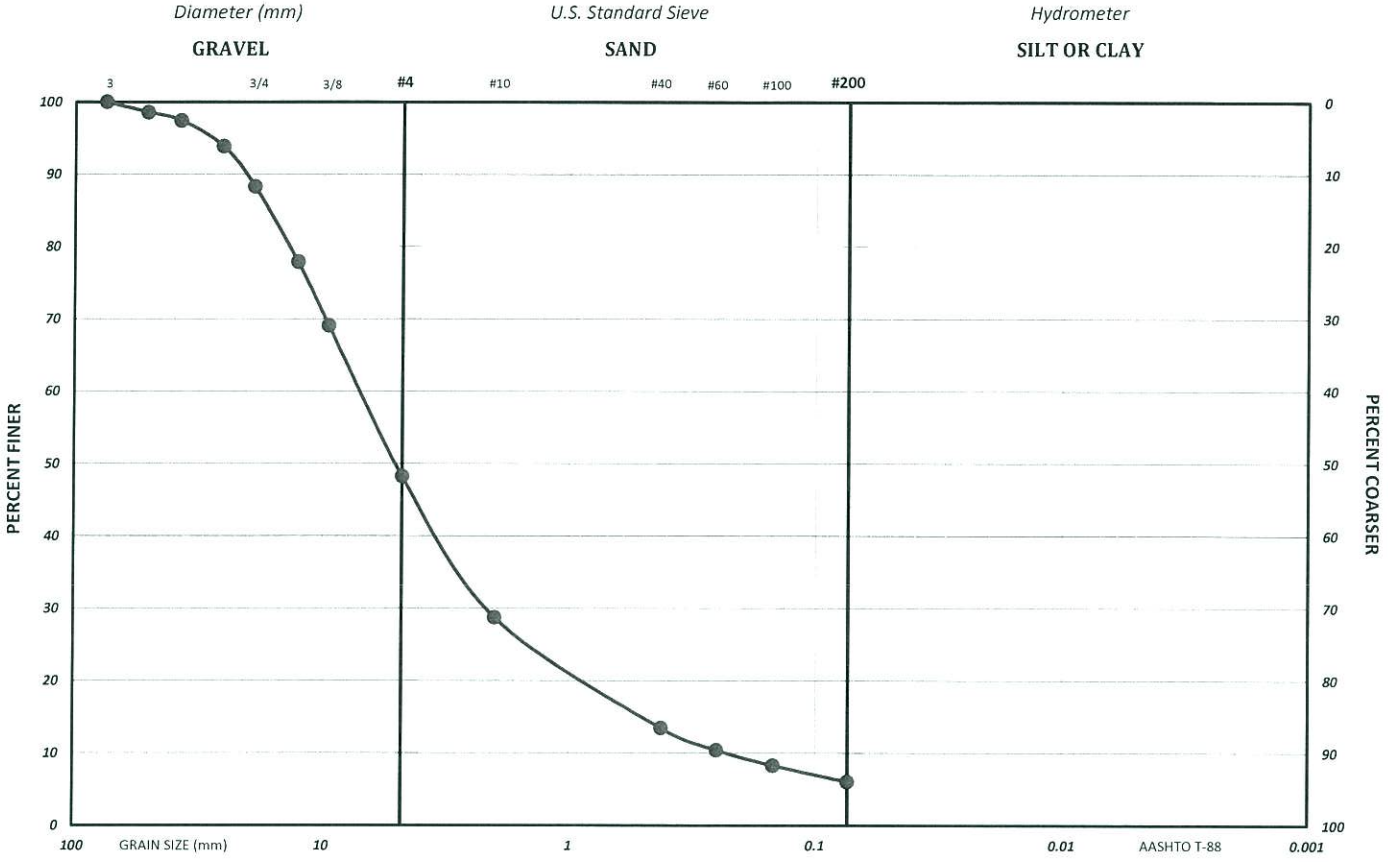
SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-5	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	98.5	97.4	93.8	88.3	77.9	69.0	48.2	28.7	13.4	10.4	8.3	**6.0**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
51.8	**42.2**	11.7	40.1	19.5	15.3	7.4	2.93	30.61

Moisture Content	3.8	Organic Content	-
pH	-	Other	-

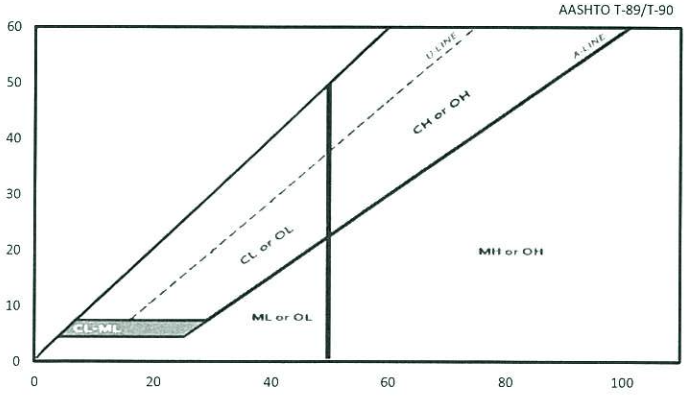
ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW-GM

AASHTO T-89/T-90



SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

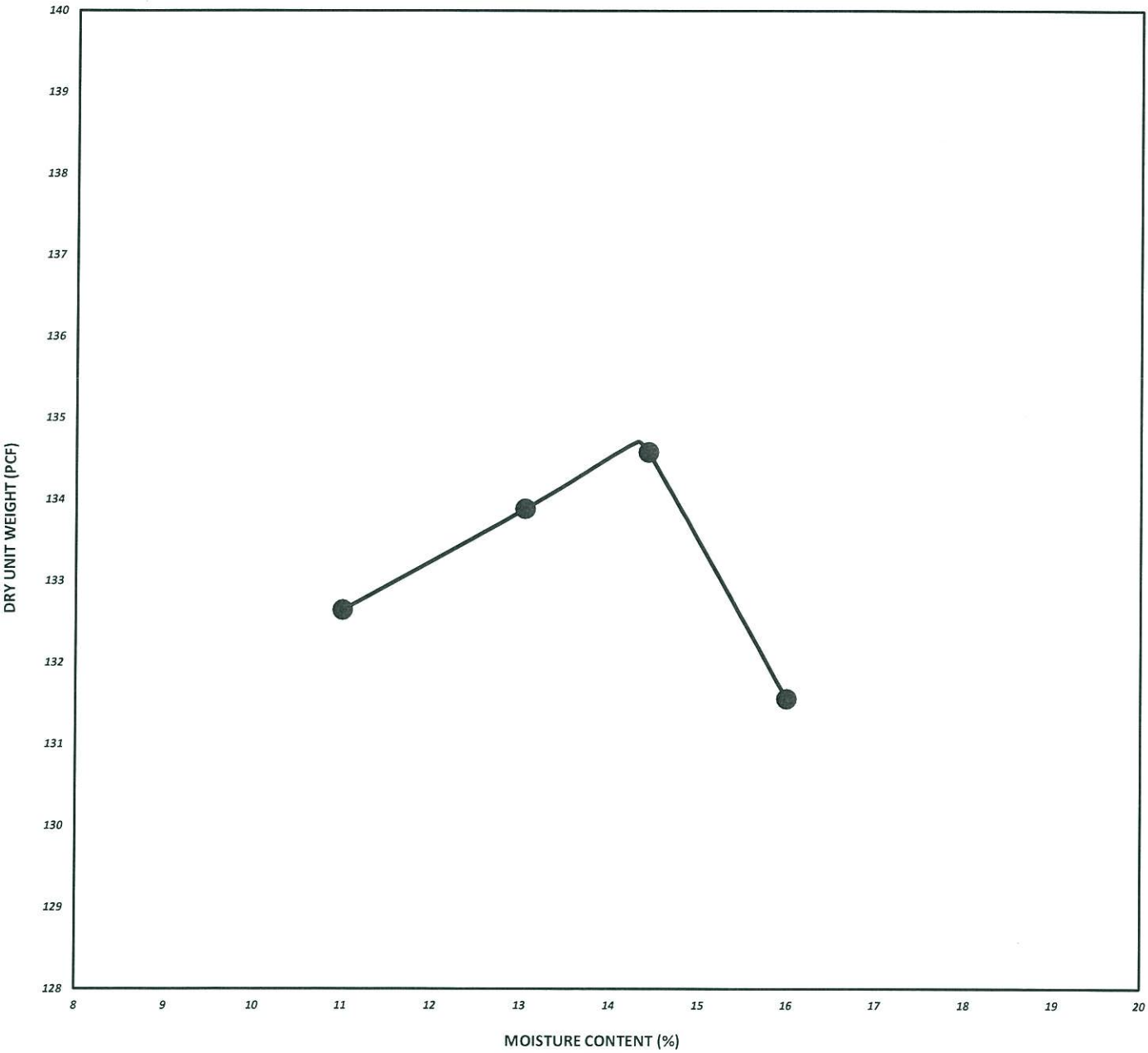
BORING:	S-1	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Front'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 24.0% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.7	PCF	140.4
Optimum Moisture Content	14.3	MC	11.3



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.4	NP	NP	NP	GW-GM	A-1-a	6.2	Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

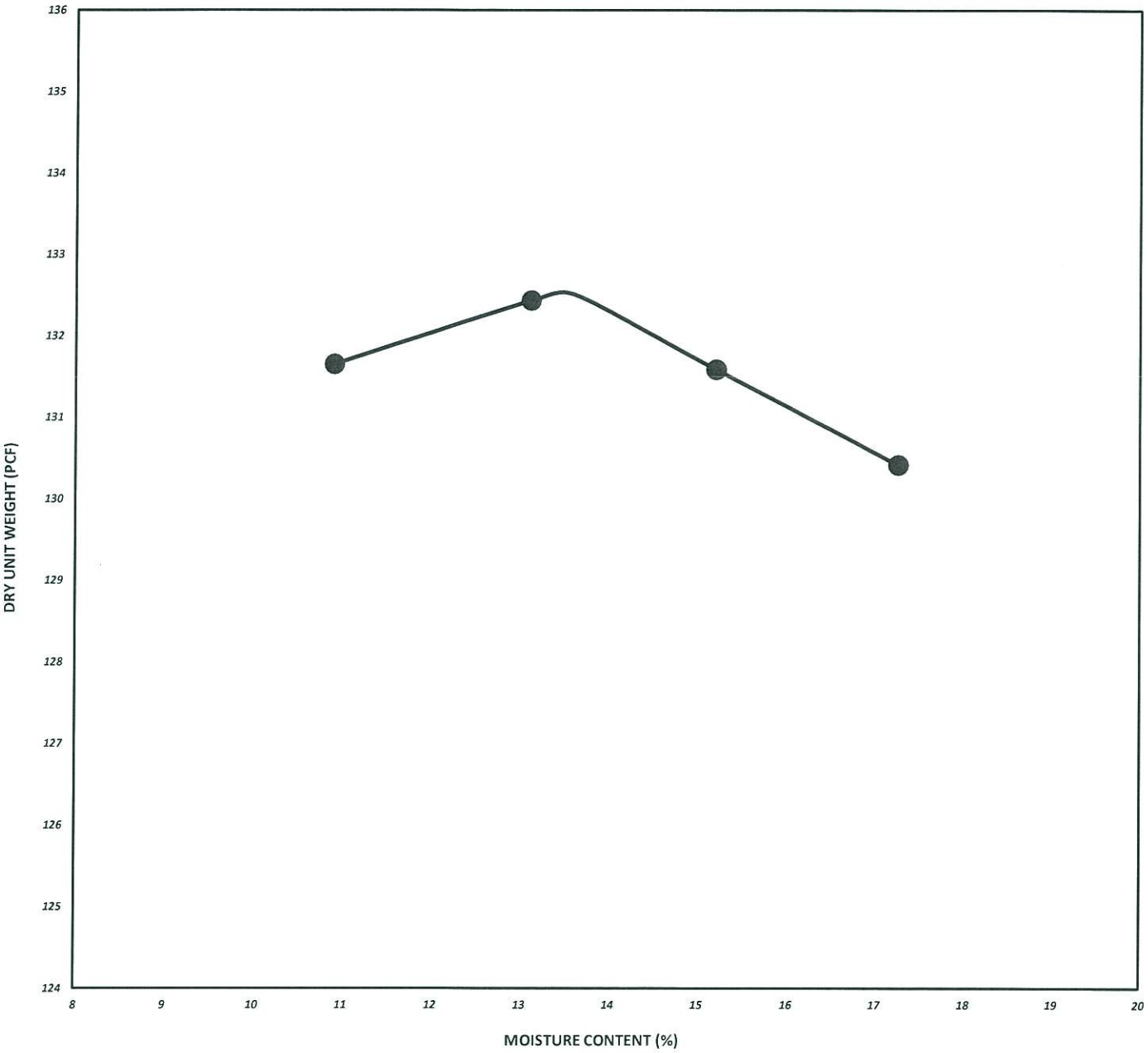
BORING:	S-2	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Middle'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 15.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	132.5	PCF	136.4
Optimum Moisture Content	13.6	MC	11.8



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.3	NP	NP	NP	GW	A-1-a	4.8	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

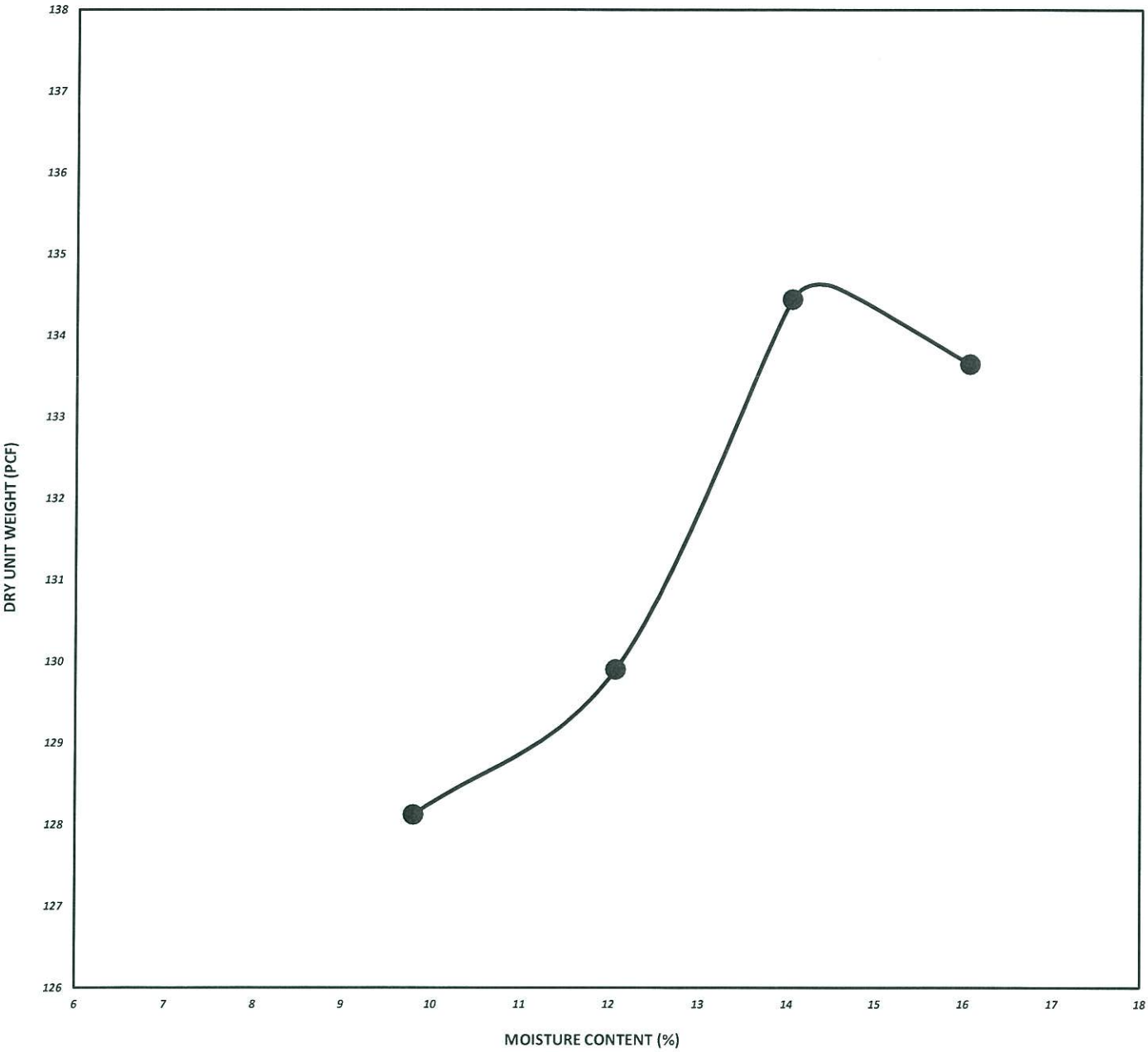
BORING:	S-3	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	South'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 24.5% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.6	PCF	140.5
Optimum Moisture Content	14.5	MC	11.4



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
2.3	NP	NP	NP	GW	A-1-a	4.0	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

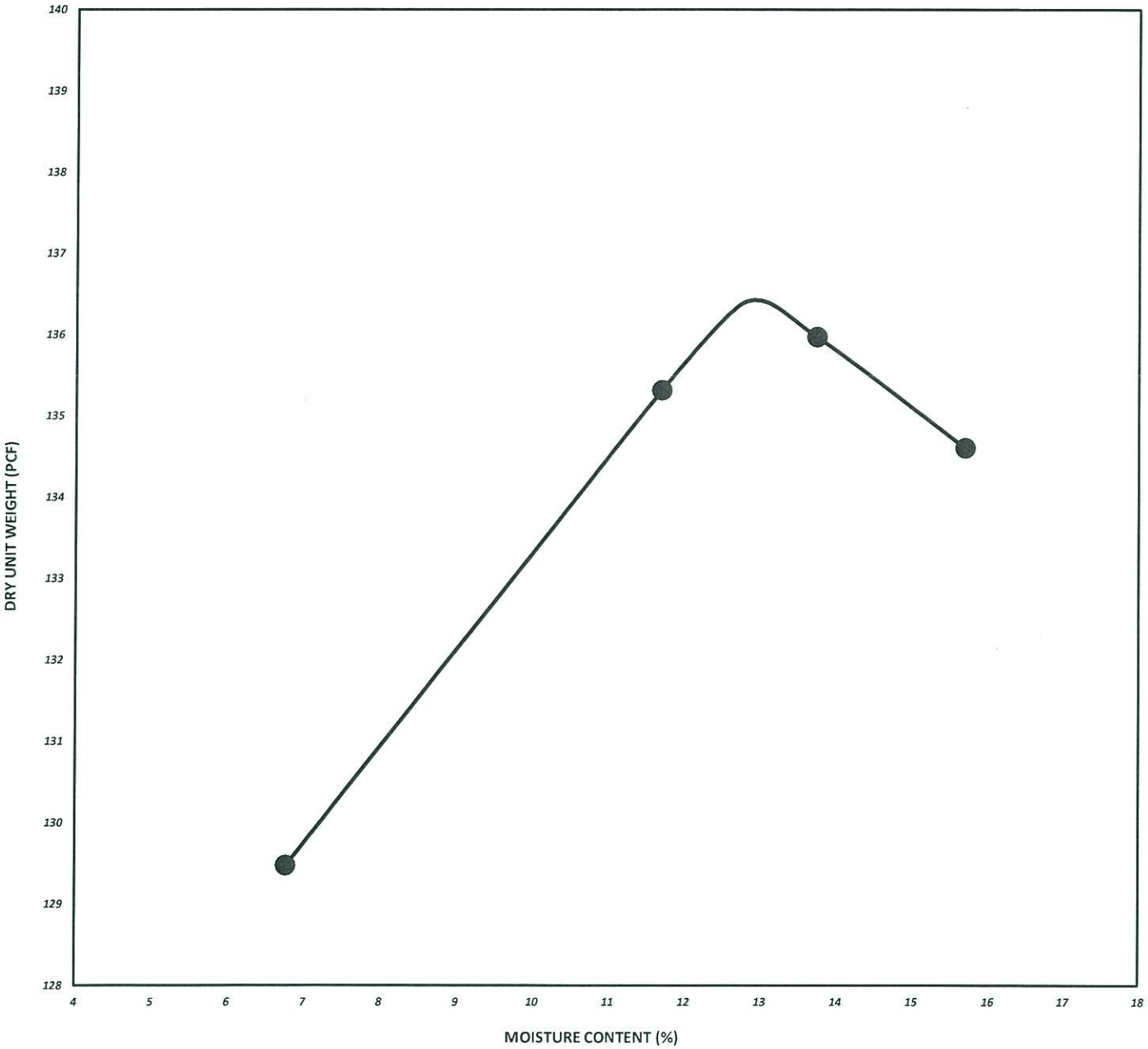
BORING:	S-4	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 18.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	136.4	PCF	140.6
Optimum Moisture Content	12.8	MC	10.8



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
2.4	NP	NP	NP	GW	A-1-a	3.9	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

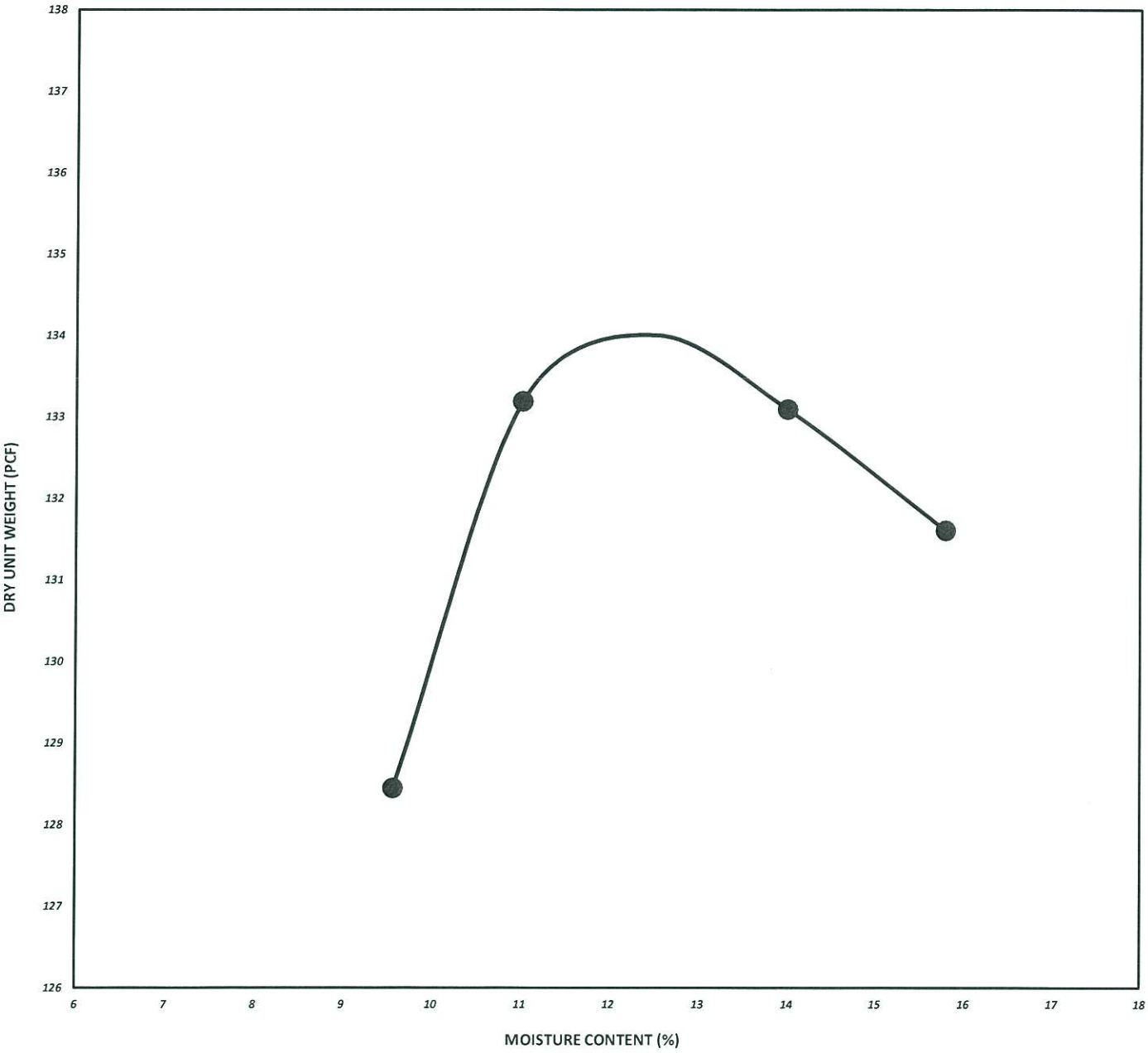
BORING:	S-5	**PROJECT #:**	12146061	**JAY KAY TESTING**
SAMPLE:	Bulk	**SAMPLED:**	-	5233 Lehman Road, Suite 110
DEPTH:	North-East'	**LOCATION:**	-	Spring Grove, PA 17362
				Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)

*Corrected for 11.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.0	PCF	136.8
Optimum Moisture Content	12.5	MC	11.3



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.8	NP	NP	NP	GW-GM	A-1-a	6.0	Dark gray brown well graded GRAVEL with silt and sand

APPENDIX M

Materials Management Plan

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101 • www.mde.maryland.gov

Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

July 7, 2015

CERTIFIED MAIL

Brandon Bonanno
Vice President, Operations
MCM Management Corporation
1430 Sparrows Point Boulevard
Sparrows Point, Maryland 21219

Re: Material Management Plan and
Concrete, Slag and Refractory Brick Variance Requests
Sparrows Point Facility

Dear Mr. Bonanno:

The Land Management Administration of the Maryland Department of the Environment ("Department") has reviewed the revised Materials Management Plan ("MMP") dated June 17, 2015 and the request for a variance for use of site-derived concrete and refractory brick as backfill material at the Sparrows Point Facility, subject to the requirements of Code of Maryland Regulations(COMAR) 26.04.07.04C(5). Based upon a review of these documents and the supplemental information on the refractory brick sampling requested and received by the Department, the variance on the use of site-derived concrete and refractory brick as backfill material is approved as allowed by COMAR 26.04.07.26 with the following conditions:

1. Any refractory brick encountered during the demolition activities that was not previously identified in the screening samples collected from the following four sources that may be historic in nature or of unknown composition must be segregated and cannot be utilized for fill until authorized by the Department:
   - Inside SGS#37 - 68" HSM Furnace
   - L Furnace - Black Brick - Exterior Pile at base
   - L Furnace - Blue Brick from Interior Lining; and
   - L Furnace - Refractory Brick Pile located North of Furnace.

2. This approval does not apply to any materials within the Halogen Building- Tin Mill Complex as these materials will be evaluated under the Halogen Building Basement Plan dated June 15, 2015, currently being reviewed by the Department.

3. Stained or painted concrete will not be considered as suitable for clean fill and must be segregated and disposed of properly.

4. All material must be processed, tested and tracked in accordance with the approved MMP dated June 17, 2015.

5. All material transport, crushing and backfill emplacement must be conducted with appropriate Health and Safety measures for worker protection and dust control.

6. As stated in Section 10 of the MMP, documentation of off-site disposal of non-hazardous and hazardous wastes and off-site recycling of wastes will be included in MCM's project waste summaries and bi-annual reports. These documents must also be submitted to the Department.

In regard to the request to utilize slag generated at the property for backfill, due to the variety of sources and age of the slag material and potential locations for backfill, the Department will review requests to utilize slag on a case-by-case basis. For each request, provide a description of the source of the slag, volume, any pre-treatment and proposed location where the slag will be used as fill material.

If you have any questions regarding these requirements please contact me at 410-537-3212.

Sincerely,

Barbara H. Brown

Barbara H. Brown,
MDE Project Coordinator

cc: Randy Lutz, Esq., Saul Ewing, LLP
Mr. Mike Pedone, Chief Operating Officer Sparrows Point Terminal, LLC
Ms. Hilary Miller
Mr. Ed Dexter
Ms. Martha Hynson

Materials Management Plan

Sparrows Point Facility
Baltimore, Maryland

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

Jenkins Environmental, Inc.

June 17, 2015

45 Belden Place, 4th Floor, San Francisco, CA 94104 • 415-773-0400

Materials Management Plan

Sparrows Point Facility
Baltimore, Maryland

Prepared for:

MCM Management Corporation

Prepared by:

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

Jenkins Environmental, Inc.

June 17, 2015

45 Belden Place, 4th Floor, San Francisco, CA 94104 • 415-773-0400

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Section 1
Introduction

S.S. Papadopulos & Associates, Inc. (SSP&A) and Jenkins Environmental, Inc. (JEI) were retained by MCM Management Corporation (MCM) to prepare this Materials Management Plan (MMP) in response to a request by the Maryland Department of the Environment (MDE) regarding the evaluation of backfill materials used for subgrade filling in areas beneath the ongoing demolition of site structures at the former Bethlehem Steel Corporation (BSC) facility at Sparrows Point, Maryland (site) (Figure 1). MCM is responsible for site demolition and backfilling activities at Sparrows Point under contract to the property owner (Sparrows Point Terminal, LLC).

The scope of this MMP is to 1) identify and evaluate potential sources of backfill materials currently available and stockpiled on-site, 2) identify and evaluate potential sources of backfill materials that will be generated from continuing demolition of site structures, 3) describe procedures for testing and managing potential backfill sources, and 4) define types of backfill materials to be used for filling the remaining on-site basements, and other sub-grade structures, referred to collectively in this document as "basements."

Portions of several site structures are not included in this MMP as these areas potentially contain chemical impacts from former facility operations. The areas excluded from the MMP are the Halogen Lines No. 1 and No. 2 in the Tin Mill, Continuous Caster Scale Pit, and the 68" Hot Strip Mill Scale Pit, which will be addressed in other plans to be submitted to MDE at a later date.

This plan is being submitted concurrently with variance requests regarding the use of site-derived materials as backfill, in particular, a) concrete rubble, b) bricks and c) slag. Addenda to this MMP will be prepared and attached to this MMP to address additional requirements by MDE, if any, related to the approval of variance requests.

Section 2
Background

The Sparrows Point site is located approximately nine miles south of downtown Baltimore encompassing approximately 3,100 acres. It is located on a peninsula on the Patapsco River with industrial, commercial, and residential areas to the north and east of the site.

The site was used for production of iron and steel and steel manufacturing from the late 1800s until 2012. BSC purchased the Sparrows Point facility in 1916 and expanded operations building mills producing hot and cold rolled sheets, coated materials, plates, pipes, and rod and wire. Steelmaking operations at the facility ceased in 2012. During and following active steel production, the site underwent substantial infilling comprised primarily of slag material, to such an extent that some areas of the peninsula are almost entirely composed of slag materials. Demolition of structures commenced in August 2012 and are ongoing. Redevelopment of the site is planned for industrial and open space uses.

Section 3
Building Information and Status

This section describes the status of the remaining buildings and structures on-site that are planned for demolition. Details and descriptions of former uses are included in Table 1.

The following existing buildings and structures are planned for demolition:

- Tin Mill Complex (demolition in progress)
- 68" Hot Strip Mill (demolition in progress)
- Basic Oxygen Furnace (BOF)/Caster Ladle structures (partially demolished)
- Penwood Power Station
- Lafarge Granulation Plant (partially demolished)
- L-Furnace Water Treatment Plant
- Main Office "H" Building
- Other Administrative Buildings
- Air Products facility

The location of each building or structure is shown on Figure 1. Buildings and structures with existing basements to be backfilled are:

- Tin Mill Complex
- 68" Hot Strip Mill
- Penwood Power Station
- L-Furnace Water Treatment Plant
- Main Office "H" Building
- Other Administrative Buildings
- Continuous Caster Scale Pit

In accordance with MCM's Waste Management Plan (WMP, Attachment A), MCM conducts an environmental assessment of each building prior to demolition. According to the WMP, the environmental survey consists of:

- Asbestos Survey
- Identification/removal of existing lighting ballasts
- Identification/removal of any chemical equipment
- Identification/removal of used oil
- Identification/removal of universal waste
- Identification/removal of mercury containing equipment
- Identification/sampling/removal of all transformers
- Removal of paper
- Removal of legacy tires

The environmental survey has been performed for buildings and structures that have been or will be demolished at the site. Abatement of asbestos-containing material (ACM) and removal of the above waste materials have been or will be completed for all structures prior to demolition in accordance with the WMP, unless a variance is obtained from MDE. Documentation of environmental surveys, ACM abatement, and waste removal as well as waste disposal records have been provided by MCM to MDE as project waste summaries and through project bi-annual reports. Environmental surveys, ACM abatement, and waste removal are not part of this MMP, and implementation of this MMP follows completion of ACM and waste removal for a given building or structure.

For those buildings with basements listed above and included in Table 1, basement inspection and waste removal is performed prior to demolition and backfilling. Those activities and clearance of basements for backfilling are reported separately by MCM and are not part of this MMP.

A former radioactive materials area in the Hot Strip Mill was identified in the 2014 Phase I Environmental Site Assessment (ESA). The radioactive materials were part of gauges, consisted of a radiation source and a detector, which were used for measuring the profile of strip. The Phase I ESA noted that the radioactive materials in the Hot Strip Mill were removed from the equipment that utilized them and were placed in a storage vault on the site property. Materials from the Hot Strip Mill structure, with the exception of the Hot Strip Mill Scale Pit, will be handled in accordance with this MMP.

Section 4
Demolition Debris Management

Site buildings and structures are demolished and removed using conventional heavy equipment and methods. Dust generated from demolition, debris sorting and handling, and hauling is controlled per MCM's Fugitive Emissions Plan dated December 2013 (Attachment B) and Road Watering Plan (Attachment C). Demolition materials (e.g., scrap, debris, and waste) generated from demolition of buildings and structures is managed in accordance with the WMP and the Materials Management and Backfill Control Flow Chart (Figure 2), which illustrates the process and controls for management of site materials and backfilling of basements for the project. Table 2 shows the demolition debris types that will be generated from demolition of remaining buildings and structures.

Before and during demolition, MCM personnel perform visual inspection of concrete and concrete rubble looking for obvious staining or other apparent impacts. Materials with visible staining or impacts are separated from stockpiles of materials intended for use as backfill and are handled as waste material in accordance with the WMP.

Demolition materials and debris are sorted and segregated to the extent practicable as they are removed from each building into the following categories per the WMP:

- Material for resale (may be removed prior to demolition)
- Material for recycling
- Universal waste (e.g. light bulbs and batteries)
- Non-hazardous waste for on-site disposal (including ACM waste)
- Non-hazardous waste for off-site disposal
- Hazardous waste for off-site disposal

General demolition/construction debris not suitable for recycling such as wood, asphalt, wall board, plaster, insulation, carpet, floor and ceiling tiles, shingles and roofing materials, pipes, wires, and glass are removed and loaded for disposal in accordance with the WMP.

Metal scrap such as sheet metal siding and roofing, steel beams and columns, steel supports, pipes and conduit, wires and cables, rails, and rebar are removed, separated and segregated, and loaded for off-site recycling.

Segregated demolition materials for recycling are stockpiled in the immediate vicinity of the building or structure under demolition. Concrete debris with reinforcing rebar or wire is processed and down-sized by breaking and crushing concrete with heavy demolition equipment to remove rebar and wire from the concrete rubble. Concrete rubble containing little or no rebar or wire is crushed using concrete crushing equipment and stockpiled for sampling and analysis for possible use as backfill material. Concrete crushing is performed under MDE permit 005-2781-6-2116 (Attachment D) using a mobile tracked temporary crushing plant consisting of an impact crusher, conveyor, and diesel-powered engine (refer to Attachment E for mobile crushing plant specifications). Dust is controlled by built-in dust encapsulation and high-pressure water spray systems on the crusher equipment. Crushing of concrete is performed only during normal work hours of 7 AM to 5 PM, Monday through Friday.

Brick and masonry debris from demolition of buildings and structures consisting of general construction brick (non-refractory brick), refractory brick (including furnace brick, fire brick, and blast furnace brick) are segregated by type of brick. Segregated brick and masonry debris is crushed using the mobile crushing plant described above for concrete crushing and is stockpiled for sampling and analysis for possible use as backfill material.

Stockpiled materials and debris generated for each building demolition will be managed and tracked by MCM using the Stockpile Tracking Log (Attachment F) to ensure that only MDE-approved stockpiles of backfill material are used as fill. MCM will record the material/debris source (building), type of material, stockpile location, and estimated volume among other details. MCM will not add material once a stockpile of crushed material has been tested.

Water that collects in basements due to intrusion of groundwater, storm water, and dust control waters will be sampled and, if determined to be acceptable, will be pumped from basements to the Humphrey Creek Waste Water Treatment Plant (Water Treatment Plant). The limitations and sampling protocols for water pumped to Water Treatment Plant complies and is in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. 90-DP-0064; I. Special Conditions; A.4 – A.9; Effluent Limitations and Monitoring Requirements.

Water in basements will be sampled and analyzed for the following suite of analyses prior to being pumped to the Water Treatment Plant:

- Total metals by Environmental Protection Agency (EPA) Method 6020A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) by EPA Method 8015B
- TPH Oil and Grease by EPA Method 1664

The Water Treatment Plant is designed to treat most potential site chemicals. If analytical results of water sampled from basements indicate the presence of levels of contaminants exceeding levels acceptable for treatment at the Water Treatment Plant, the water will either be pre-treated through an on-site treatment system and retested prior to pumping to the Water Treatment Plant or will be disposed at an appropriate off-site facility.

Section 5
Site-Derived Backfill Materials

Several types of materials generated from the demolition of site buildings and structures are planned to be used as backfill material for the building basements that remain to be backfilled (Table 1). Concrete rubble and brick materials to be reused on-site are crushed and stockpiled for testing prior to re-use. MCM has completed an On-Site Backfill Inventory and prepared a figure of existing stockpile locations consisting mainly of concrete rubble with rebar, brick, and processed slag material (Attachment G). In general, stockpiled materials at the site were generated from the demolition of buildings near the given stockpile location. The exceptions for this are the stockpiled materials at the Old Global Area and the slag material stockpiles (described below). Stockpiled concrete rubble with rebar and wire will be further processed to remove recyclable steel scrap as described in Section 4.0. Existing stockpiled concrete rubble and brick materials in the inventory have not to-date been systematically sampled for analytical testing.

Processed non-metallic slag material will be used as backfill material at the site. Slag material in the existing slag stockpiles included in the inventory were derived from iron and steel-making operations at the L-Blast Furnace and the Basic Oxygen Furnace, respectively. Slag was removed from furnaces periodically and was hauled to the slag stockpile area for reprocessing. The two existing piles of slag material in the inventory have been previously processed on-site to remove the metallic slag fraction that can be re-used. No further processing of slag material in these two piles is planned. Other slag material piles on-site, which are not included in the inventory, will be processed in the near future to remove the re-usable metallic fraction. The resulting processed slag material will be stockpiled for use as backfill material.

The inventory of existing stockpile locations for on-site backfill shown in Attachment G includes stockpiles of materials at the Old Global Area consisting of concrete with rebar, dirt, and brick. The Old Global Area was used by a former demolition company to store and process demolition debris from the then active facility into backfill material. The materials in these existing stockpiles were derived from various unknown locations of the former facility and will not be used as potential backfill for basements. Material stockpiles in the Old Global Area were moved to Greys Landfill in April 2015 at the direction of EnviroAnalytics Group (EAG).

Additional site-derived backfill materials will be generated from demolition of the remaining site buildings and structures listed in Table 1. Backfill material types expected to be generated from demolition debris for each building or structure are presented in Table 2. Segregation, crushing, and stockpiling of demolition debris for potential backfill material would follow the procedures described in Section 4.0 of this MMP and the Materials Management and Backfill Control Flow Chart (Figure 2).

Section 6
Sampling and Analysis of Stockpiles and Demolition Debris

This section describes the sampling and analysis plan for both the existing stockpiled concrete rubble and brick backfill materials included in the On-Site Backfill Inventory and for additional site-derived backfill materials to be generated from ongoing demolition activities. Concrete rubble and brick materials will be crushed and stockpiled prior to sampling and analysis for use as potential backfill materials. The sampling and analysis plan is based upon knowledge of 1) processes and chemical-use history of the existing buildings and structures that may have impacted building materials that were demolished, and 2) knowledge of the chemical composition of building material when manufactured or constructed. Table 3 outlines the sampling and analysis plan for both the existing stockpiled concrete rubble and brick backfill materials identified in the On-Site Backfill Inventory and for the additional site-derived backfill materials to be generated from ongoing demolition activities. For each potential backfill material, Table 3 identifies the source structure, stockpile location and estimated volume, potential chemicals of concern, sample type and sample interval, and analytical suite. All stockpiles of potential backfill materials will be sampled and analyzed for the following suite of analyses, at a minimum:

- Total metals by EPA Method 6020A
- PCBs by EPA Method 8082
- SVOCs by EPA Method 8270C
- VOCs by EPA Method 8260B
- Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) by EPA Method 8015B
- TPH Oil and Grease by EPA Method 9071B

Samples will be collected and analyzed for the analytical suite listed above to determine if elevated levels of potential chemicals of concern are present. If total concentrations of compounds exceed concentrations that could exceed toxicity characteristic leaching procedure (TCLP) threshold concentrations, the TCLP will also be run for those compounds. The materials to be tested and the rationale for sample collection intervals is summarized here:

- **Crushed brick (refractory brick) -** Based upon the expected small volume of bricks at most buildings, a single 10-point composite sample will be run for every 500 cubic yards.
- **Crushed brick (non-refractory brick) -** Based upon the expected small volume of bricks at most buildings, a single 10-point composite sample will be run for every 500 cubic yards.
- **Crushed concrete rubble from low chemical-use areas -** Based upon the low probability of chemical impacts in concrete rubble from low-chemical use buildings and structures, a single 10-point composite sample will be run for every 2000 cubic yards.
- **Crushed concrete rubble from chemical-use areas -** Based upon the greater probability of chemical impacts in concrete rubble from chemical use buildings and structures, a single 10-point composite sample will be run for every 1000 cubic yards.

When backfill material sample analytical results are received, sample results will be compared to the screening levels for the compounds listed in Table 4. If the total concentrations

of any chemical is equal to or exceeds the TCLP screening level shown in Table 4 (20 times the TCLP hazardous waste threshold concentrations), a TCLP analysis will be performed for that chemical to determine if the material exceeds hazardous waste criteria for toxicity. Should TCLP limits be exceeded for any stockpile composite sample, the material may be disposed off site or MCM may consequently subdivide the stockpile in question, collect new sets of composite samples, and re-run the screening analyses on each of the subdivided smaller stockpiles.

In conjunction with this MMP, MCM is pursuing variances from MDE to allow use of concrete rubble and brick generated from site demolition activities and slag material as fill. Once crushed concrete rubble and brick sample analytical results are final, they will be sent to MDE for their review and approval of the sampled stockpiles for use at the site. **Concrete rubble, brick and slag will only be used for fill if approved by MDE.**

Stockpiles of potential backfill material will be managed by MCM using the Stockpile Tracking Log (Attachment F) such that all stockpiles that have been sampled will be strictly off-limits to all site activities until analytical results have been evaluated against the screening levels. All sampled stockpiles can neither receive additional material nor have material removed until such time as the analytical results have been evaluated and a stockpile of potential backfill has been cleared for use as backfill by MDE.

Section 7
Stockpile Documentation

Stockpiles of sampled and unsampled materials will be managed and tracked by MCM in accordance with this MMP. The Stockpile Tracking Log (Attachment F) will be used to document the sequence of steps from the generation of stockpiles to placement of approved backfill materials or disposal of materials that are not approved for use as backfill. A system of colored flagging, as described in the Stockpile Tracking Log, will be implemented to identify stockpiles as sampled or unsampled stockpiles, stockpiles approved for use as backfill, and stockpiles that have been designated to be off-hauled for disposal. MCM and/or its subcontractor(s) will be responsible for recording the following field information among other details included in the Stockpile Tracking Log:

- Sampled stockpile identification number
- Stockpile location
- Material type, e.g., concrete rubble, and bricks
- Source building
- Date material was crushed
- Estimated volume
- Date(s) sampled (if applicable)
- Date approved for use as backfill material
- Basement location where backfill material was used

  OR
- Date rejected for use
- Waste characterization class
- Disposal facility destination
- Disposal date

Records will be kept on site and updated whenever new stockpiles are generated and sampled, and as stockpiles that are approved for fill are used.

Section 8
Imported Fill Material Management

Backfill material imported to the site from off-site sources will be screened per MDE guidance to ensure the material is suitable for use on-site. A nearby borrow source of backfill material has been identified from the expansion of the Back River Wastewater Treatment Plant north of the site. Evaluation of that potential backfill material has been performed under MDE oversight and was approved by MDE on March 12, 2015, for use as backfill for industrial land use at the site.

Section 9
Backfilling

Backfilling of basements associated with buildings and structures listed in Table 1 will be performed following clearance of each basement and completion of any required dewatering. Clearance of basements for backfilling will be managed and tracked using the Sub-Grade Structure Clearance Checklist included in Attachment H to ensure that only MDE approved backfill materials are placed in basements and only basements that have been given clearance by MDE are backfilled.

Basement backfill will be performed in accordance to the specifications covered in the KCI Technologies, Inc., General Backfill Specifications report dated June 9, 2014 (General Backfill Specifications, Attachment I) or any building-specific plan, if such is developed or deemed necessary. The General Backfill Specifications define "miscellaneous backfill material" and "structural backfill material" for use at the site. Pending approval of variances by MDE, site-derived backfill material from approved stockpiles (existing stockpiles and stockpiles to be generated from demolition of existing buildings) will be used as backfill according to the requirements of the General Backfill Specifications. MCM plans to use approved stockpiles of crushed concrete rubble and crushed brick as miscellaneous backfill material and processed slag material as structural backfill material consistent with the General Backfill Specifications.

Section 10
Recycling and Disposal of Demolition Generated Materials

Recycling and disposal of materials generated from demolition of structures will be managed in accordance with the WMP and this MMP.

MCM will dispose of limited acceptable waste from on-site demolition activities at Greys Landfill in compliance with the Greys Landfill Operations Manual. Greys Landfill is a waste disposal facility located within the Sparrows Point site property. The landfill is currently used for disposal of non-hazardous waste associated with the ongoing environmental compliance, demolition, and redevelopment activities at the site.

In addition to the concrete, brick, and slag materials recycled on-site discussed above, the following materials may be recycled off-site:

- Materials for resale removed from structures will be transported off site for re-use by others
- Metal scrap (rebar and reinforcing wire, structural steel, steel siding, pipes and conduits, and electrical wire) will be transported off-site for recycling
- Recyclable environmental waste will be recycled at an appropriate recycling facility

Materials that cannot be reused or recycled will be disposed as follows:

- Non-hazardous, non-recyclable wastes (acceptable per WMP) for on-site disposal at Greys Landfill
- Non-hazardous, non-recyclable wastes (unacceptable per WMP) for off-site disposal at an appropriate disposal facility
- Hazardous wastes for off-site disposal at an appropriate RCRA disposal facility

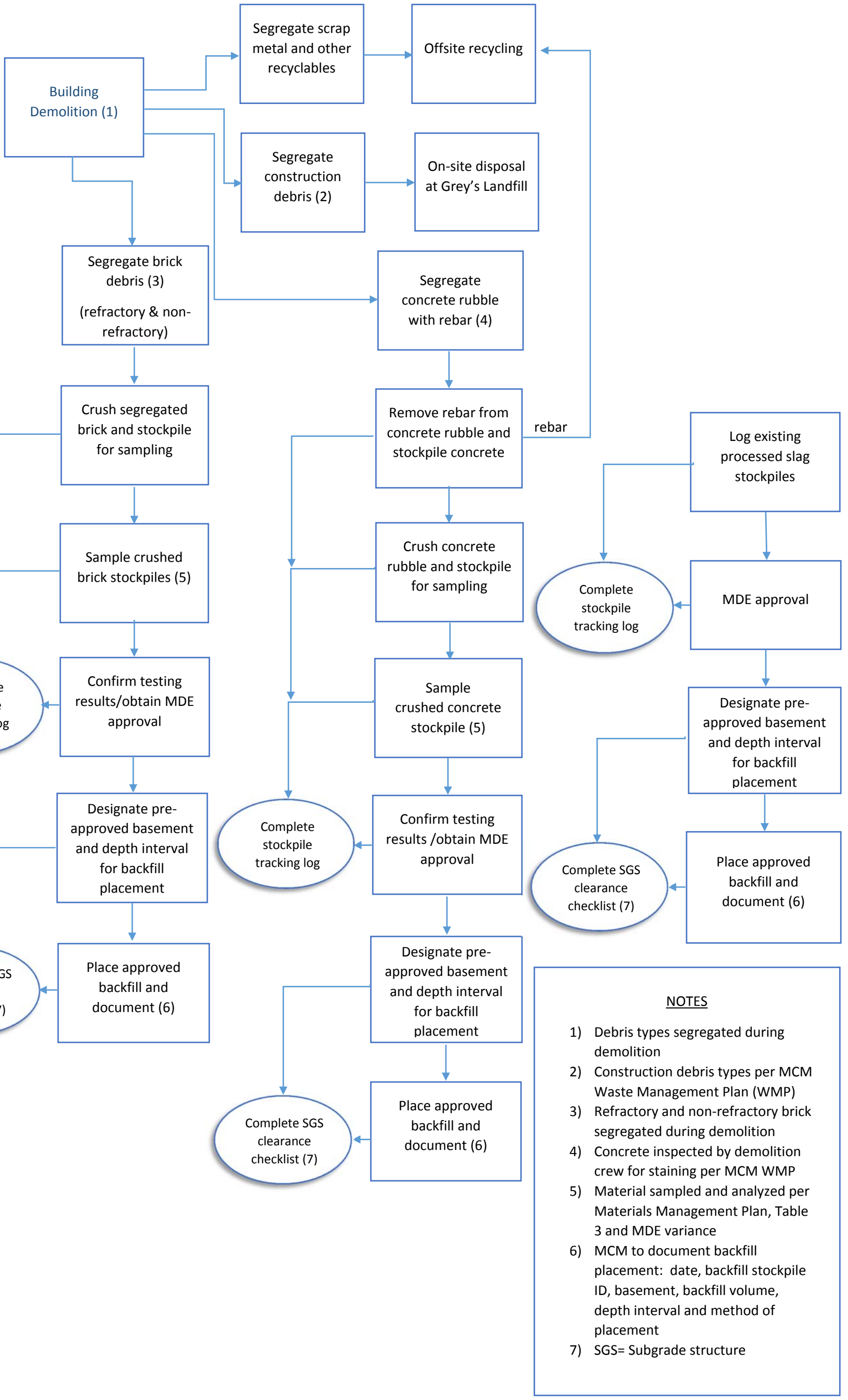
Documentation of off-site disposal of non-hazardous and hazardous wastes and off-site recycling of wastes will be included in MCM's project waste summaries and bi-annual reports.

FIGURES

Sparrows Point Facility - Baltimore, Maryland

FIGURE 1 - Building or Structure Location

Figure 2
Material Management and Backfill Control Flow Chart
Sparrows Point Demolition



TABLES

TABLE 1
Structures To Be Demolished
Sparrows Point Facility
Baltimore, Maryland

Structure Name	Location (Demolition Area) [1]	Status	Former Process Description[2]	Chemicals Used Historically	Basement (Y/N)[3]	Primary Building Materials
L-Blast Furnace	1D	Demolished- Scrap steel removal and refractory brick segregation in progress	Iron-bearing materials (ore and sinter) along with reductant (coke) and flux (limestone and/or dolomite) were conveyed and charged in the top of the furnace. Heated air and other injectants (powdered coal, natural gas or oil) were blown in at the bottom. Blast air, injectants, coke, and iron ore reacted together to generate pig iron. The flux sequestered impurities in the pig iron that was discharged as slag from the furnace.	iron-making raw materials- ore, coke, flux (limestone/ dolomite) coal, oil	No	Steel Concrete Refractory Brick
Lafarge Granulation Plant	1D	Partial Demolition	Received molten slag from the L-Blast Furnace for cooling and granulation for further use	Metals	No	Concrete Steel
BOF/Continuous Caster Ladle Structures	2B	Partial Demolition- 2 remaining concrete structures	Ladles of steel from the BOF were taken to the Continuous Caster Ladle Metallurgy Station where they were first reheated with an oxygen lance and the chemistry adjusted by adding alloys and other materials. The steel then was moved by crane to the Slab Caster. Steel then was poured into the water-jacketed strand mold of the Slab Caster, from which a continuous slab was formed. The slab entered a roller containment area within the Slab Caster, where it was cooled with water sprays. The slabs then were cut to size by using a torch and then transferred to slab storage or the Hot Strip Mill.	steel-making raw materials- iron, metal-alloys	No	Concrete Steel
68" Hot Strip Mill	10	Demolition in progress	Steel slabs from BOF/Continuous Caster were moved from the 56" or the 68" Slab Conditioning Buildings by crane to roll tables and transported to either of the two reheat furnaces. Slabs were heated and soaked until achieving a rolling temperature of approximately 2,200 degrees F. Heated slabs left the furnace and were descaled with high pressure water to remove iron oxides, then rolled into steel strips of the proper gauge and length. The two reheat furnaces used either natural gas, No. 6 fuel oil, or on-specification fuel oil.	TPH	Yes	Concrete Steel

TABLE 1
Structures To Be Demolished
Sparrows Point Facility
Baltimore, Maryland

Structure Name	Location (Demolition Area) [1]	Status	Former Process Description[2]	Chemicals Used Historically	Basement (Y/N)[3]	Primary Building Materials
Tin Mill Complex[4]	11	The Tin Mill Complex consists of multiple structures that contained a series of processes used to clean, plate, or anneal steel strip coils.				
		Intact	No. 3 Pickler The No. 3 Pickler removed the scale from coils received from the Hot Strip Mill by using both mechanical descaling and chemical descaling. Five pickling tanks were used to chemically descale the sheet with a sulfuric acid pickling solution. After pickling, the strip was rinsed, dried, slit, oiled, and transferred to the 48" Tandem	Caustics Sulfuric Acid Oil/TPH Various Oils Cyanide Chromic Acid Dichromate	Yes	Concrete Steel
		Intact	48" Tandem Mill The 48" Tandem Mill reduced the steel strip in thickness, produced a smooth, dense surface, and developed the required metallurgical properties. The Mill received product from the No. 3 Pickler, uncoiled it, and processed it through roll stands. Oil/water emulsion was applied during rolling.			
		Intact	No. 6 Washer The No. 6 Washer was used to clean strips from the Tandem Mills before annealing. The strip first was uncoiled and welded to the previous strip and was fed into a caustic wash tank. After the caustic wash, the strip was fed into a scrubber tank equipped with brushes for cleaning. The strip was then rinsed, dried, and rewound into a coil for transport to the Box Anneal Furnaces.			
		Intact	No. 5 Continuous Anneal The No. 5 Continuous Anneal combined the cleaning process with continuous annealing. The strip was uncoiled, welded to the previous strip and fed into a caustic wash tank. After the caustic wash, the strips were fed into a tank equipped with brushes for cleaning. The strips were rinsed, dried, and fed to the annealing furnace. After annealing, the strip was cooled and rewound into a coil for transport to either the No. 3 Duo Mill or No. 6 Skin Pass Mill.			
		Intact	No.8 Chrome Line (shutdown >20 years ago per MCM). In the No.8 Chrome Line, the strip was plated with chrome. The strip was transferred to the No. 8 Chrome Line, where it was first cleaned using caustic solution and then pickled using a sulfuric acid pickling solution. Once the strip was rinsed, it was chrome plated. Inert anodes were used to plate chrome from chromic acid onto the strip. Chrome passivation was used as a second treatment stage.			

TABLE 1
Structures To Be Demolished
Sparrows Point Facility
Baltimore, Maryland

Structure Name	Location (Demolition Area) [1]	Status	Former Process Description[2]	Chemicals Used Historically	Basement (Y/N)[3]	Primary Building Materials
Tin Mill Complex[4] (cont.)	11	Intact	No. 6 Skin Pass Mill The No. 6 Skin Pass Mill reduced the gauge, tempered the steel, and prepared the surface of the strip for finishing.	Caustics Sulfuric Acid Oil/TPH Various Oils Cyanide Chromic Acid Dichromate	Yes	Concrete Steel
		Intact	No. 3 Duo Mill The No. 3 Duo Mill was used to reduce the thickness of the annealed strip to final gauge and temper the steel. Materials used in the process included rolling oil and a rust-inhibitor solution.			
		Intact	Coil Preparation Three Coil Preparation Lines were used in the Tin Mill Department to prepare the final product for packaging and shipping. These lines took coils from the plating lines for trimming and/or removing defective sections. No. 5 Coil Preparation Line production was oiled with a slushing oil or rust-preventative oil for protection of the steel during storage and shipment.			
		Intact	No. 1 Tin Plate Line- EXCLUDED In the No. 1 Tin Plate Line and the No. 2 Tin Plate Line, strips first entered the alkaline cleaning section, which consisted of a caustic bath followed by a water rinse. The strip then passed through a sulfuric acid pickling area and a water rinse to prepare the surface for coating. The strip then entered an electroplating bath where the strip was plated with tin. The strip then was hot-rinsed, quenched and conveyed to the chemical-treatment area, where the strip surface was passivated with dichromate solution. The strip then was cleaned and transported for shipment.			
		Intact	No. 2 Tin Plate Line- EXCLUDED The No. 2 Tin Plate Line applied a tin coating to a prepared coil. Preparation consisted of a caustic wash to remove fines and oil from the strip. The strip then passed through a sulfuric acid pickling area to remove scale from the coil. When cleaning and pickling was completed, the strip was rinsed, dried, then entered an electroplating bath for tin plating. The strip was then hot-rinsed, quenched and conveyed to the chemical-treatment area where the strip was then passivated with dichromate solution. The strip was then cleaned and packaged for shipment.			

TABLE 1
Structures To Be Demolished
Sparrows Point Facility
Baltimore, Maryland

Structure Name	Location (Demolition Area) [1]	Status	Former Process Description[2]	Chemicals Used Historically	Basement (Y/N)[3]	Primary Building Materials
Penwood Power Station	1D	Intact	Pennwood Power Station operated four boilers to generate steam and electric power generation that was tied into the Pennsylvania/ New Jersey/ Maryland Interconnect. Steam was also distributed for general plant use. The boilers used a variety of fuels generated on the site (such as blast furnace gas) or purchased from outside sources (such as No. 6 fuel oil, on-and off-specification used oil or waste combustible fluids, and natural gas).	Fuel Oil Used Oil Combustible Waste Fluids Natural Gas Blast Furnace Gas	Yes	Steel Concrete Refractory Brick
L-Blast Furnace Water Treatment Building and Tank	1B	Intact	The L-Blast Furnace Water Treatment Plant treated slurry from the L-Blast Furnace recycled water system and processed water from the Sinter Plant scrubbers. The Sinter Plant produced fused sinter from iron-bearing fines for use in the L-Blast Furnace using burnt lime and heat. The treatement system consisted of a thickener, a belt-press filter, and then two spent pickle liquor tanks. Dewatered sludge was disposed in Greys Landfill.	Thickeners	Yes	Steel Concrete Non-Refractory Brick
Main Office 'H' Building	4C	Intact	Administrative	NA	Yes	Brick Concrete
Other Administrative	Site-wide	Intact	Administrative	NA	Yes	Brick Concrete
Air-Products Facility	28	Intact	Oxygen and Nitrogen Supply	Compressed Gases	No	Steel Concrete

Notes:

1. Figure 1, Building or Structure Locations [from Demolition Plan Area Numbers per MCM- Abatement and Demolition Plans, Property Map (revised 11-19-2014)]
2. Process Descriptions from Title V Emissions Unit Descriptions, revised April 29, 2003.
3. The estimated volumes of basements to be backfilled will be included in MCM basement backfill reports.
4. The Tin Mill Complex consists of multiple structures that contained a series of processes used to clean, plate, or anneal steel strip coils. Halogen Lines #1 and #2 of the Tin Mill Complex are not covered in this MMP.

TABLE 2

Demolition Debris Types for Buildings to be Demolished

Sparrows Point Facility

Baltimore, Maryland

Building or Structure	Demo Debris Types to be Generated and Stockpiled[1]					
	Environmental Waste[2]	Asbestos Containing Materials	Steel Scrap	Concrete Rubble[3]	Brick	
					Non-Refractory[4]	Refractory[5]
L-Blast Furnace	Removed	Removed	X			X
Lafarge Granulation Plant	Removed	Removed	X	X		
BOF/ Continuous Caster Ladle Structures	Removed	Removed	X	X		
68" Hot Strip Mill	Removed	Removed	X	X	X	X
Tin Mill Complex	To be Removed	To be Removed	X	X	X	
Penwood Power Station	To be Removed	To be Removed	X	X	X	X
L-Blast Furnace Water Treatment Building and Tank	To be Removed	To be Removed	X	X	X	
Main Office 'H' Building	To be Removed	To be Removed	X	X	X	
Other Administrative Offices	To be Removed	To be Removed	X	X	X	
Air-Products Facility	To be Removed	To be Removed	X	X		

Notes:

1. General demolition/construction debris not suitable for recycling such as wood, asphalt, wall board, plaster, insulation, carpet, floor and ceiling tiles, shingles and roofing materials, pipes, wires, and glass are removed and loaded for disposal in accordance with the WMP and are not included in this table.
2. As described under Environmental Assessment in the MCM WMP.
3. Concrete rubble is concrete debris that has been processed by crushing from which most reinforcing steel bar (rebar) and wire has been removed.
4. Non-refractory brick is brick used for conventional construction purposes that is not manufactured for chemical resistance or to withstand high temperatures.
5. Refractory brick (aka furnace brick, blast furnace brick, and fire brick) is heat-resistant brick used in furnaces, kilns, fireboxes, and fireplaces.

TABLE 3
Potential Backfill Sampling by Material Type
Sparrows Point Facility
Baltimore, Maryland

Stockpile Status	Stockpile ID	Source Structure	Building Material Type	Stockpile Location	Estimated Stockpile Volume (cubic yards)	Potential Chemicals of Concern	Rationale for Sampling or Not Sampling	Sample Type	Sample Interval[1]	Analytical Suite	Comments
Existing Stockpiles[2]	BFP-1	unknown, site wide	Concrete with rebar	Old Global Area	200	metals, TPH, PAHs, PCBs, VOCs, SVOCs	Not to be used as backfill	NA	NA	NA	Stockpiles were removed from Old Global Area and transported to Greys Landfill
	BFP-1	unknown, site wide	Dirt and brick	Old Global Area	200	metals, TPH, PAHs, PCBs, VOCs, SVOCs	Not to be used as backfill	NA	NA	NA	Stockpiles were removed from Old Global Area and transported to Greys Landfill
	BFP-3 (1)	Basic Oxygen Furnace and Continuous Caster	Concrete with rebar	BOF/Caster	1000	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	BFP-3 (2)		Concrete with rebar	BOF/Caster	1000	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	BFP-3 (3)		Concrete with rebar	BOF/Caster	1000	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	BFP-4	L-Blast Furnace	Concrete with rebar	L-Furnace	500	metals, TPH, and PAHs	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PAHs, PCBs, SVOCs	rebar to be removed
	BFP-4		Concrete with rebar	L-Furnace	500	metals, TPH, and PAHs	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PAHs, PCBs, SVOCs	rebar to be removed
	BFP-4	L-Blast Furnace	Refractory Brick	L-Furnace	300	metals, PAHs	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PAHs, PCBs, SVOCs	Additional refractory brick to be removed from furnace and added to stockpile
	BFP-5	68" Hot Strip Mill	Concrete w/rebar and brick	68" Hot Strip Mill	500	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	BFP-5		Concrete w/rebar and brick	68" Hot Strip Mill	500	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	BFP-5		Concrete w/rebar and brick	68" Hot Strip Mill	500	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	rebar to be removed
	Not Identified		Brick[3]	Adjacent to 68" Hot Strip Mill Basement	300	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	

TABLE 3
Potential Backfill Sampling by Material Type
Sparrows Point Facility
Baltimore, Maryland

Stockpile Status	Stockpile ID	Source Structure	Building Material Type	Stockpile Location	Estimated Stockpile Volume (cubic yards)	Potential Chemicals of Concern	Rationale for Sampling or Not Sampling	Sample Type	Sample Interval[1]	Analytical Suite	Comments
Stockpiles to be Generated	To be Identified	Lafarge Granulation Plant	Concrete rubble[4]	Lafarge Granulation Plant	400	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	
	To be Identified	L-Blast Furnace Water Treatment	Concrete rubble[4]	L-Blast Furnace Treatment Plant Area	500	metals, TPH, PAHs	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PAHs, PCBs, SVOCs	
	To be Identified		Brick	L-Blast Furnace Treatment Plant Area	500	metals	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	
	To be Identified	BOF/Continuous Caster Ladles	Concrete rubble[4]	BOF/Caster	1000	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	
	To be Identified	68" Hot Strip Mill	Concrete rubble[4]	68" Hot Strip Mill	500	TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	
	To be Identified	Tin Mill Complex[5]	Concrete rubble[4]	Tin Mill Complex	2000	metals, TPH	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	1000	metals, TPH (total & DRO), Oil and Grease, PCBs, SVOCs	
	To be Identified		Brick	Tin Mill Complex	500	metals	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	
	To be Identified	Penwood Power Station	Concrete rubble[4]	Penwood Power Station	4000	TPH, PAHs	Testing to confirm acceptable COC concentrations	2 samples, 10 pt comp	2000	metals, TPH (total & DRO), Oil and Grease, PAHs, PCBs, SVOCs	
	To be Identified		Refractory Brick	Penwood Power Station	1000	metals, TPH, PAHs	Testing to confirm acceptable COC concentrations	2 samples, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PAHs, PCBs, SVOCs	
	To be Identified	Main Office H-Building	Concrete rubble[4]	Main Office H-Building	500	None	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	No chemical-use history at building
	To be Identified		Brick	Main Office H-Building	500	Cr	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	500	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	
	To be Identified	Other Admin Office Buildings	Concrete rubble[4]	Site-Wide	1000	None	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	2000	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	No chemical-use history at building
	To be Identified		Brick	Site-Wide	1000	Cr	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	1000	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	
	To be Identified	Air Products Facility	Concrete	Air-Products Facility	unknown	None	Testing to confirm acceptable COC concentrations	1 sample, 10 pt comp	1000	metals, TPH-DRO, Oil and Grease, PCBs, SVOCs	O2 and N gas supply

Notes:
1. Sample Interval applies to discreet major stockpiles or to a defined assemblage of lesser stockpiles within a delineated site area.
2. Refer to Attachment G for Map of Existing Stockpiles.
3. Possible refractory brick present from reheat furnaces.
4. Concrete rubble is concrete debris that has been processed by crushing from which most reinforcing steel bar (rebar) and wire has been removed.
5. The Tin Mill Complex consists of multiple structures that contained a series of processes used to clean, plate, or anneal steel strip coils. Halogen Lines #1 and #2 of the Tin Mill Complex are not covered in this MMP.

TABLE 4
Screening Levels for Contaminants of Concern
Sparrows Point Facility
Baltimore, Maryland

Chemicals of Concern[1]				MDE Non-Residential Soil Screening Levels[2] (mg/kg)[3]	TCLP Screening Level[2] (mg/kg)[3]
Inorganics	Metals		As	1.9	100
			Cd	51	20
			Cr (total)	310	100
			CR (VI)	310	100
			Ni	2000	
			Pb	1000	100
			Zn	31000	
			Cyanide	2000	
Organics	VOCs	Purgable Aromatics	Benzene	52	10
			Toluene	8200	
			Ethylbenzene	10000	
			Xylenes (total)	20000	
			1,3 - Dichlorobenzene	310	
			1,4 - Dichlorobenzene	120	150
		Chlorinated Solvents	Chloroform	1000	120
			Tetrachloroethylene	5.3	14
			Trichloroethylene	7.2	10
			cis-1,2 - Dichloroethylene	1000	
			trans- 1,2 - Dichloroethylene	2000	
			Vinyl Chloride	4	4
			1,1,1 - Trichloroethane	200000	
			1,2 - Dichloroethane	31	10
			1,1 - Dichloroethane	20000	
			Chloroethane	990	
			Carbon Disulfide	10000	
	SVOCs	PAHs	Acenaphthene	6100	
			Acenaphthylene	6100	
			Benzo(a)pyrene	0.39	
			Benzo(b)flouranthene	3.9	
			Benzo(k)flouranthene	39	
			Chrysene	390	
			Fluoranthene	4100	
			Flourene	4100	
			Indeno (1,2,3-c,d)pyrene	3.9	
			Napthalene	2000	
			Phenanthrene	31000	
			Pyrene	3100	
		Acid Extractables	Phenol	31000	
			2,4 - Dimethylphenol	2000	
			2,4 - Dichlorophenol	310	
			2,4,6 - Trichlorophenol	260	40
			4-Nitrophenol		
			Pentachlorophenol	24	2000
		Other	o-Cresol (2-methylphenol)	5100	400
			m-Cresol (3-methylphenol)		400
			Pyridine		100
			PCBs	1.4	50 [5]
			pH		

Note:

1. Chemicals of Concern from Summary of Chemicals of Potential Interest from CH2MHill 1999 Site Wide Investigation Work Plan
2. MDE non-residential soil screening levels are included for comparative purposes
3. Concentrations in milligrams per kilogram (mg/kg)
4. Concentrations shown are 20x the TCLP hazardous waste limits. Above these concentrations, TCLP must be performed to determine if waste is hazardous
5. If 50 mg/kg is exceeded, the material is regulated under TSCA

Attachment A

MCM's Waste Management Plan
Sparrows Point Facility
Baltimore, Maryland

Waste Management Plan

Overview

MCM Management Corporation (MCM) is responsible for the site demolition activities at Sparrows Point under contract to the property owner (Sparrows Point Terminal, LLC). MCM has the right to deposit acceptable material from the demolition activities into Greys Landfill in compliance with the Greys Landfill Operations Manual. MCM coordinates its landfill activities with SPLLC who operates the landfill under contract to the property owner.

MCM maintains responsibility for the following:

- Conducting an environmental assessment of each building prior to demolition
- Characterization of materials removed from each building into the following categories
    - Material for resale
    - Material for recycling
    - Universal Waste
    - Non-hazardous material for on-site disposal
    - Non-hazardous material for off-site disposal
    - Hazardous material for off-site disposal
- Proper disposal of hazardous and non-hazardous material

MCM maintains a Chemical Storage Area (CSA) located Truck Dock (TD 72) in the former Tin Mill (inside storage), tanks for oil designated for recycling located in the former Tractor Repair Shop, and a 90-day storage area also located in the former Tractor Repair Shop.

MCM has the right to deposit acceptable material from the demolition activities into Greys Landfill in compliance with the Greys Landfill Operations Manual. MCM coordinates its landfill activities with SPLLC who operates the landfill under contract to the property owner.

Greys Landfill

Greys Landfill is a waste disposal landfill located within Sparrows Point site property. The landfill is currently used for the disposal of non-hazardous waste associated with ongoing environmental compliance and decommissioning/demolition and redevelopment activities at the Sparrows Point site.

Greys Landfill has an Operations Manual that provides procedures and requirements for the landfill including waste placement and inundation compliance, waste acceptance, operating requirements, environmental monitoring and operational restrictions. The operating procedures and design plans and specifications described in this manual have been developed to meet applicable compliance requirements for operation of Greys Landfill as defined in solid waste regulations contained within COMAR 26.04.07.19 for industrial wastes, and COMAR 26.04.07.13, 26.04.07.16, and 26.04.07.18 for demolition waste as further defined by the Multi-Media Consent Decree for the Sparrows Point Facility dated October 8, 1997.

ACCEPTABLE WASTES

Greys Landfill accepts only non-hazardous waste from industrial, construction, demolition, site clean-up and other activities occurring on the grounds of the Sparrows Point site. These waste streams are produced from the operation of the HCWWTP, the demolition of the buildings on the Sparrows Point Site and site clean-up and redevelopment activities. Site clean-up activities may include non-hazardous industrial sludges that meet the acceptance criteria specified in the Operations Manual. The landfill also accepts non-hazardous asbestos containing material generated from buildings being demolished on-site.

Construction and Demolition Debris (C&D Debris) is waste material that is produced in the process of construction, renovation or demolition of structures. Structures include buildings of all types as well as roads and bridges. Components of C&D debris typically include concrete, asphalt, wood, metals, gypsum wallboard, floor tile and roofing. Materials that are acceptable for disposal at Greys Landfill are further described as follows:

Demolition Debris

Acceptable demolition debris will include waste materials associated with the razing of buildings, roads, bridges, and other structures including concrete, bricks, lumber, plaster and plasterboard, insulation

material, cement, shingles and roofing material, floor and wall tile, asphalt, pipes and wires, and other items physically attached to the structure. Refractory brick will be accepted at Greys Landfill if it is non-hazardous in nature.

Construction Debris

Acceptable construction debris will include structural building materials including cement, concrete, bricks, lumber, plaster and plasterboard, insulation, shingles, floor, wall and ceiling tile, pipes, glass, wires, carpet, wallpaper, roofing, felt, or other structural fabrics. Paper or cardboard packaging, spacing, or building materials, provided that they do not exceed 10 percent by volume of the waste, may be accepted at the Greys Landfill. Paint containers, caulk containers, or glaze containers will be acceptable, provided that they are empty, and any residual material which is dried before acceptance.

Prohibited Waste

The following wastes are prohibited from disposal at the landfill;

- Controlled Hazardous Substances (CHS) as regulated and listed in COMAR 26.13;
- Liquid wastes and wastes containing free liquids;
- Infectious waste from hospitals, laboratories, and other health care facilities unless specifically authorized by MDE;
- Radioactive materials as defined in COMAR 26.12.01;
- Seepage, sewage sludge, processed sewage sludge, and any other product containing these materials, unless authorized by a sewage sludge utilization permit;
- Automobiles;
- Drums or tanks, unless empty and flattened or crushed with the ends removed, or empty with the tops removed;
- Animal carcasses;
- Chemical or petroleum spill cleanup material, unless;
    - a) The nature of the spilled substance is known,
    - b) The spill cleanup material is demonstrably not a CHS, and
    - c) The spilled material is contained in an absorbent of sufficient excess volume that the material deposited at the landfill will not exhibit free liquids as defined in the following section.
- Unacceptable construction debris including paint, tar or tar containers, caulking compounds, glazing compounds, paint thinner or other solvents or their containers, creosote or other preservatives or their containers, tile, paneling, or carpet cement or other adhesives
- Disposal of tires at Greys Landfill is prohibited

Demolition Schedule

Attached is the most recent update to the demolition schedule.

Building Environmental Assessment

MCM conducts an environmental assessment of any waste remaining in the building designated for demolition. The environmental survey consists of the following:

- Asbestos survey
- Identification/removal of existing lighting ballasts
- Identification/removal of any chemical containers
- Identification/removal of used oil
- Identification/removal of universal waste
- Identification/removal of mercury containing equipment
- Identification/sampling/removal of all transformers
- Removal of paper
- Removal of legacy tires

Asbestos

MCM conducts an asbestos survey to determine the removal work necessary prior to demolition. Once the work scope has been identified, MCM obtains the prior permits for removal from the Maryland Department of the Environment (MDE). MCM has the personnel and equipment to remove the asbestos or contract the work to a licensed asbestos removal contractor.

All asbestos removed on-site is taken to Greys Landfill for disposal in compliance with the requirement contained in the Greys Landfill Operations Manual.

Light Ballasts

MCM crews remove the lighting ballast and bulbs from the building. All lighting ballasts are assumed to be PCB-contaminated unless marked as non-PCB. The crew also removes all lighting fixtures. The ballasts and lighting fixtures are taken to CSA. Once at the CSA, the ballast are sorted and prepared for proper disposal or recycling.

All PCB ballast are placed in drums and sent for disposal by SunPro. SunPro is the MCM contractor handling all PCB related material. Non-PCB ballasts are sent to AERC for recycling.

Chemical Containers

MCM conducts a sweep of the building to remove any chemicals left in the building from the former steelmaking operations. The chemicals are taken to the CSA for identification, sorting, designation for resale/reuse, and disposal (if necessary) by Clean Venture.

Any designated hazardous waste is placed in our less than 90 day storage area and proper disposal and shipping is arranged by our contractor.

Used Oil

MCM identifies any used oil or petroleum products remaining in the building. MCM contracts with a used oil recycling company the recycling of used oil/petroleum products. The used oil/petroleum products are sampled by the recycling company prior to the oil being removed from the site for recycling.

Universal Waste

MCM identifies any universal waste (florescent bulbs, batteries, etc.) remaining in the building. The universal waste is properly packed in approved containers at the building site and then taken to the CSA for storage until shipment to an approved off-site recycling facility. Currently bulbs sent to AERC and batteries to Maryland Recycle.

Mercury-Containing Equipment

MCM identifies and removes mercury-containing equipment (i.e. thermostats, level gauges, chart recorders, etc.). The mercury-containing equipment is then placed into a drum and placed in the 90 day storage area for proper disposal at an approved off-site facility.

Transformers

MCM conducts sampling of all transformers to determine PCB content and proper handling and disposal. Transformer oil with PCB content less than 50 ppm is taken by the used oil storage area for recycling. Any transformer oil with a PCB content of greater than 50 ppm is then placed in drums or

totes for disposal. MCM maintains a 90 day storage area for the storage of PCB materials awaiting shipment for disposal.

Transformers with a PCB content of greater than 500 ppm are drained and then shipped directly from their location. Transformers that were less than 50 ppm are drained and then recycled as scrap. Transformers with PCB content greater than 50 ppm are drained and placed in the 90 day storage area for disposal.

MCM has contracted with SunPro for the handling of all PCB related materials.

E-Waste

MCM removes all electronic waste (e-Waste) from the buildings prior to demolition. The e-waste is sorted and packed into cubic yard boxes. The boxes are taken to the CSA for storage and shipment to an approved e-waste recycling contractor (currently used GEEP and e-End)

Paper

MCM remove paper from the building prior to demolition. The paper is placed into a roll-off container located at the CSA for recycling by Klein Paper.

Legacy Scrap Tires

MCM removes any legacy tires found in or around the buildings scheduled for demolition. The tires are then stored in the areas approved by our scrap tire license issued by MDE. The tires are sent for recycling or quartered and sent to an approved landfill.

Waste Inspection Program

Waste streams are accepted at the landfill only during the operating hours of the landfill; an MCM inspection personnel will be present at the landfill to verify waste type and origin and compliance with acceptable waste restrictions outlined above.

The following waste streams have undergone adequate inspection and physical/chemical characterizations and therefore do not require inspection prior to unloading at Greys Landfill:

- HCWWTP Sludge

- Clean common borrow materials
- Asbestos

All other waste streams currently require visual waste determinations and characterization through generator knowledge and analytical testing (TCLP analysis), if necessary, to determine whether the waste is approved for disposal at Greys Landfill. This characterization will take place prior to any waste being disposed of at Greys Landfill.

Wastes not approved for disposal at Greys Landfill will be disposed of off-site at an appropriate waste disposal facility.

Waste streams that have not previously undergone inspection require approval before arrival at the landfill. Approval may require verification analyses to confirm compliance with acceptable waste restrictions outline above. These analyses may include Paint Filter Tests, CHS analyses, TCLP analysis and/or analyses requested by the MDE to determine suitability for land filling.

All debris from demolition activities is visually inspected prior to delivery to Greys Landfill as a condition of acceptable waste disposal practices. If any demolition waste is found to be unfit for disposal at Greys Landfill it will be taken to an appropriate off-site disposal facility.

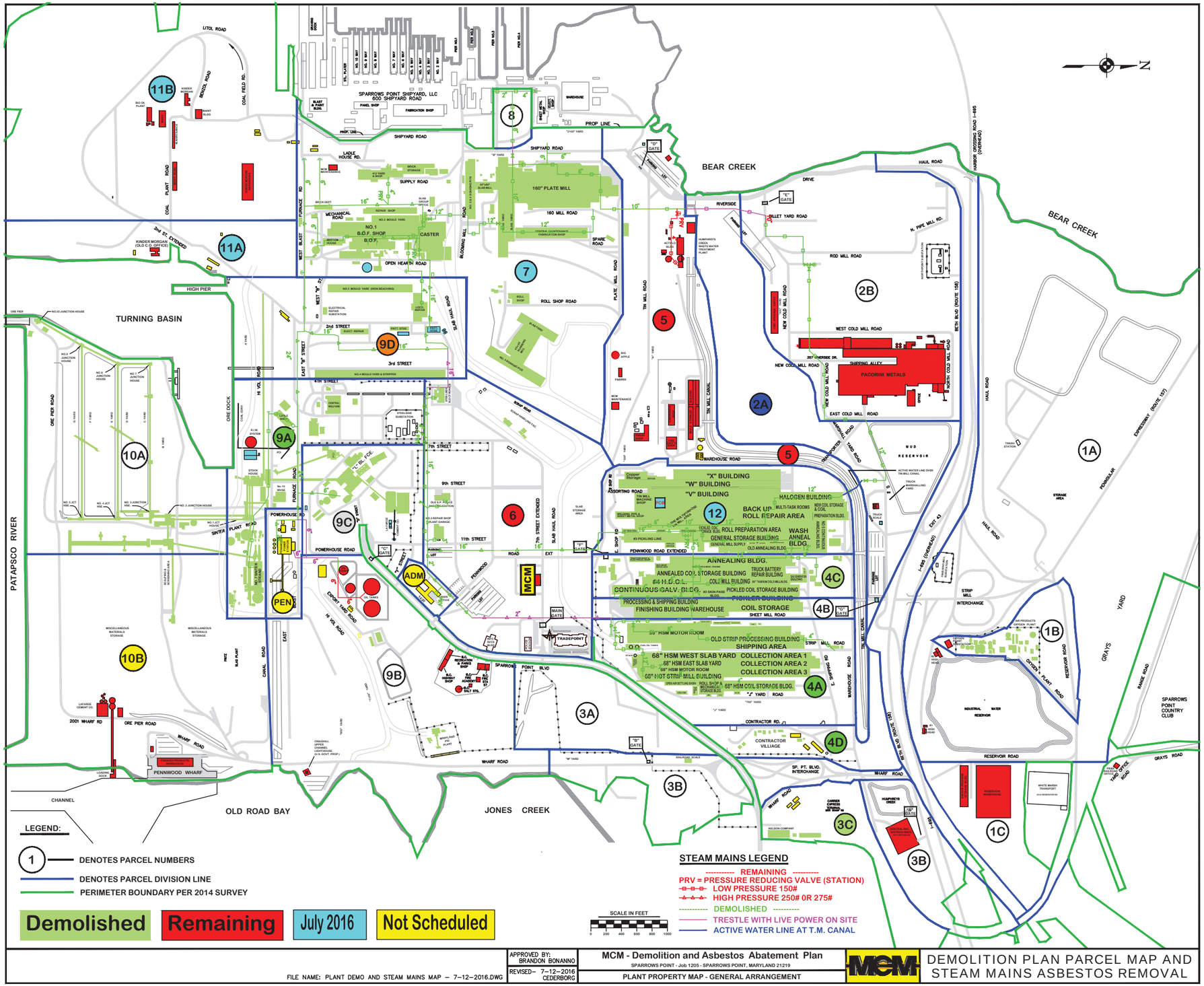
A waste inspection form will be utilized to track waste being disposed of at the landfill. This form will be filled out prior to the waste being placed at the working face. Relevant analytical results from waste characterization will be attached to each waste inspection form. A qualified staff member from either SPLLC or MCM will sign the waste inspection form before it can be accepted at the landfill. A signed waste inspection form indicates that the waste is acceptable for disposal at the landfill.

Waste unloaded at the working face will be inspected again for unacceptable wastes before burial by supervisory personnel. Upon finding an unacceptable waste, the unacceptable material identified will be removed from the fill area and properly contained and disposed of.

It is the responsibility of the waste generator at the facility to confirm that the waste stream has been adequately inspected. Landfill inspection personnel have the authority to reject incoming loads until adequate inspection has been completed.

Incidents that result in a load of unacceptable waste being unloaded in the landfill will be reported immediately to management personnel at SPLLC and MCM. SPLLC will provide appropriate telephone reporting to MDE at (410) 537-3424.

SPLLC will submit an appropriate written follow up report to MDE within five working days following an incident. The report will describe corrective measures taken or planned, to remove the unacceptable waste from the landfill and to remediate the impact of the prohibited disposal.



PARCEL NUMBER	FINISH DATE
1A	COMPLETE
1B	COMPLETE
1C	COMPLETE
2B	COMPLETE
3A	COMPLETE
3B	COMPLETE
4B	COMPLETE
8	COMPLETE
9B	COMPLETE
10A	COMPLETE
9D	2-29-2016
3C	3-31-2016
4C	3-31-2016
4A	5-31-2016
4D	5-31-2016
9A	5-31-2016
2A	6-30-2016
5	7-31-2016
6	7-31-2016
9C	9-30-2016
7	12-31-2016
11A	12-31-2016
11B	12-31-2016
12	12-31-2016
ADM	TBD
PEN	TBD
10B	TBD

Attachment B

MCM's Fugitive Emissions Plan
Sparrows Point Facility
Baltimore, Maryland

ATTACHMENT B

METAL CUTTING
FUGITIVE EMISSIONS PLAN

Prepared by:

MCM Management Corporation

December 12, 2014

Overview

The following plan depicts the reasonable control measure that will be implemented by MCM Management Corporation (MCM) for the cutting of metal using torches from the site demolition activities.

MCM will amend this plan as needed. MCM will provide any revised plan to MDE.

Metal Processing

MCM must process the metal from the site demolition into smaller pieces required by the recycling companies purchasing the metal. MCM uses hydraulic shears to cut the majority of the metal produced by the demolition. However, certain metal pieces are just too large for the hydraulic shears to process. Under these circumstances, these pieces of metal would be sent to an area to be cut using handheld torches.

Reasonable Control Measures

MCM will take the following reasonable control measures to reduce any fugitive emissions generated by the torch cutting operation:

- MCM will only torch cut if the metal cannot be processed using hydraulic shears
- MCM will utilize wet suppression during cutting operations. A water fogging machine will be located near the cutting area and will be strategically placed so that any fugitive emissions will be minimized by the water fog
- A water truck will also assist (when needed) in providing wet suppression to the cutting operation
- MCM will attempt (where logistics permit) to locate the cutting areas away from the property boundaries and more toward the interior of the property
- The MCM cutting operation supervisors will slow down or stop any cutting that is generating excess fugitive emissions

Attachment C

MCM's Road Watering Plan
Sparrows Point Facility
Baltimore, Maryland

ATTACHMENT C

SPARROWS POINT
ROAD WATERING PLAN

Prepared by:

MCM Management Corporation

Overview

The following plan depicts the road watering routes that will be used to satisfy terms of the MCM Management Corporation (MCM) Air Quality State Operating Permit issued by the Maryland Department of the Environment (MDE).

The schedule included in the plan will be followed as closely as possible with the following exceptions:

- Road watering will be curtailed or stopped during periods of rainy weather
- Road watering will be curtailed or stopped when freezing weather is expected or ice and/or snow cover the plant roads.
- During times of emergency, holidays, equipment breakdown, or circumstances beyond the control of MCM this schedule may be altered or curtailed

MCM will periodically amend this plan based on the demolition scheduled and areas of the plant that are active. MCM will provide the revised plan to MDE.

Road Watering Routes

The attached plant map depicts the road watering routes for the facility. Road watering is being conducted by the following companies at the facility:

- MCM
- Kinder Morgan
- Fritz

MCM

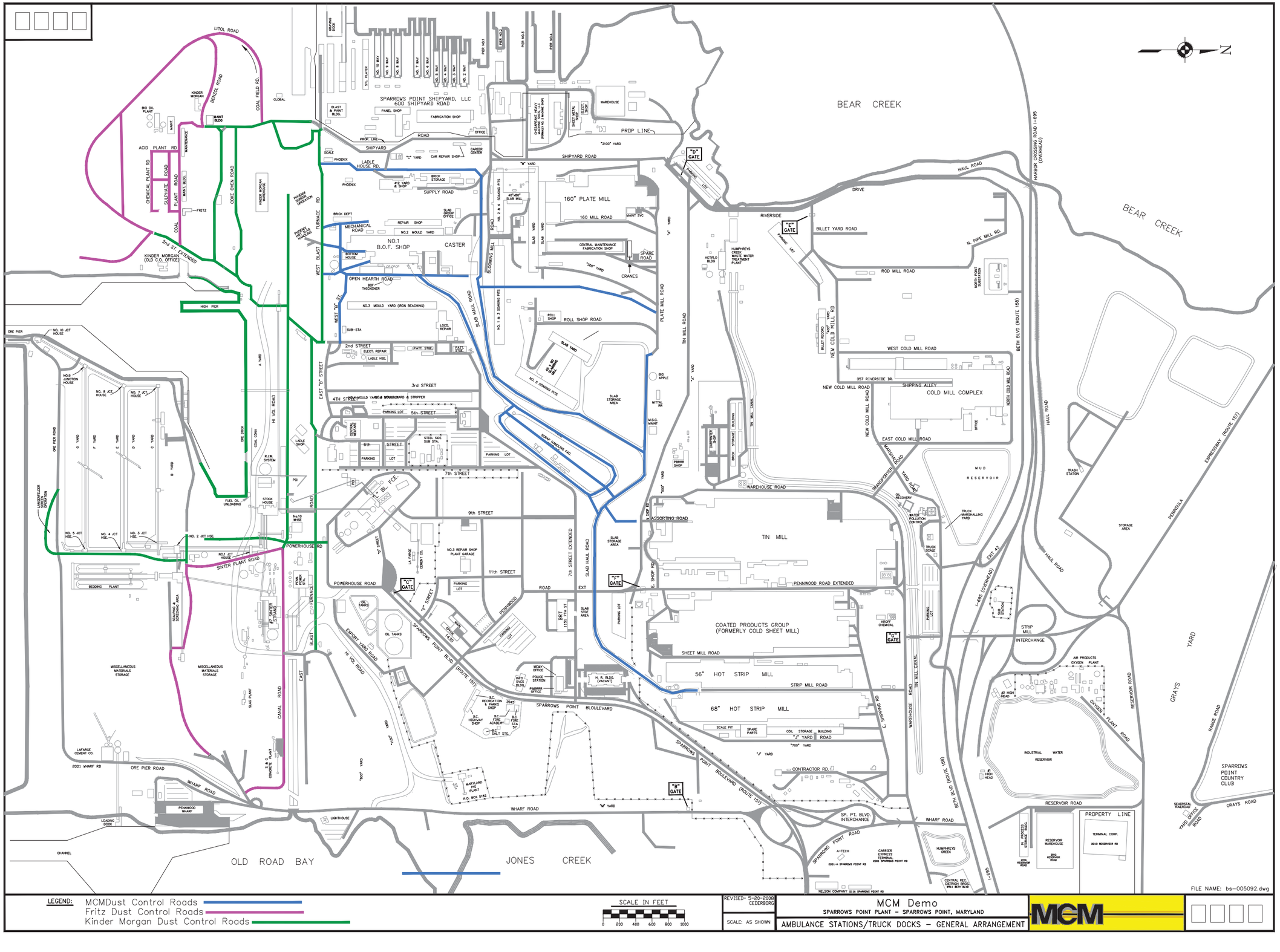
MCM currently operates a water truck on a standard operating schedule of Monday – Friday from 0700 – 1730 on the routes depicted on the attached plant map. MCM will also water the haul route to Greys Landfill when MCM is transporting material to the landfill.

Kinder Morgan

Kinder Morgan operates two (2) water trucks on a standard operating schedule of Monday – Friday from 0600 -1600 on the routes depicted on the attached plant map. Kinder Morgan will also conduct road watering if material hauling takes place outside of the standard operating schedule.

Fritz

Fritz operates a water truck on a standard operating schedule of Monday – Friday from 0700 -1730 on the routes depicted on the attached plant map. Kinder Morgan will also conduct road watering if material hauling takes place outside of the standard operating schedule.


LITOL ROAD
BENZIE ROAD
COAL FIELD RD.
KINDER MORGAN
BIO OX PLANT
MAINT BLDG
ACID PLANT RD
CHEMICAL PLANT RD
SULPHATE ROAD
MAINT. BLDG.
FRITZ
COKE OVEN ROAD
KINDER MORGAN MONITOR
2nd ST. EXTENDED
KINDER MORGAN (OLD C.O. OFFICE)
HIGH PIER
ORE PIER
NO. 10 JCT HOUSE
NO.9 JUNCTION HOUSE
NO. 8 JCT. HOUSE
NO. 7 JCT. HOUSE
NO. 5 JCT. HSE.
NO. 4 JCT HSE.
NO. 3 JCT HSE.
NO. 2 JCT. HSE.
NO.1 JCT HOUSE
ORE DOCK
COAL CONV
H. VOL. ROAD
A YARD
G YARD
F YARD
E YARD
D YARD
C YARD
B YARD
R.L.W. SYSTEM
FUEL OIL UNLOADING
STOCK HOUSE
No.10 WHSE
POWERHOUSE RD
SINTER PLANT ROAD
BEDDING PLANT
#1 SINTER STRAND
SCALING & SCREENING AREA
MISCELLANEOUS MATERIALS STORAGE
SLAG PLANT
CANAL ROAD
S & G CONCRETE PLANT
LAFARGE CEMENT CO.
2001 WHARF RD
ORE PIER ROAD
WHARF ROAD
PENNWOOD WHARF
LOADING DOCK
CHANNEL
LIGHTHOUSE
OLD ROAD BAY
JONES CREEK
SPARROWS POINT SHIPYARD, LLC
600 SHIPYARD ROAD
GRAVING DOCK
PIER NO.1
PIER NO.2
PIER NO.3
PIER NO.4
STL. PLATER
NO. 10 BAY
NO. 9 BAY
NO. 8 BAY
NO. 7 BAY
NO. 6 BAY
NO. 5 BAY
NO. 4 BAY
NO. 3 BAY
NO. 2 BAY
BLAST & PAINT BLDG.
PANEL SHOP
FABRICATION SHOP
OFFICE
CHESAPEAKE HEAVY (FORMERLY J.A.KING DRY DOCK)
SHEET METAL ELECT. SHOP
WAREHOUSE
PROP. LINE
SHIPYARD ROAD
SHIPYARD
"2100" YARD
"D" GATE
PARKING LOT
SCALE
PHOENIX
CAREER CENTER
"C" YARD
CAR REPAIR SHOP
LADLE HOUSE RD.
"B" YARD
BRICK STORAGE
413 YARD & SHOP
SUPPLY ROAD
40"x80" SLAB MILL
160" PLATE MILL
160 MILL ROAD
MAINT SVC
CENTRAL MAINTENANCE FABRICATION SHOP
SPARE ROAD
"300" YARD
CRANES
"A" YARD
BRICK DEPT
REPAIR SHOP
SLAB OFFICE
MECHANICAL ROAD
NO.2 MOULD YARD
NO.1 B.O.F. SHOP
CASTER
BOTTOM HOUSE
OPEN HEARTH ROAD
SOP THICKENER
NO.3 MOULD YARD (IRON BEACHING)
WEST BLAST FURNACE RD
WEST "B" ST.
SUB-STA
LOCO. REPAIR
ROLL SHOP ROAD
ROLL SHOP
SLAB YARD
NO. 1 & 3 SOAKING PITS
NO. 2 SOAKING PITS
SLAB HAUL ROAD
BLOOMING MILL ROAD
PLATE MILL ROAD
TIN MILL ROAD
2nd STREET
ELECT. REPAIR
LADLE HSE.
PATT. STGE.
3rd STREET
4TH STREET
MOULD YARD & WOODBOARD & STRIPPER
PARKING LOT
5th. STREET
CENTRAL WELFARE
6th STREET
STEEL SIDE SUB STA.
PARKING LOT
7th STREET
T. BL. FCE.
9th STREET
EAST "B" STREET
LADLE SHOP
PCI
POWERHOUSE ROAD
"C" GATE
CONST. ST.
LA FARGE CEMENT CO.
NO.3 REPAIR SHOP PLANT GARAGE
11th STREET
PARKING LOT
7th STREET EXTENDED
SLAB HAUL ROAD
SLAB STGE AREA
"F" GATE
E. SHOP RD.
PENNWOOD ROAD EXTENDED
TIN MILL
ASSORTING ROAD
"700" YARD
PIPE RD
COATED PRODUCTS GROUP (FORMERLY COLD SHEET MILL)
SHEET MILL ROAD
56" HOT STRIP MILL
STRIP MILL ROAD
68" HOT STRIP MILL
SCALE PIT
SPARE PARTS
COIL STORAGE BUILDING
"J" YARD ROAD
"J" YARD
"700" YARD
CONTRACTOR RD.
SPARROWS POINT BOULEVARD (ROUTE 157)
SPARROWS POINT BLOULEVARD
"B" GATE
"W" YARD
WHARF ROAD
SP. PT. BLVD. INTERCHANGE
SPARROWS POINT ROAD
A-TECH
CARRIER EXPRESS TERMINAL
2001-H SPARROWS POINT RD
2001 SPARROWS POINT RD
NELSON COMPANY 2116 SPARROWS POINT RD
HUMPHREYS CREEK
CENTRAL REC. DETROIT BROS. 9913 BETH BLVD
I-695
BETH BLVD (ROUTE 158)
BEAR CREEK
HARBOR CROSSING ROAD I-695 (OVERHEAD)
HAUL ROAD
DRIVE
"E" GATE
RIVERSIDE
BILLET YARD ROAD
N. PIPE MILL RD.
ROD MILL ROAD
NORTH POINT SUBSTATION
ACIWLO BLDG
HUMPHREYS CREEK WASTE WATER PLANT
NEW COLD MILL YARD
BILLET RECORD YARD
NEW COLD MILL ROAD
WEST COLD MILL ROAD
357 RIVERSIDE DR.
SHIPPING ALLEY
COLD MILL COMPLEX
NORTH COLD MILL ROAD
EAST COLD MILL ROAD
OFFICE
MARSHALLING YARD
TRANSPORTER ROAD
YARD ROAD
MUD RESERVOIR
OIL RECOVERY
WATER POLLUTION CONTROL
TRUCK MARSHALLING YARD
TRUCK SCALE
TRASH STATION
EXPRESSWAY (ROUTE 157)
PENINSULA
STORAGE AREA
EXT. 43
I-695 (OVERHEAD)
SLAB STGE AREA
PARKING LOT
KROFT CHEMICAL
"G" GATE
STRIP MILL INTERCHANGE
AIR PRODUCTS OXYGEN PLANT
#2 HIGH HEAD
#1 HIGH HEAD
OXYGEN PLANT ROAD
RESERVOIR ROAD
INDUSTRIAL WATER RESERVOIR
GRAYS
YARD
RANGE ROAD
SPARROWS POINT COUNTRY CLUB
SEVERSTAL RAILROAD
YARD OFFICE ROAD
GRAYS ROAD
PROPERTY LINE
TERMINAL CORP.
2010 RESERVOIR RD
RESERVOIR WAREHOUSE
2012 RESERVOIR ROAD
2014 RESERVOIR ROAD
2016 PIPE MILL RD.
N
LEGEND:
MCMDust Control Roads
Fritz Dust Control Roads
Kinder Morgan Dust Control Roads
SCALE IN FEET
0 200 400 600 800 1000
REVISED- 5-20-2008 CEDERBORG
SCALE: AS SHOWN
MCM Demo
SPARROWS POINT PLANT - SPARROWS POINT, MARYLAND
AMBULANCE STATIONS/TRUCK DOCKS - GENERAL ARRANGEMENT
MCM
FILE NAME: bs-005092.dwg

Attachment D

Maryland Department of the Environment Temporary Permit to Construct (005-2781-6-2116) for Mobile Crushing Plant
Sparrows Point Facility
Baltimore, Maryland

ATTACHMENT D
005-2781

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101 • www.mde.maryland.gov

Larry Hogan
Governor

Boyd Rutherford
Lieutenant Governor

Ben Grumbles
Secretary

MAY 28 2015

Mr. Brandon J. Bonanno
Vice President Operations
MCM Management Corporation
35980 Woodward Avenue
Bloomfield Hills, Michigan 48304

Dear Mr. Bonanno:

Enclosed please find your temporary Permit to Construct (005-2781-6-2116) is for the installation of one (1) 440 ton per hour Metso Lokotrack Model LT1213 mobile, tracked temporary crushing plant with a Nordberg Model NP 1213 impact crusher powered by a 415 horsepower Caterpillar Model C-13 diesel to be located at 1430 Sparrows Point Boulevard, Sparrows Point, Maryland. The permit contains both general conditions, which apply to the all crushing and screening operations and specific conditions which apply to your operation.

The permit requires MCM Management Corporation to calculate the emissions of air pollutants from this temporary crushing operation and include them together with emissions from your permanent operations in the annual Emissions Certification Report that you submit to the Department in April.

If you have any questions regarding the issuance of this permit, please contact Dave Mummert at (410) 537-3206.

Sincerely,

Karen Irons, P.E., Administrator
Air Quality Permits Program
Air and Radiation Management
Administration

KGI/dr
Enclosures

cc. Marcie Gurley

KEEP PERMIT AT SITE **CONTROL NO. B- 04751**

State of Maryland

Lawrence J. Hogan, Jr.
Governor

Boyd K. Rutherford
Lt. Governor

Ben Grumbles
Secretary

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Management Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

[X] Construction Permit (Temporary)

[ ] Operating Permit

PERMIT NO. 005-2781-6-2116

DATE ISSUED **May 28, 2015**

PERMIT FEE $800.00 (Paid)

EXPIRATION DATE December 31, 2015

LEGAL OWNER & ADDRESS

MCM Management Corp
35980 Woodward Avenue, Suite 210
Bloomfield Hills, Michigan 48304

Attention: Mr. Brandon J. Bonanno

SITE

MCM Management Corporation
1430 Sparrows Point Boulevard
Sparrows Point, Maryland 21219
BALTIMORE County
Premises # 005-2781
AI # 91383

SOURCE DESCRIPTION

Installation of one (1) 440 ton per hour Metso Lokotrack Model LT1213 mobile, tracked temporary crushing plant with a Nordberg Model NP 1213 impact crusher powered by a 415 horsepower Caterpillar Model C-13 diesel engines.

This source is subject to the conditions described on the attached pages.

Program Manager

Director, Air and Radiation Management Administration

(NOT TRANSFERABLE)

5) **Equipment Information**

Crushers & Screens

Crusher	Screen	Manufacturer / Model	Capacity (tons/hr)
☑	☐	Nordberg NP1213	440
☐	☐		
☐	☐		

Conveyers

Total number of conveyers on site: 2

Engines

Manufacturer / Model	Horsepower	Diesel	Gasoline	Fuel Usage (gallons/month)
Caterpillar C-13	415	☑	☐	4254
		☐	☐	

6) **Dust Suppression Information**
Dust from the equipment, roads, stockpiles, and materials handling operations MUST be controlled

(Check all that apply)

- ☐ Wet suppression on equipment (crushers and screens)
- ☐ Wet suppression on stockpiles
- ☐ Flush / sweep paved roads
- ☐ Water on unpaved roads
- ☐ Truck washing station
- ☐ Other (describe)

- ☒ Work practices:
  - ☐ Avoid overfilling front-end loaders
  - ☐ Minimize drop height of material when loading trucks or stockpiles
  - ☐ Minimize working of stockpiles especially on windy or dry days
  - ☐ Remove debris and spillage from on and around the plant
  - ☐ Post signs and control speed of all vehicles
  - ☐ Post signs and control speed of all vehicles

7) **Required Attachments**

(Check that they are attached)

- ☒ Vendor literature
- ☒ Sketch or aerial photograph of the job site

8) **Workers Compensation** (Environmental article §1-202)

Workers insurance policy or binder number: Chesapeake Employers Insurance (WKUB0011187)

☐ Check if self employed or otherwise exempt from this requirement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE 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."

Owners Signature	Printed Name & Title	Date
	Brandon Benjamin / VP Operations	4/24/15

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Management Administration / Air Quality Permits Program
1800 Washington Boulevard, STE 720 Baltimore, MD 21230-1720
(410) 537-3230 ●1-800-633-6101 ● www.mde.state.md.us

Mail application to
MDE/ARMA
1800 Washington Blvd, Suite 720
Baltimore, MD 21230-1720

Don't forget to:
✓*Sign the application*
✓*Include a sketch or aerial photo of job site*
✓*Include vendor literature*

Air Quality Permit to Construct Application for

PORTABLE CRUSHING / SCREENING EQUIPMENT AT TEMPORARY SITES

1) Applicability

You must check off all the following items to use this application form

✓ A finite amount of material already located and generated by operations on the site will be crushed/screened
✓ No new material generated by operations on the site will be crushed/screened
✓ No material generated off-site will be crushed/screened

You must check off one of the following items to use this application form

✓Material has never been crushed/screened at the site
☐ It has been at least three years since material was crushed/screened on the site.
Date materials last crushed / screened at the site: _____

2) Job site location

☐ Check if this is a federal facility

Name: MCM Management Corporation Phone: 410-292-6356
Street Address: 1430 Sparrows Point Blvd
City: Sparrows Point State: MD Zip Code: 21222 County: Baltimore

3) Owner/Operator of the equipment

Name: MCM Management Corporation Phone: 410-292-6356
Mailing Address: 35980 Woodward Avenue, Suite 210
City: Bloomfield Hills State: MI Zip Code: 48304

4) Job Description

Examples: (1) *Removal of Tie-Gee department store from South-lawn Mall*
(2) *Demolition of parking garage at Milton Business Complex*

(Check all that apply)

✓ Demolition project (describe) Former RG Steel Sparrows Point Steel Mill
☐ Site development – crushing / screening of in-situ stone
☐ Waste concrete generated at a concrete batch plant
☐ Other processing of finite amount of material generated by operations on-site
(describe) _____

Material to be crushed/screened: Concrete, brick, block

Estimated total tons of material to be crushed/screened: 400,000 tons (estimate)

Operating schedule

Projected start date: As soon as permit issued Projected end date: 6 months

Hours/day: 16 Days/week: 7 Total # of days: 180

(1) Records of the amount of material processed through the temporary crushing plant each day the plant operates shall be maintained at the site for the duration of the project and shall be made available to the Department upon request.

(2) The Company shall calculate the emissions of air pollutants from this temporary crushing operation and submit the results with the annual Emissions Certification Report for this facility.

(b) **COMAR 26.11.15.05** which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

(c) **COMAR 26.11.15.06** which prohibits the discharge of toxic air pollutants to the extent that such emissions would unreasonably endanger human health.

Part C – Construction Conditions

(1) Except as otherwise provided in this part, the portable crushing plant shall be constructed in accordance with specifications included in the incorporated applications.

(2) A wet suppression system shall be installed on the portable crushing plant to control emissions of particulate matter.

Part D – Operating Conditions

(1) Except as otherwise provided in this part, the portable crushing shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors.

(2) The Permittee shall use water, chemical dust suppressants, or a combination thereof to control fugitive dust from plant roads and stockpiles.

(3) The portable crushing plant shall be used to process only demolition debris currently located at this site and shall not process more than 400,000 tons of demolition debris (brick, block, concrete and asphalt) during the period granted for this permit.

(4) The temporary crushing plant shall not operate after December 31, 2015.

Part E – Notifications, Testing and Monitoring

The Company shall notify the Department of the start-up and shutdown dates of the plant at leas10 days prior to the start-up date and no later than 30 days after the shutdown date.

Part F – Record Keeping and Reporting

(3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.

(4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.

(5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.

Part B – Applicable Regulations

(1) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:

(a) **COMAR.11.01.07C** which requires the Permittee to report to the Department occurrences of excess emissions.

(b) **COMAR 26.11.02.09A** which requires the Permittee to obtain a permit-to-construct if an installation is to be modified in a manner that would cause changes in the quantity, nature, or characteristics of emissions from the installation as referenced in this permit.

(c) **COMAR 26.11.06.03C(1)** which requires the Permittee to take reasonable precautions to prevent particulate matter emissions from unconfined sources from becoming airborne.

(d) **COMAR 26.11.06.03D** which requires that the Permittee take reasonable precautions to prevent particulate matter from materials handling and construction operations from becoming airborne.

(3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:

(a) **COMAR 26.11.06.08 and 26.11.06.09** which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

MCM MANAGEMENT CORPORATION
1430 SPARROWS POINT BOULEVARD
SPARROWS POINT, MARYLAND 2122
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 005-2781-6-3116

INDEX

Part A – General Provisions

(1) The Air Quality Permit to Construct Application for Portable Crushing / Screening Equipment at Temporary Sites (Form 041) received April 29, 2015, is incorporated into this permit by reference:

If there are any conflicts between representations in this permit and representations in the application, the representation in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

(2) Upon presentation of credentials, representatives of the Maryland Department of the Environment (the "Department") and the Baltimore County Department of Environment and Resource Management shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:

(a) inspect any construction authorized by this permit;

(b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;

(c) inspect any monitoring equipment required by this permit;

(d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit; and

(e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.

Attachment E

Metsco Mobile Crushing Plant
Specifications Sheet
Sparrows Point Facility
Baltimore, Maryland

ATTACHMENT E

Mobile crushing plants
Lokotrack LT1213 & LT1213S

metso
Expect results

Lokotrack LT1213		
Nordberg NP1213M impact crusher		
Rotor dimensions	1 300 x 1 200 mm	51 1/5" x 47 1/5"
Feed hopper		
Standard	6 m³	8 yd³
With extensions	9 m³	12 yd³
Loading height	3 800 mm	12'6"
Feeder		
Width	1 100 mm	43 1/3"
Length	4 200 mm	13'9"
Main conveyor		
Width	1 200 mm	47"
Discharge height*	4 000 mm	13'2"
Engine		
Caterpillar C13	310 kW	415 hp
Transport dimensions		
Length*	16 850 mm	55'3"
Width	2 980 mm	9'9"
Height	3 600 mm	11'9"
Weight*	45 tons	99 000 lbs

* = Dimensions with a long main conveyor, magnetic separator, side conveyor and feed hopper extensions

Lokotrack LT1213S		
Nordberg NP1213M impact crusher		
Rotor dimensions	1 300 x 1 200 mm	51 1/5" x 47 1/5"
Screen DS16-36		
Area	5.75 m²	6.9 yd²
Feed hopper		
Standard	6 m³	8 yd³
With extensions	9 m³	12 yd³
Loading height	3 800 mm	12'6"
Feeder		
Width	1 100 mm	43 1/3"
Length	4 200 mm	13'9"
Main conveyor		
Width	1 200 mm	47"
Discharge height	3 100 mm	10'2"
Engine		
Caterpillar C13	310 kW	415 hp
Transport dimensions		
Length	19 400 mm	63'7"
Width	3 200 mm	10'6"
Height	3 600 mm	11'9"
Weight**	55 tons	121 000 lbs

** = Dimensions with all options

The Lokotrack LT1213S is easily transportable on a trailer.

Attachment F

Stockpile Tracking Log
Sparrows Point Facility
Baltimore, Maryland

Stockpile Tracking Log

Sparrows Point Facility - Demolition and Backfill

Stockpile ID: _____ Log Completed by: _____

Stockpile Source and Composition (1)

Stockpile Location: _____

Material Description: _____

Stockpile Source: _____

Estimated Quantity: _____ cy

Stockpile Sampling (per MMP Table 3)

Date Sampled: _____

COC#: _____

Date Submitted to Lab: _____

TAT: _____

Date Results Received: _____

Results Evaluated / QC Checked by: _____

Findings: Pass / Fail / Other _____

Once a stockpile is sampled, no material shall be added or taken from the stockpile.

Required Stockpile Flagging-

1. Install yellow flagging with Stockpile ID for unsampled stockpile or stockpile with sample pending analysis
2. Install green flagging with Stockpile ID for stockpile approved by MDE for use as backfill
3. Install red flagging with Stockpile ID for rejected stockpile to be off-hauled

Note: All stockpile flagging shall include sample ID on flags

MDE Review of Analytical Results

Date Stockpile Results Submitted to MDE: _____

MDE Review By: _____ MDE Response Date: _____

MDE- Approved for onsite use: Y / N MDE Approval Date: _____

Approved Stockpile (2)

Date Crushed: _____

Date(s) Fill Placed: _____

Location of Fill Placement: _____

Depth Interval Placed: _____

Date Stockpile Removed: _____

Stockpile to Dispose Offsite (3)

Waste Classification: _____

Disposal Destination: _____

Date Stockpile Loaded: _____

Number of Loads: _____

Date Stockpile Removed: _____

Attachment G

Existing Stockpile Locations for On-Site Backfill
Sparrows Point Facility
Baltimore, Maryland

SPT - MATERAL MANAGEMENT PLAN - ON-SITE BACKFILL INVENTORY WORKSHEET

INSP. DATE: **27-Feb-15**

INSP. BY: **G.PERDIKAKIS.; M. CIRRI; C.W. RUTH, P.E.; J.CIRRI**

PILE ID	COORDINATES	GENERAL LOCATION/DESCRIPTION	MATRIX	DIMENSIONS	# OF PHOTOS/TIME
BFP-1*	N 39° 12.683 W 76° 29.637	Old Global Area	Concrete w/Rebar Dirt & Brick	15,468 sf 3970 sf	(10) 0938-0945
BFP-2	N 39° 12.535 W 76° 29.915	Non-Metallic Tailings	Slag	119700 sf x 40' 177.333 cy	(8) 0954=0958
BFP-3	N 39° 13.120 W 76° 29.280	Caster/BOF (Numerous Homogeneous Piles)	Concrete w/Rebar	TBD**	(13) 1009-1021
BFP-3	N 39° 13.074 W 76° 29.240	Caster/BOF	Concrete w/Rebar	TBD	
BFP-3	N 39° 13.009 W 76° 29.230	Caster/BOF	Concrete w/Rebar	TBD	
BFP-4	N 39° 13.005 W 76° 28.575	L - Furnace	Concrete w/Rebar	TBD	(21) 1031-1047
BFP-4	N 39° 12.962 W 76° 28.550	L - Furnace	Brick	TBD	
BFP-4	N 39° 13.082 W 76° 28.569	L - Furnace	Concrete w/Rebar	TBD	
BFP-5	N 39° 13.643 W 76° 28.142	Hot Strip Mill	Concrete w/Rebar	283561 sf	(16) 1055-1104
BFP-5	N 39° 13.745 W 76° 28.179	Hot Strip Mill	Concrete w/Rebar	108923 sf	
BFP-5	N 39° 13.732 W 76° 28.098	Hot Strip Mill/SGS 23	Concrete w/Rebar	151308 sf	

***BFP - BACKFILL PILE I.D. #**

****TBD - TO BE DETERMINED/NUMEROUS MATERIAL PILES WIDESPREAD OVER DESIGNATED AREA**


Sparrow Point Terminal- Backfill Pile Locations
N
BFP-5
BFP-5
BFP-5
BFP-3
BFP-3
BFP-3
BFP-4
BFP-4
BFP-4
BFP-1
BFP-2

Attachment H

Sub-Grade Structure Clearance Checklist
Sparrows Point Facility
Baltimore, Maryland

Sub-Grade Structure Clearance Checklist

Sparrows Point Facility – Demolition and Backfill

Sub-Grade Structure ID#: _____Checklist Completed By: _____

Building Name/Description/Location: _____

GPS Coordinates: N _____ W_____

Sub-Grade Structure Dimensions: _____ft x _____ft Sub-Grade Structure Area:_____ft^2

Sub-Grade Structure Depth: _____ft Estimated Volume: _____cy

Pumping Dates: _____

Date Sub-Grade Structure Cleared for Inspection: _____

Sub-Grade Structure Inspection by JEI

Sub-Grade Structure Inspection Date(s): _____

Condition of Groundwater in Basement: _____

Visual Inspection Observations (attach photos): _____

_____

_____

Sub-Grade Structure Sampling

Date Sampled: _____

Chain of Custody #: _____ TAT: _____

No. of Samples: _____ (attach sample location description, sample location figure, and photos)

Media Sampled: _____

Date Results Received: _____

Result Evaluated and QC checked by: _____

Approval for Submission to MDE by (MCM or JEI): _____

MDE Review for Sub-Grade Structure Clearance

Date Analytical Results submitted to MDE: _____

MDE Review by: _____Response date: _____

MDE Approval Date: _____

Sub-Grade Structure Backfilling

Date Sub-Grade Structure Backfill Started: _____

Date Sub-Grade Structure Backfill Completed: _____

Stockpile ID(s) for Material Used for Backfilling: _____

Attachment I

KCI Technologies, Inc.'s General Backfill Specifications Report, June 9, 2014
Sparrows Point Facility
Baltimore, Maryland

KCI TECHNOLOGIES

ISO 9001:2008 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7885

June 9, 2014

Mr. Brandon J. Bonanno
Environmental Manager
MCM Management Corporation
1430 Sparrows Point Boulevard
Sparrows Point, MD 21219
410-292-6356 direct
bbonanno@mcmdemo.com

Subject: Construction Material Testing and Inspection Services
Development of General Backfill Specifications
Sparrows Point, Baltimore County, Maryland

Greetings Mr. Bonanno,

In accordance with your request, KCI Technologies, Inc. is submitting this general backfill specifications report for the above referenced project. We understand that the Owner plans to demolish some of the existing structures/buildings at the Sparrows Point Steel Plant in order to allow for redevelopment at the site. As part of the redevelopment, the Owner proposes to use the existing on-site material stockpiles for the structural backfilling of pits/basements.

Our services for this project involved initial sampling and laboratory testing of representative on-site material stockpiles. We performed laboratory tests including sieve analysis, moisture content, Atterberg limits, and moisture-density. The laboratory test results indicated that the on-site material we tested consists of non-plastic, dark gray and brown, Well-Graded GRAVEL with Silt and SAND (GW, GW-GM) with fines content (silt/clay portions by weight passing the US No. 200 sieve size) typically less than 10 percent. The details laboratory test results are attached. In general, materials of this type are suitable for structural backfill.

We discuss below the work necessary for the structural backfilling of the pits/basements. Specifically, we provide guidance for subgrade preparation, placement and compaction of general backfill material, and related items necessary to complete the work specified.

References:

A. American Society of Testing and Materials (ASTM):
   i. D1557 – Lab Compaction Characteristics of Soil Using Modified Effort
   ii. D2922 – Density of Soil and Soil-Aggregate in Place by Nuclear-Methods (Shallow Depth).
B. Baltimore County Standard Specifications for Construction and Materials (2007)
C. Maryland State Highway Administration (MDSHA) Standard Specifications for Construction and Materials (2008)

General Backfill Material:

A. **Miscellaneous Backfill Material**: This material consists of masonry, concrete, and other available aggregate materials generated by demolition activities, and slag located on the site. It is the intent of the Owner to use these miscellaneous fill as backfill material.
B. **Structural Backfill Material**: The Owner has performed laboratory tests on approved on-site material samples obtained from stockpiles at selected locations. Tests included sieve analysis, moisture content, Atterberg limits, and moisture-density. The results of these tests are included in this report. Generally, the materials consist of non-plastic, dark gray and brown, Well-Graded GRAVEL with Silt and SAND (GW, GW-GM) with fines content (silt/clay portions by weight passing the US No. 200 sieve size) typically less than 10 percent. The tested on-site materials meet MDSHA and Baltimore County gradation requirements for Graded Aggregate Base (GAB) materials.

General Backfill Subgrade:

A. We understand that the backfilling operations will be in the exposed pits/basements with concrete slabs. If concrete slabs are not encountered, then prior to fill placement, subgrades should be verified by a Geotechnical Engineer or his or her representative to make sure loose/soft subgrade soils are densified in-place and/or undercut and replaced with suitable backfill material.
B. Scarify subgrade to a minimum depth of eight inches.
C. Subgrade compaction should continue until the surface is relatively even, rutting depth is less than two inches, and pumping does not occur. Areas where pumping or heavy rutting continues to occur will be undercut, backfilled with suitable materials and compacted until those conditions are satisfied. Any deleterious material such as organics, trash, plastic, and rebar encountered within the subgrade should be removed and replaced with a suitable fill material.

General Backfill Placement:

A. The miscellaneous backfill material may be placed up to minimum five feet below proposed finished site grades for 10-foot deep pits. If the pits are deeper than 10 feet, then 50 percent of the pit should be backfilled with the miscellaneous backfill material placed in successive 12-inch thick layers (maximum lift thickness) and crushed/tamped in-placed using the equipment bucket loader. The final 50 percent of the pit should be backfilled with the approved structural backfill material.
B. The structural backfill material should be placed within five feet of the proposed finished site grades. In cases where the pits are less than five-foot deep, the backfill material should consist only of the structural fill material.
C. Backfill materials should be free of deleterious materials such as trash, organics, plastic, and rebar.
D. Before filling operations begin, representative samples of each approved structural backfill material should be collected. The samples should be tested to determine the maximum dry density, optimum moisture content, natural moisture content, gradation, and plasticity of the

soil. These tests are needed for quality control during compaction and also to determine if the selected structural backfill material is acceptable.

E. Structural backfill material should be placed in loose lifts not exceeding eight inches in thickness.

F. The compacted structural backfill material should be developed, in general, by compacting successive eight-inch thick layers (maximum compacted lift thickness) of the approved material.

G. Compact structural backfill material to minimum 97 percent following ASTM D1557. The moisture content of the fill should be maintained within two percentage points of the optimum moisture content determined from the laboratory moisture-density relation.

H. Materials to be used as miscellaneous and structural backfill should comply with Baltimore County, MDSHA, and federal requirements, and should be approved by a Geotechnical Engineer registered in the State of Maryland. Placement of miscellaneous and structural backfill materials should be verified by a Geotechnical Engineer or his or her representative.

I. The Contractor should provide positive drainage and dewatering measures to control surficial water and groundwater during construction. Dewatering can be handled with ditching, sumps, and pumping. Run-off from adjacent areas should be diverted away from the construction area to prevent ponding of water in the pit/basements. Such measures will ensure that areas in which backfill are being placed are kept free from water and in relatively dry conditions.

Quality Control/Quality Assurance:

A. A construction quality assurance Monitor should be retained by the Owner to monitor Contractor's Compliance with above backfill specifications.

B. A construction quality control Monitor should be retained by the Contractor to monitor and test lifts to determine conformance with specified density and moisture. Test method should be in accordance with ASTM D1557 and ASTM D2922.

C. Contractor should rework areas identified by the construction quality control monitor as not meeting the placement criteria until those areas satisfy the placement criteria.

KCI Technologies, Inc. (KCI) appreciates the opportunity to provide our services on this project. If you have any questions with regard to this report or any other aspect of our services, please feel free to contact us at 410-316-7919.

Sincerely,

KCI Technologies, Inc.

Ransford Addei, P.E.
Senior Geotechnical Engineer

for Kwabena Ofori-Awuah, P.E., ENV SP
Chief Geotechnical Engineer

Attachments: Laboratory Test Results

SUMMARY OF LABORATORY TESTING

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

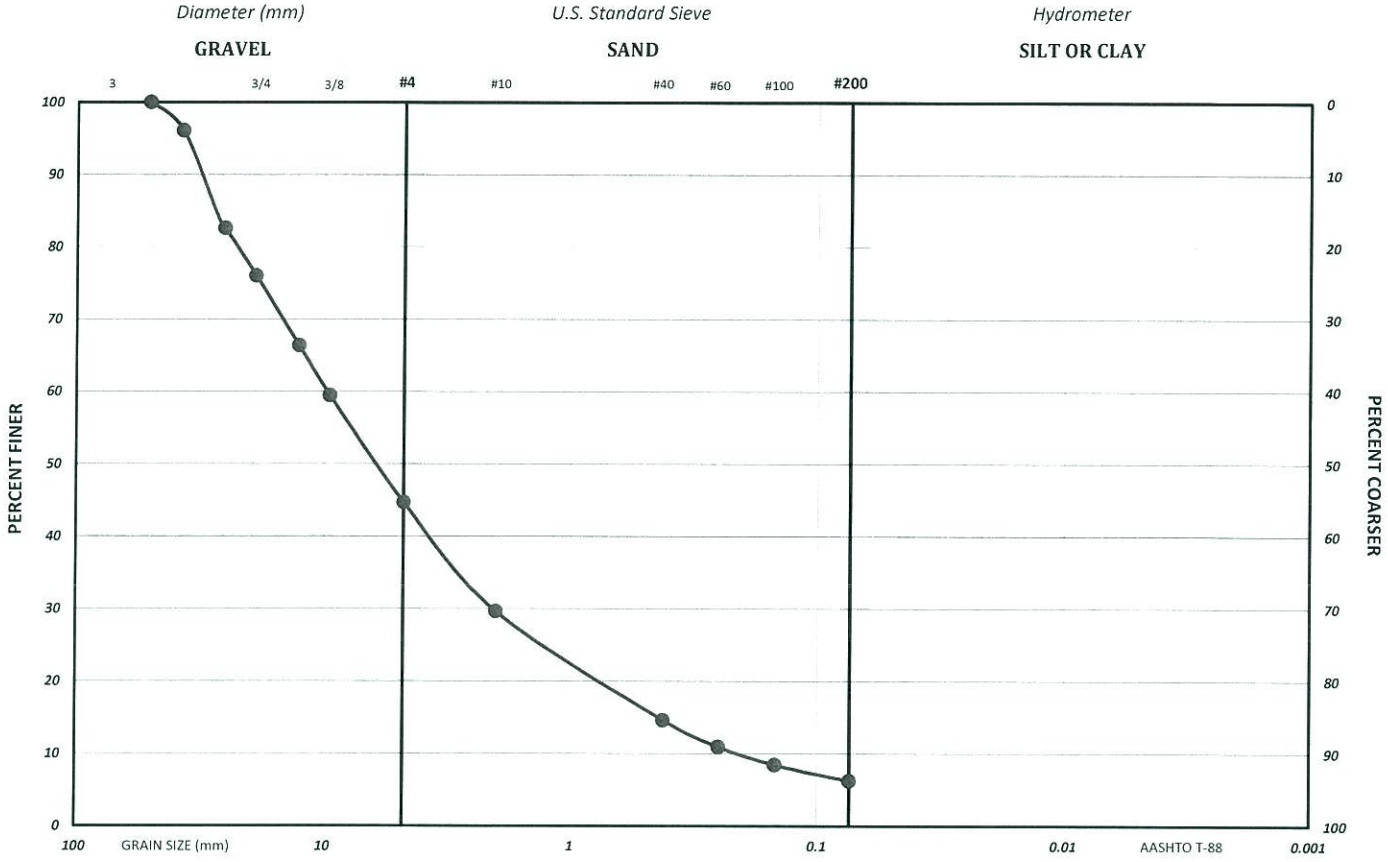
PROJECT #:	12146061	**SAMPLED:**	-	**JAY KAY TESTING**
SAMPLES:	5	**LOCATION:**	-	5233 Lehman Road, Suite 110
REPORT:	06/06/14	**REMARKS:**	-	Spring Grove, PA 17362
				Phone: (410) 259-5101

BORING	SAMPLE	DEPTH	MC %	OM %	LL	PL	PI	% FINES	USCS
S-1	Bulk	North-Front	3.4	-	NP	NP	NP	6.2	GW-GM
S-2	Bulk	North-Middle	3.3	-	NP	NP	NP	4.8	GW
S-3	Bulk	South	2.3	-	NP	NP	NP	4.0	GW
S-4	Bulk	East	2.4	-	NP	NP	NP	3.9	GW
S-5	Bulk	North-East	3.8	-	NP	NP	NP	6.0	GW-GM
Jay Kay Testing (AASHTO-Accredited)									

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-1	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Front'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	-	100.0	96.1	82.6	76.0	66.3	59.5	44.7	29.6	14.6	10.9	8.4	**6.2**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
55.3	**38.5**	24.0	31.3	15.1	15.0	8.4	2.11	46.39

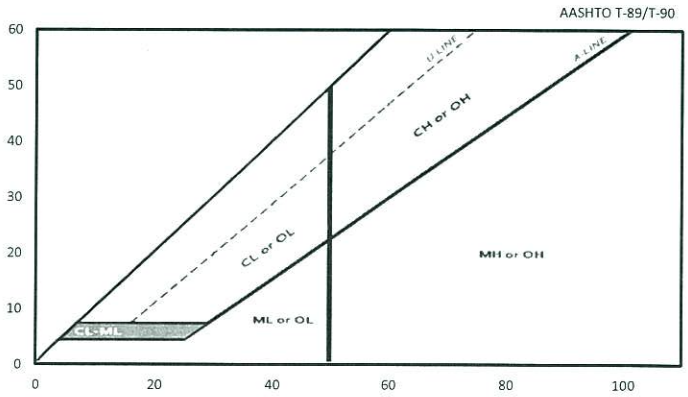
Moisture Content	3.4	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW-GM



SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-2	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Middle'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
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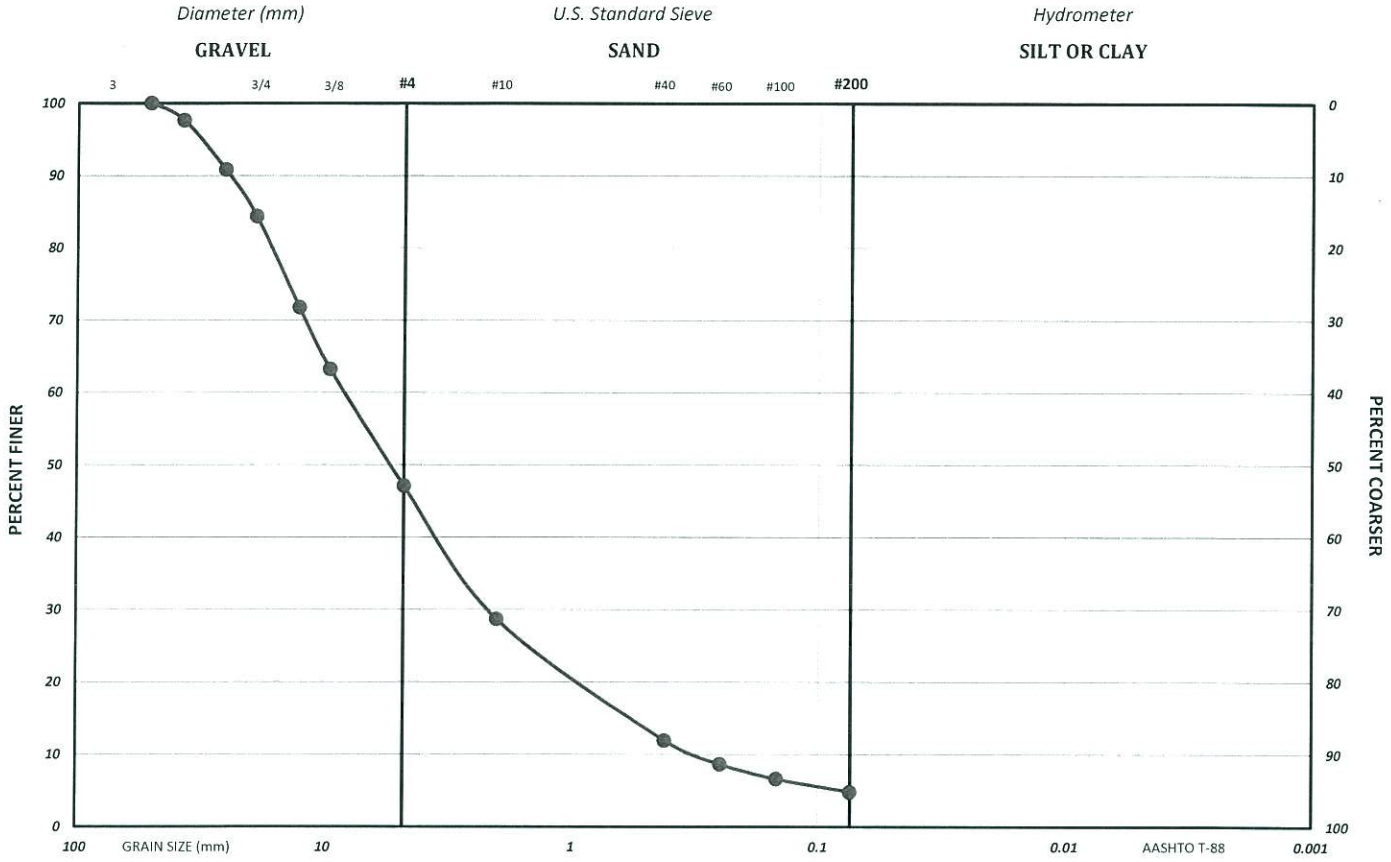
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	-	100.0	97.6	90.8	84.3	71.8	63.2	47.1	28.7	11.9	8.7	6.6	**4.8**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
52.9	**42.3**	15.7	37.2	18.4	16.8	7.1	1.83	25.54

Moisture Content	3.3	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

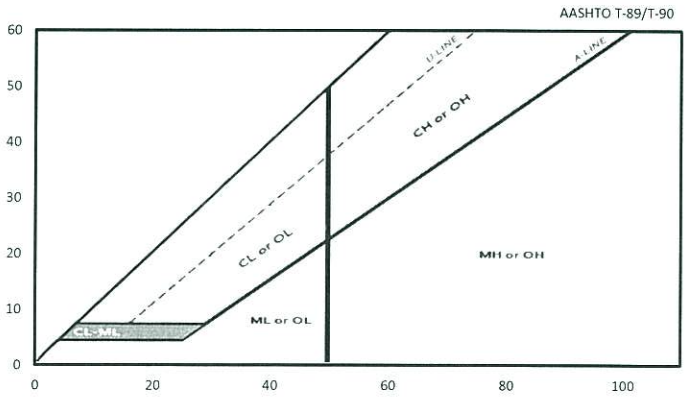
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW

SOIL DESCRIPTION

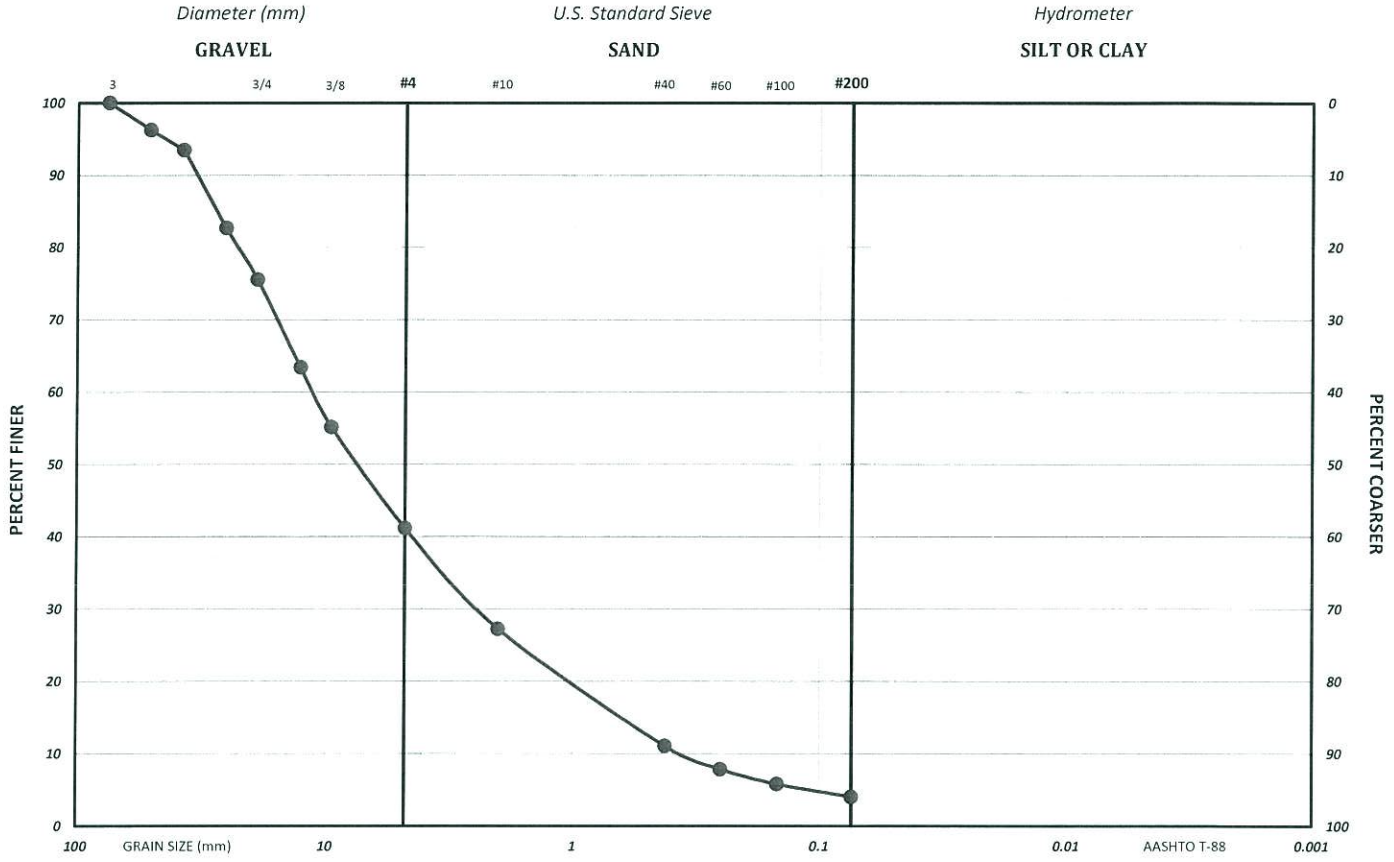
Dark gray brown well graded GRAVEL with sand



DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-3	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	South'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	96.2	93.5	82.7	75.5	63.4	55.2	41.2	27.2	11.0	7.8	5.8	**4.0**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
58.8	**37.2**	24.5	34.3	14.0	16.2	7.0	1.45	30.67

Moisture Content	2.3	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

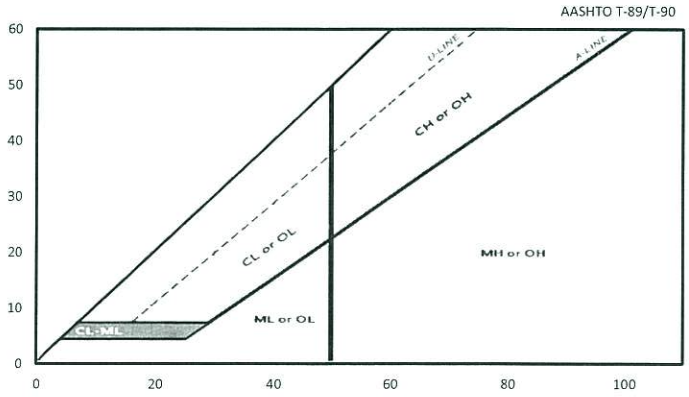
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW

SOIL DESCRIPTION

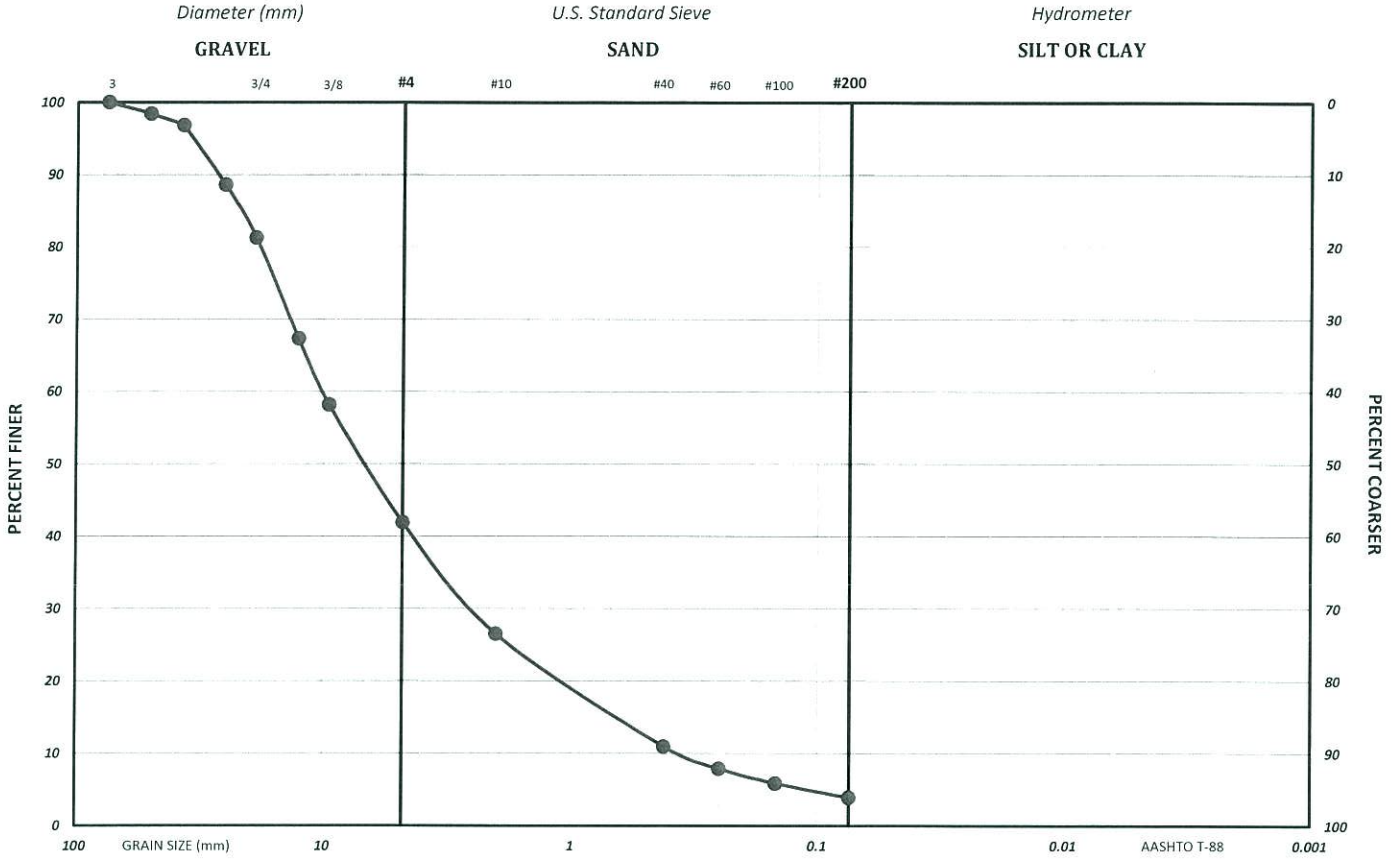
Dark gray brown well graded GRAVEL with sand



DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-4	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	98.4	96.8	88.6	81.3	67.3	58.1	41.9	26.5	11.0	7.9	5.9	**3.9**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
58.1	**38.0**	18.7	39.4	15.4	15.5	7.1	1.74	26.84

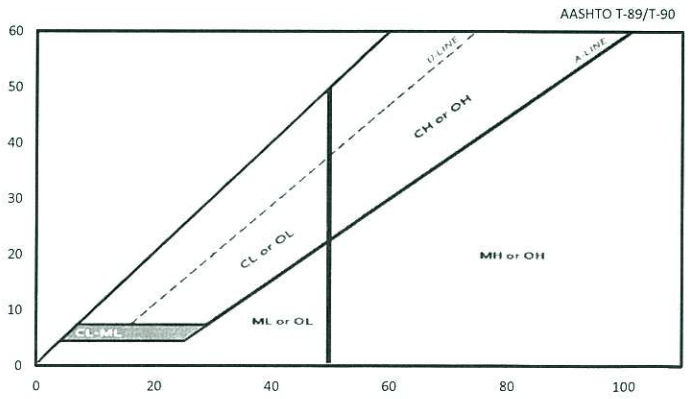
Moisture Content	2.4	Organic Content	-
pH	-	Other	-

ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW



SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

BORING:	S-5	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
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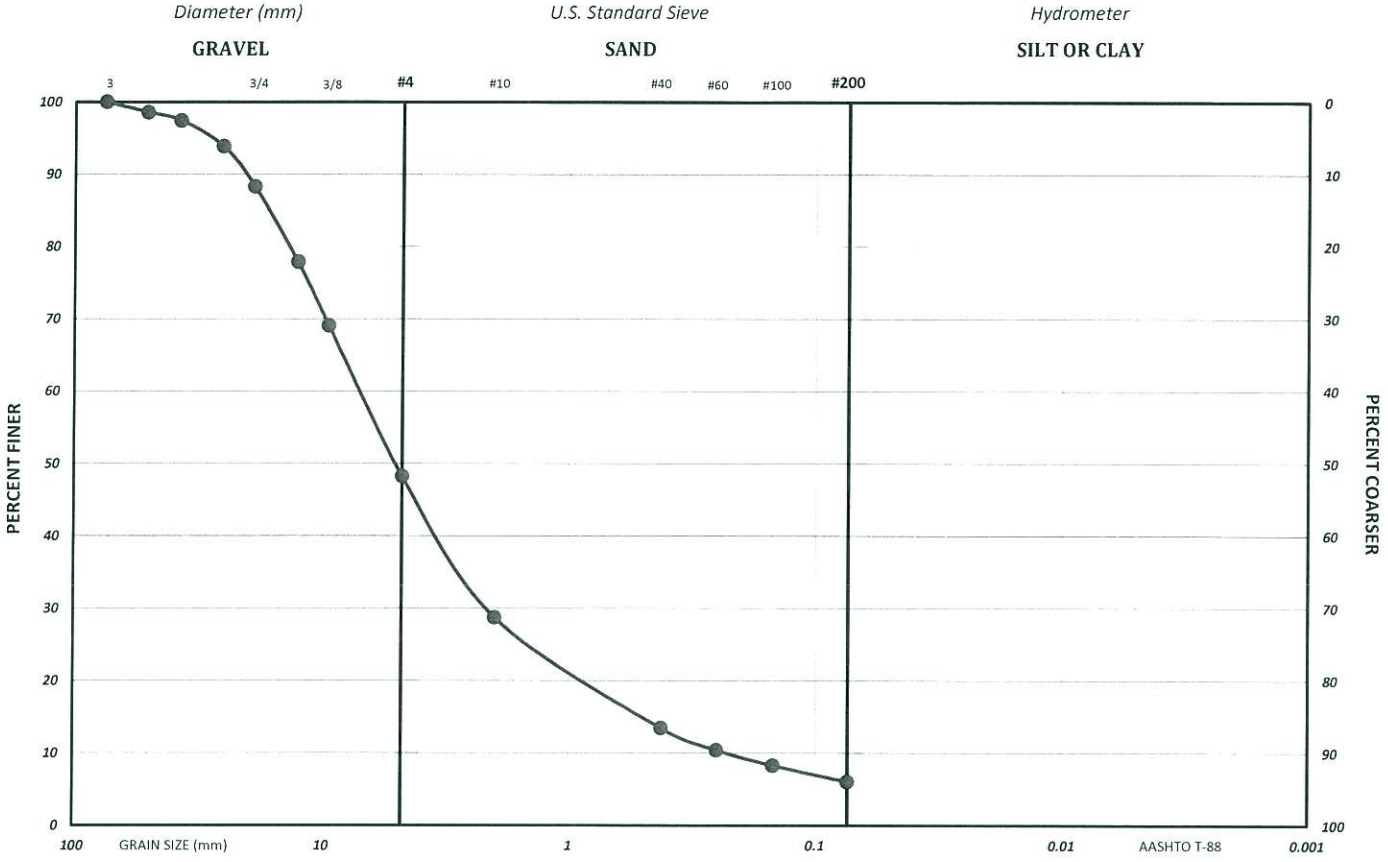
Phone: (410) 259-5101



GRAIN SIZE ANALYSIS

Diameter	75.0	50.8	37.5	25.4	19.0	12.7	9.51	4.76	2.0	0.42	0.25	0.147	0.074
Sieve Size	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#60	#100	**# 200**
% Passing	100.0	98.5	97.4	93.8	88.3	77.9	69.0	48.2	28.7	13.4	10.4	8.3	**6.0**

% GRAVEL	% SAND	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	CC	CU
51.8	**42.2**	11.7	40.1	19.5	15.3	7.4	2.93	30.61

Moisture Content	3.8	Organic Content	-
pH	-	Other	-

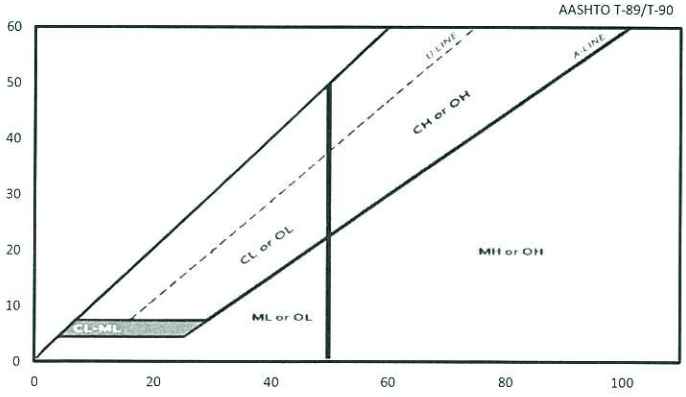
ATTERBERG LIMITS

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

CLASSIFICATION

AASHTO	A-1-a
USCS	GW-GM

AASHTO T-89/T-90



SOIL DESCRIPTION

Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

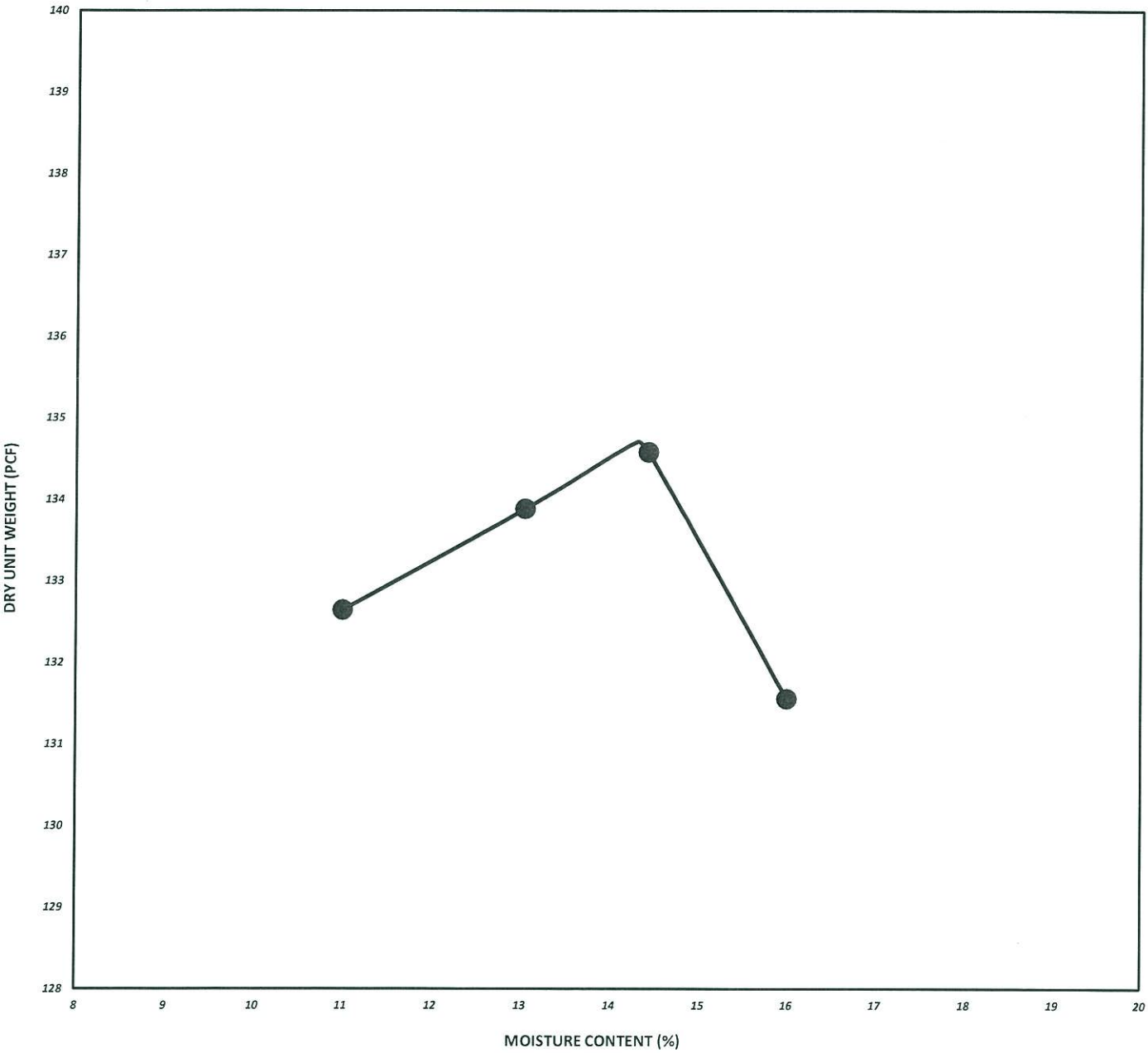
BORING:	S-1	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Front'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 24.0% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.7	PCF	140.4
Optimum Moisture Content	14.3	MC	11.3



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.4	NP	NP	NP	GW-GM	A-1-a	6.2	Dark gray brown well graded GRAVEL with silt and sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

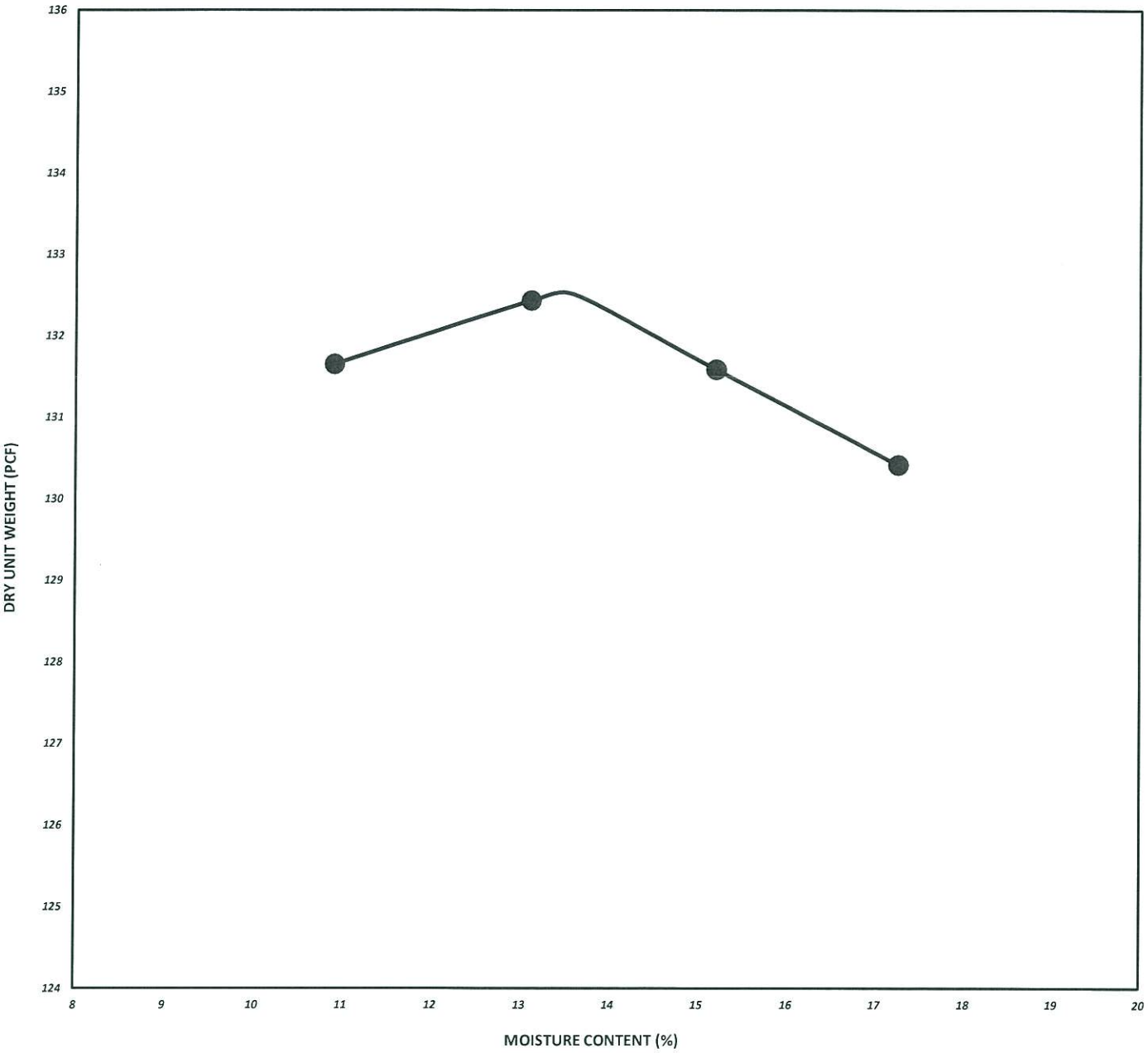
BORING:	S-2	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	North-Middle'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 15.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	132.5	PCF	136.4
Optimum Moisture Content	13.6	MC	11.8



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.3	NP	NP	NP	GW	A-1-a	4.8	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

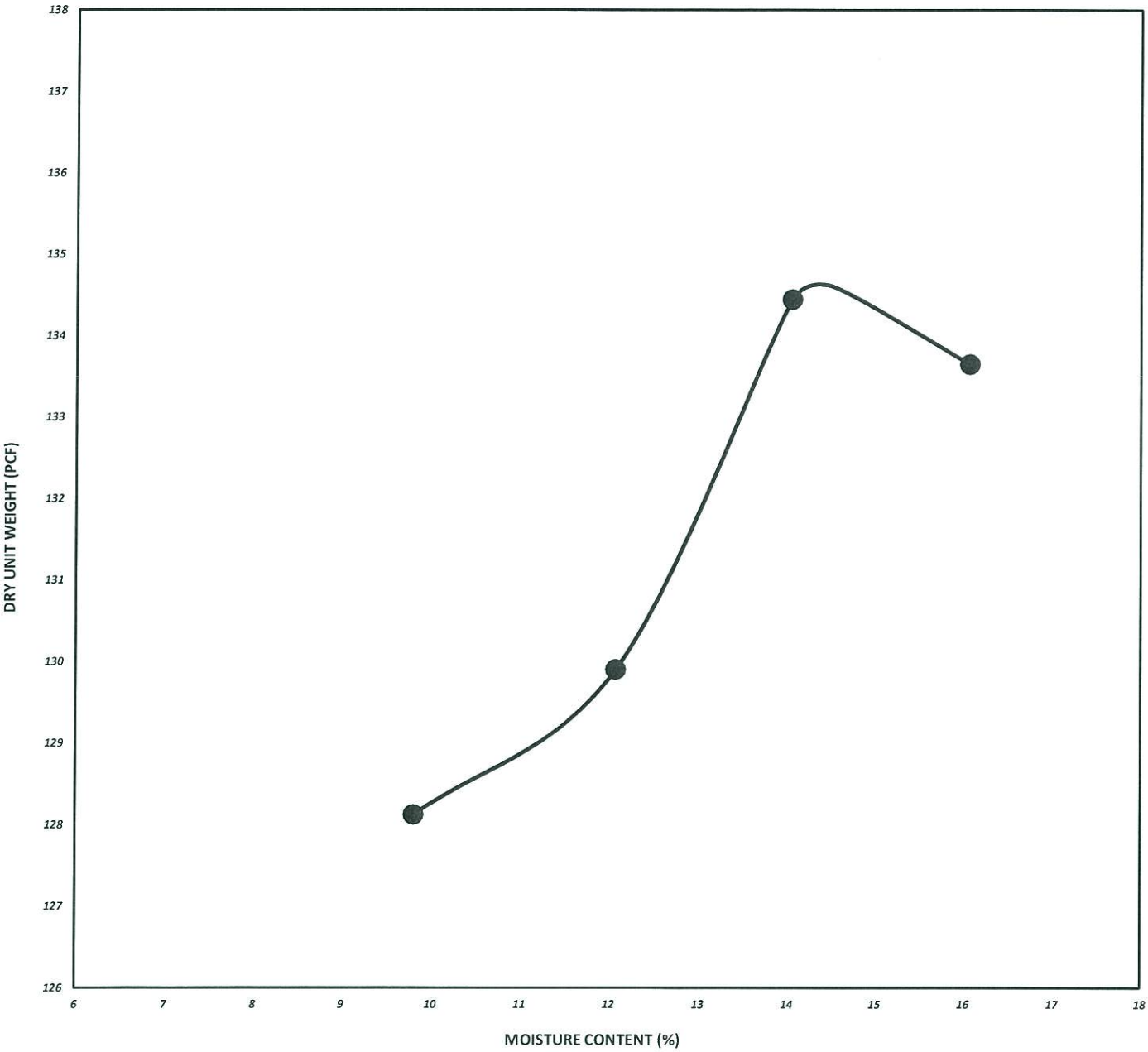
BORING:	S-3	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	South'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 24.5% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.6	PCF	140.5
Optimum Moisture Content	14.5	MC	11.4



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
2.3	NP	NP	NP	GW	A-1-a	4.0	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

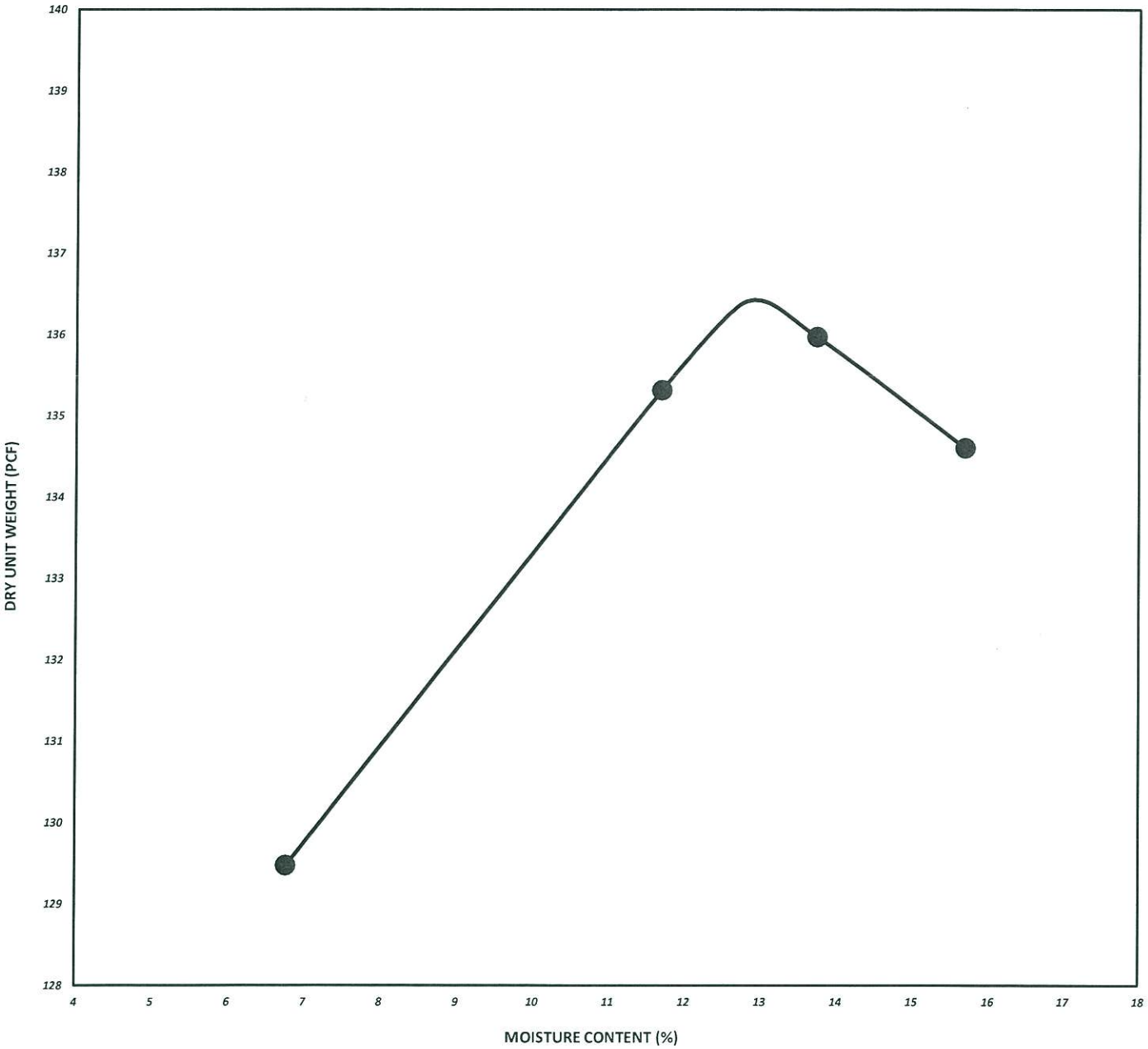
BORING:	S-4	**PROJECT #:**	12146061
SAMPLE:	Bulk	**SAMPLED:**	-
DEPTH:	East'	**LOCATION:**	-

JAY KAY TESTING
5233 Lehman Road, Suite 110
Spring Grove, PA 17362
Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)
*Corrected for 18.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	136.4	PCF	140.6
Optimum Moisture Content	12.8	MC	10.8



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
2.4	NP	NP	NP	GW	A-1-a	3.9	Dark gray brown well graded GRAVEL with sand

DEVELOPMENT OF BACKFILL SPECIFICATIONS - SPARROWS POINT

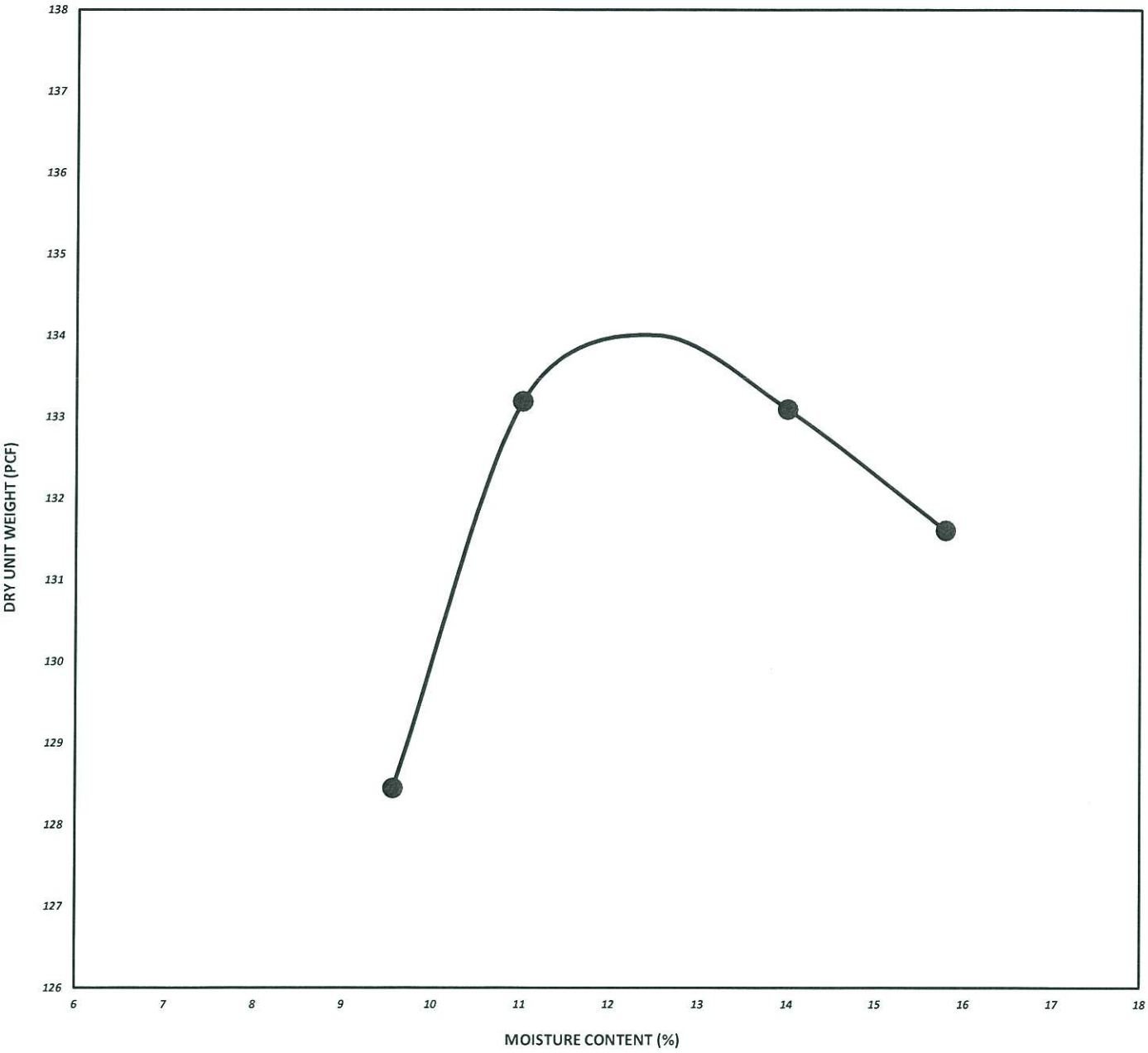
BORING:	S-5	**PROJECT #:**	12146061	**JAY KAY TESTING**
SAMPLE:	Bulk	**SAMPLED:**	-	5233 Lehman Road, Suite 110
DEPTH:	North-East'	**LOCATION:**	-	Spring Grove, PA 17362
				Phone: (410) 259-5101

STANDARD PROCTOR TEST RESULTS

TEST METHOD: AASHTO T-99 (C)

*Corrected for 11.7% retained on 3/4" sieve

	UNCORRECTED		CORRECTED*
Maximum Dry Unit Weight	134.0	PCF	136.8
Optimum Moisture Content	12.5	MC	11.3



MC	LL	PL	PI	USCS	AASHTO	FINES	SOIL DESCRIPTION
3.8	NP	NP	NP	GW-GM	A-1-a	6.0	Dark gray brown well graded GRAVEL with silt and sand