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TONY CASALE INC.

Environmental Materials Management Plan

57 Alexander Street
Yonkers, New York

By Tony Casele, Inc
Ermin Suljic/John Sullivan

March 1, 2021

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1. Introduction

This Environmental Materials Management Plan (EMMP) has been prepared to describe procedures for remedial excavation operations, including shoring/sheeting, handling and staging of materials. All work activities will be completed in accordance with the Environmental Protection Agency's (EPA) Self-Implementing Cleanup Plan (SICP), the New York State Department of Environmental Conservation (NYDEC) approved Remedial Action Work Plan (RAWP), and NYSDEC Decision Document. All work to be performed at the Site are subject to the Health and Safety Plan (HASP), including the NYSDEC Community Air Monitoring Program (CAMP). This EMMP also includes the following plans: Remedial Excavation Construction Plan/Operations Plan (**Attachment A**), Truck Transportation Plan (**Attachment B**), and Construction Dewatering Plan (**Attachment C**).

2. Responsibility

The engineer in record for the NYSDEC documentation and reporting related to the on-site remediation at the Site is AKRF. TCI will work with AKRF to ensure the requirements of the EPA SICP and RAWP are fulfilled.

Tony Casale, Inc (TCI), as the general contractor is responsible for the excavation and loading of soil materials into transportation trucks. TCI will also be responsible for the management of dewatering and will coordinate all transportation activities of soil materials and liquids and supervise their delivery to the approved disposal facility. TCI will ensure the shipping, packing, transportation, and placarding is completed in conformance with the United Stated Department of Transportation (USDOT) requirements. In addition, TCI will ensure that the trucking companies are compliant with site specific procedures and partakes in the communication requirements included in the Truck Transportation Plan (**Attachment B**).

3. Site Location

The property identified as 57 Alexander Street is located at 47-71 Alexander Street in the City of Yonkers, New York (Site). The Site location is shown in **Figure 1**. The Site comprises the upland portions of four contiguous tax parcels identified as Block 2610, Lots 50, 53 and 57, and Block 2605, Lot 51 on the Westchester County Tax Map.

Figure 1 (Source: Westchester County Tax Maps)

4. Remedial Excavation Construction Plan/Operations Plan

The following activities are part of the remedial excavation to be conducted by TCI: Mobilization and site preparation, Soil Excavation, limited site restoration and demobilization. All these activities are detailed in the Remedial Excavation Construction Plan/Operations Plan included in **Attachment A**.

4.1 Mobilization and site preparation

Prior to Site excavation remediation activities, TCI will mobilize equipment and personnel and prepare the Site for the planned work. These activities will include:

- Training: All Site personnel that may be exposed to impacted soil and/or groundwater will receive OSHA HAZWOPER training and medical monitoring to the level required by their role in addition to Site-specific safety training.
- Utility Location: Prior to intrusive work, TCI will contact the New York one-call center for public utility location and mark-out. Additionally, the contractor will hire a private utility locator to locate and mark-out current and historical underground utilities.
- Staging Area Identification: It is not expected that excavated materials will be stockpiled. However, as requested by AKRF, TCI can prepare staging areas for materials that need to be stockpiled. TCI will also prepare staging areas for equipment and support facilities as needed.
- Soil Erosion and Sediment Control: Prior to intrusive work, soil erosion and sediment control measures will be installed in accordance with TCI's Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan (SWPPP), prepared as per the New York Guidelines for Erosion and Sediment Control. Throughout construction, erosion and sediment control measures will be inspected and maintained in accordance with the SWPPP.
- Decontamination Pad Construction: TCI will construct decontamination pads, as required, suitable for decontamination of construction equipment and trucks prior to leaving the Site. Facilities will be provided to collect and store wastewater (e.g., frac tanks) for off-Site disposal. The locations and construction of decontamination pads may change periodically to accommodate the sequencing of work. For ease of reference, **Figure 2** below shows the locations of the on-Site tracking pads.
- Site Fencing: TCI will install temporary fencing along the site perimeter to prevent unauthorized Site access and maintain Site security.

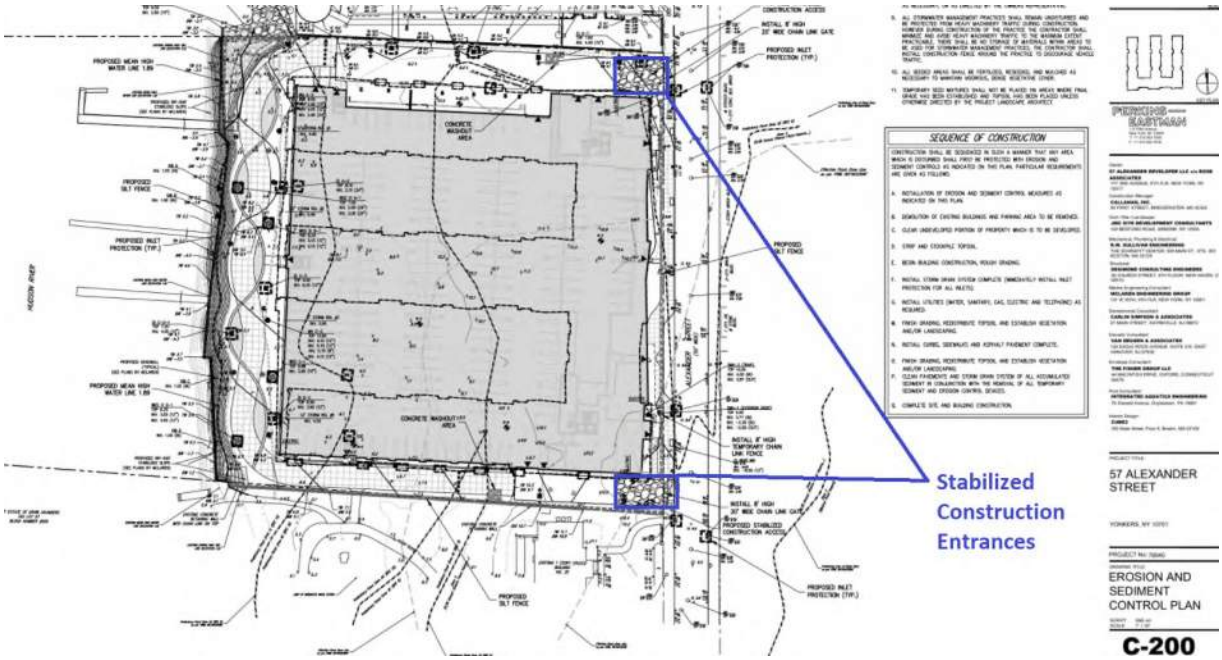

Figure 2. Stabilized Construction Entrances

4.2 Soil Excavation

Targeted soil excavations will be performed in the contaminant source areas identified by AKRF. The excavation depths will be indicated by AKRF's site personnel. It is TCI understanding that excavation below water table will be performed as necessary to the extent practicable. Dewatering efforts will be completed as indicated in Section 5.4 of this EMMP. Soil excavation will be conducted in accordance with Section 5 of this EMMP.

4.3 Limited Site Restoration and Demobilization

Under this task, limited site restoration activities will be performed. These include soil backfilling and rip-rap installation as per Section 6 of this EMMP. In addition, prior to demobilization, TCI will ensure that removal of decontamination pads, removal of decontaminated and waste containers, removal of groundwater treatment system, and removal of soil erosion and sediment control were completed as per AKRF request.

5. Management and Disposal of Soil and Waste Materials

A variety of waste materials will be generated during the remedial action, including solid wastes (trash, packaging, PPE, etc.), demolition debris, contaminated soil, groundwater, and decontamination residuals. There is a requirement for management of waste materials on-Site and coordinate transportation and off-Site disposal at approved disposal facilities. Transporters and approved disposal facilities are identified in the TTP included in **Attachment B** to this EMMP. This section describes anticipated wastes and procedures to ensure compliance with applicable federal, state, and local laws and regulations.

5.1 Solid Waste

Trash cans and/or dumpster will be provided at the Site throughout the course of the work for collection of solid wastes. TCI will coordinate with a waste hauler for transportation of the solid waste to the approved disposal landfill facilities as indicated in the TTP in **Attachment B**.

5.2 Demolition Debris

Existing above-grade structures will be demolished prior to the start of the remedial action. The concrete structure foundations will be broken into manageable pieces and stockpiled for subsequent reinforcement steel removal and crushing. The stockpiling will occur in a designated area in consultation with AKRF. At the direction of AKRF, contaminated concrete will be segregated and stockpiled separately for later off-Site disposal at an appropriate facility. Uncontaminated concrete will potentially be crushed on-Site and transported to an off-site permitted recycling facility as construction and demolition debris (C&D) in accordance with 6 NYCRR Part 360. Steel reinforcement and other non-concrete demolition debris will be segregated and stockpiled for later off-Site recycling or disposal, as appropriate. For ease of reference, the following figure shows a temporary designated stockpile, which as needed and in coordination with AKRF, may change periodically to another area within the Site to accommodate the sequencing of the work. Any other selected location will be away from contaminated areas and the waterfront line.

Figure 3. Proposed Temporary Stockpile Area

TCI will manage the transportation of demolition debris in accordance with the TTP in **Attachment B**.

5.3 Contaminated Soil

An AKRF designated environmental professional will perform continuous oversight during remediation activities to assist TCI in identifying and segregating materials.

TCI understands that the following material types are anticipated to be encountered during remediation activities:

- Non-Hazardous Historical Fill Material: this material will generally remain at the Site below the engineered Site-wide cover system; however, excess material will be generated during subgrade preparation and other excavation activities supporting redevelopment.

- Non-Hazardous Source Area Soil: This material will be excavated and removed from the Site for disposal at approved and permitted facilities.

- TSCA-Regulated PCB Remediation Waste: This material will be excavated from TSCA-regulated source areas and removed from the Site as part of the remedial action.

- Hazardous Waste: As directed by AKRF's designated environmental professional, hazardous waste will be identified, excavated, and removed from the Site as part of the remedial action. This material will not be reused at the Site and will be transported off-Site for disposal at an approved and permitted hazardous waste facility. This material will be segregated from non-hazardous materials and stockpiled, managed, transported, and disposed in accordance with applicable federal, state, and local laws and regulations.

TCI will manage the transportation of contaminated soil in accordance with the TTP in **Attachment B**.

5.4 Groundwater

It is expected that during excavation of soil and contaminated soil, groundwater may be encountered within the excavation areas. TCI will provide the necessary submersible pumps to properly dewater groundwater from within the excavation areas. As groundwater is encountered, TCI will install temporary sump wells within the excavation. The sump well will be deep enough for the dewatering pump(s) to be properly set and be able to remove groundwater out of the excavation area via a 2-inch hose. The groundwater will be pumped to a temporary treatment system to reduce levels of Total Suspended Solids (TSS), filterable metals and Organic Compounds. Groundwater encountered within the excavation areas will be managed as indicated in the Construction Dewatering Plan (CDP) in **Attachment C**. The CDP includes details of the temporary treatment system components consisting of holding/decanting tanks, sand filters, adsorbent filters and discharge pumps. Treated groundwater will be discharge to the sewer via a valid discharge permit obtained by AKRF. It is TCI's understanding that groundwater discharge will be subject to the Westchester County Department of Environmental Facilities (WCDEF) regulations and pending permit

5.5 Decontamination Residuals

Water and sediment from decontamination operations will be accumulated on Site in suitable containers or tanks. At the direction of AKRF, decontamination residuals will be transported off-Site and disposed at approved and appropriately permitted facilities in accordance with applicable federal, state, and local laws and regulations
TCI will manage the transportation of decontamination residuals in accordance with the TTP in **Attachment B**.

5.6 Material Handling

It is not expected that excavated materials be stockpiled onsite. However, when needed and in consultation with AKRF, a designated area will be set up for stockpiling onsite over plastic sheeting. **Figure 3** above shows a proposed temporary stockpile area. TCI will use a hydraulic excavator to directly load material from the either excavation or stockpile into the material transportation trucks. Care will be exercised to prevent spillage of material while loading. In accordance with OSHA regulations, benching will be exercised for the upper 4 feet of excavation and in areas where excavations are deeper than 4 feet, TCI will install timber trench boxes.

Odor and vapor suppressing foam will be readily available during all excavation activities and/or disturbance to stockpile areas. Trucks will proceed to the designated decontamination track pad area where the truck will be hosed down to remove any and all loose material prior to transport.
Once cleaned, a final visual inspection will be done. After decontamination, the truck will receive a manifest indicating the generator, source material, and designated disposal/treatment facility. The truck will then proceed directly to the designated disposal/treatment facility. TCI will be responsible for ensuring no leakage onto the roadway from portal-to-portal and that all trucks have secure, non-permeable covers. The transportation of materials from the Site to the designated disposal facility will be in accordance with the TTP in **Attachment B**.

Equipment used for excavation and loading of contaminated soil will not be used for any other work until it has been decontaminated. Certified weight tickets and bills of lading will be provided to AKRF for all applicable materials.

All site personnel working in and around areas of non-hazardous contamination will have their 40-hour OSHA HAZWOPER training with annual 8-hour refresher training updates, medical surveillance, and will have read and signed the Site Specific Health and Safety Plan (HASP). Drivers of tri-axle, dump trailers, roll-off transport trucks, and all other drivers will not be permitted to exit their vehicles in areas of excavation.

5.7 Storm Surge I High Tide Protection Measures

TCI will maintain extra hay bales and silt fencing on-Site to mitigate storm surge and/or high tide events along the shoreline, specifically in the northwest corner. During excavation work within these areas, TCI will deploy the hay bales and install supplemental silt fencing as necessary to prevent storm surges and/or high tide events from impacting the excavation work. Work along the shoreline is subject to the joint Army Corps of Engineering Nationwide Permit as well as the Site's Stormwater Pollution Prevention Plan (SWPPP).

6. Soil Backfill and Rip-Rap Installation

6.1 Soil Backfill

Upon completion of excavation and removal of contaminated materials, TCI will backfill with soils approved by AKRF (i.e. meeting the lower of the NYDEC RRSCOs, PGWSCOs and PFAS Guidance Values). The backfill soils will originate from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. In areas requested by AKRF a geotextile
demarcation/warning layer will be installed prior to backfilling

Lightweight materials from Northeast Solite Corporation in Saugerties, NY for placement on top of rip-rap along the waterfront line.

6.2 Rip-Rap Installation

TCI will import and install rip-rap along the Site's shoreline in accordance with the NYSDEC Army Corps of Engineering Permits for the Site. TCI will use appropriate equipment for handling and placing rip-rap. Rip-rap will be imported from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. All documents pertaining to the importation of rip-rap will be shared with AKRF. The importation of rip-rap will be in accordance with the TTP in **Attachment B**.

7. Trucking Transportation Plan

In preparation for implementation of remedial actions, TCI prepared a Trucking Transportation Plan (TTP). This plan is included in **Attachment B** and include the transportation of exported and imported material to and from the Site.

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TONY CASALE INC.

Attachment A
Remedial Action Operations Plan
Material Handling and Disposal Plan

57 Alexander Street
Yonkers, New York

By Tony Casale, Inc
Ermin Suljic/John Sullivan

January 21, 2021

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1. Introduction

This Remedial Action Operations Plan/Material Handling and Disposal Plan (RAOP/MHDP) has been prepared to describe the procedures to be followed during implementation of the on-site remediation excavation. This plan includes details of mobilization and site preparation, soil excavation, limited restoration, and demobilization. This RAOP/MHDP also includes the means for material handling and disposal.

2. Site Location

The property identified as 57 Alexander Street is located at 47-71 Alexander Street in the City of Yonkers, New York (Site). The Site location is shown in **Figure 1**. The Site comprises the upland portions of four contiguous tax parcels identified as Block 2610, Lots 50, 53 and 57, and Block 2605, Lot 51 on the Westchester County Tax Map.

Figure 1 (Source: Westchester County Tax Maps)

3. Mobilization and Site Preparation

Tony Casale, Inc. (TCI) will begin mobilization and site preparation as per agreed schedule. TCI will mobilize all equipment necessary to complete remedial excavation activities as detailed in this RAOP/MHDP. Prior to initiation of remedial excavation activities, TCI will complete the following:

- Training: All Site personnel that may be exposed to impacted soil and/or groundwater will receive OSHA HAZWOPER training and medical monitoring to the level required by their role in addition to Site-specific safety training.
- Utility Location: Prior to intrusive work, TCI will contact the New York one-call center for public utility location and mark-out. Additionally, the contractor will hire a private utility locator to locate and mark-out current and historical underground utilities.
- Staging Area Identification: It is not expected that excavated materials will be stockpiled. However, as requested by AKRF, TCI can prepare staging areas for materials that need to be stockpiled. TCI will also prepare staging areas for equipment and support facilities as needed.
- Soil Erosion and Sediment Control: Prior to intrusive work, soil erosion and sediment control measures will be installed in accordance with the Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan (SWPPP), prepared as per the New York Guidelines for Erosion and Sediment Control. Throughout construction, erosion and sediment control measures will be inspected and maintained in accordance with the SWPPP.
- Decontamination Pad Construction: TCI will construct decontamination pads, as required, suitable for decontamination of construction equipment and trucks prior to leaving the Site. Facilities will be provided to collect and store wastewater (e.g., frac tanks) for off-Site disposal. The locations and construction of decontamination pads may change periodically to accommodate the sequencing of work. For ease of reference, **Figure 2** below shows the locations of the on-Site tracking pads.
- Site Fencing: TCI will install temporary fencing along the site perimeter to prevent unauthorized Site access and maintain Site security.

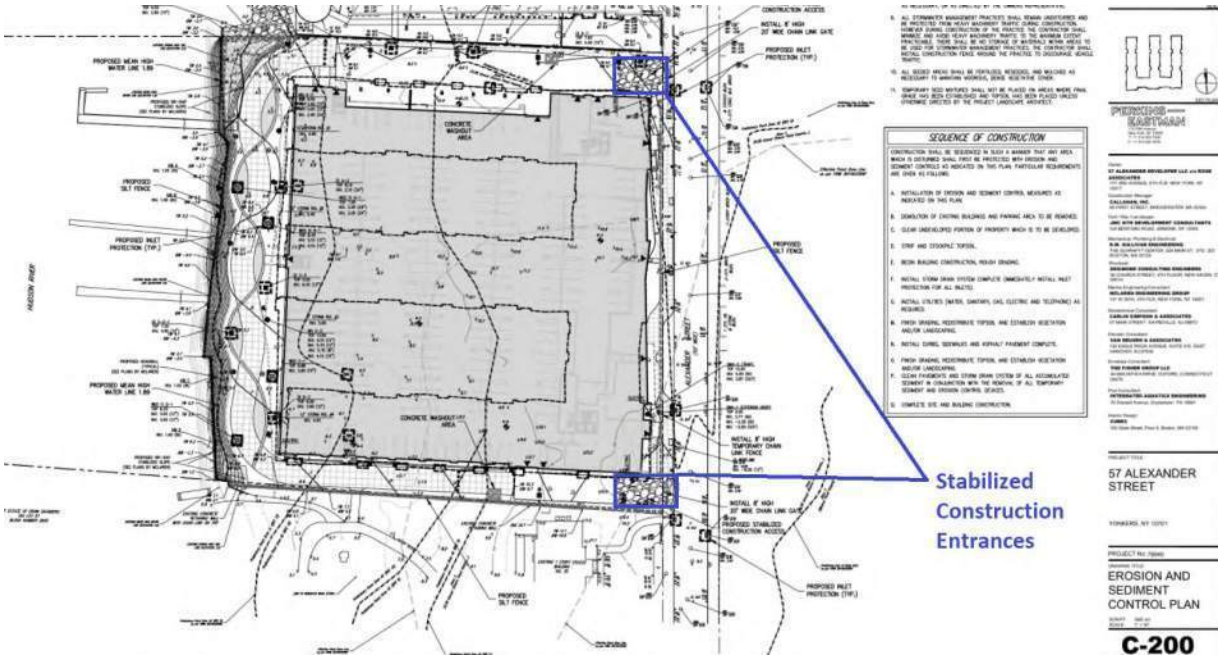

Figure 2. Stabilized Construction Entrances

4. Remedial Excavation

4.1 Contaminated Materials

An AKRF designated environmental professional will perform continuous oversight during remediation activities to assist TCI in identifying and segregating materials.

TCI understands that the following material types are anticipated to be encountered during remediation activities:

- Non-Hazardous Historical Fill Material: this material will generally remain at the Site below the engineered Site-wide cover system; however, excess material will be generated during subgrade preparation and other excavation activities supporting redevelopment.

- Non-Hazardous Source Area Soil: This material will be excavated and removed from the Site for disposal at approved and permitted facilities. Soils which are not TSCA-regulated or hazardous soils from the following designated areas will be excavated to the approximate target depths listed: PSA-1C (2 ft bgs), PSA-B7 (2 ft bgs), PSA-4 (5 ft bgs), PSA-7 (9 ft bgs), PSA-8 (9ft bgs), PSA-9 (10 ft bgs), UST-1 (8 ft bgs), and UST-2 (8 ft bgs). A representative from AKRF will indicate whether excavations should be advanced to different depths.

- TSCA-Regulated PCB Remediation Waste: This material will be excavated from TSCA-regulated source areas (PSA-1A and PSA-1B) and removed from the Site as part of the remedial action. Based on levels of PCB contamination, representatives from AKRF will assist TCI with the targeted depths of excavation and segregation of materials from designated areas PSA-1A and PSA-1B. Based on the RIR/RAWP and SICP it is expected that areas PSA-1A will be excavated to an approximate depth of 2 ft bgs and area PSA-1B will be excavated to an approximate depth of 4 ft bgs.

- Hazardous Waste: As directed by AKRF's designated environmental professional, hazardous waste from the following designated areas will be identified, excavated, and removed from the Site as part of the remedial action: PSA-1D (2 ft bgs), PSA-2 (5 ft), PSA-3 (9 ft), and PSA-13 (8 ft). This material will not be reused at the Site and will be transported off-Site for disposal at an approved and permitted hazardous waste facility. This material will be segregated from non-hazardous materials and stockpiled, managed, transported, and disposed in accordance with applicable federal, state, and local laws and regulations.

Figure 2 below shows a color-coded material management plan.

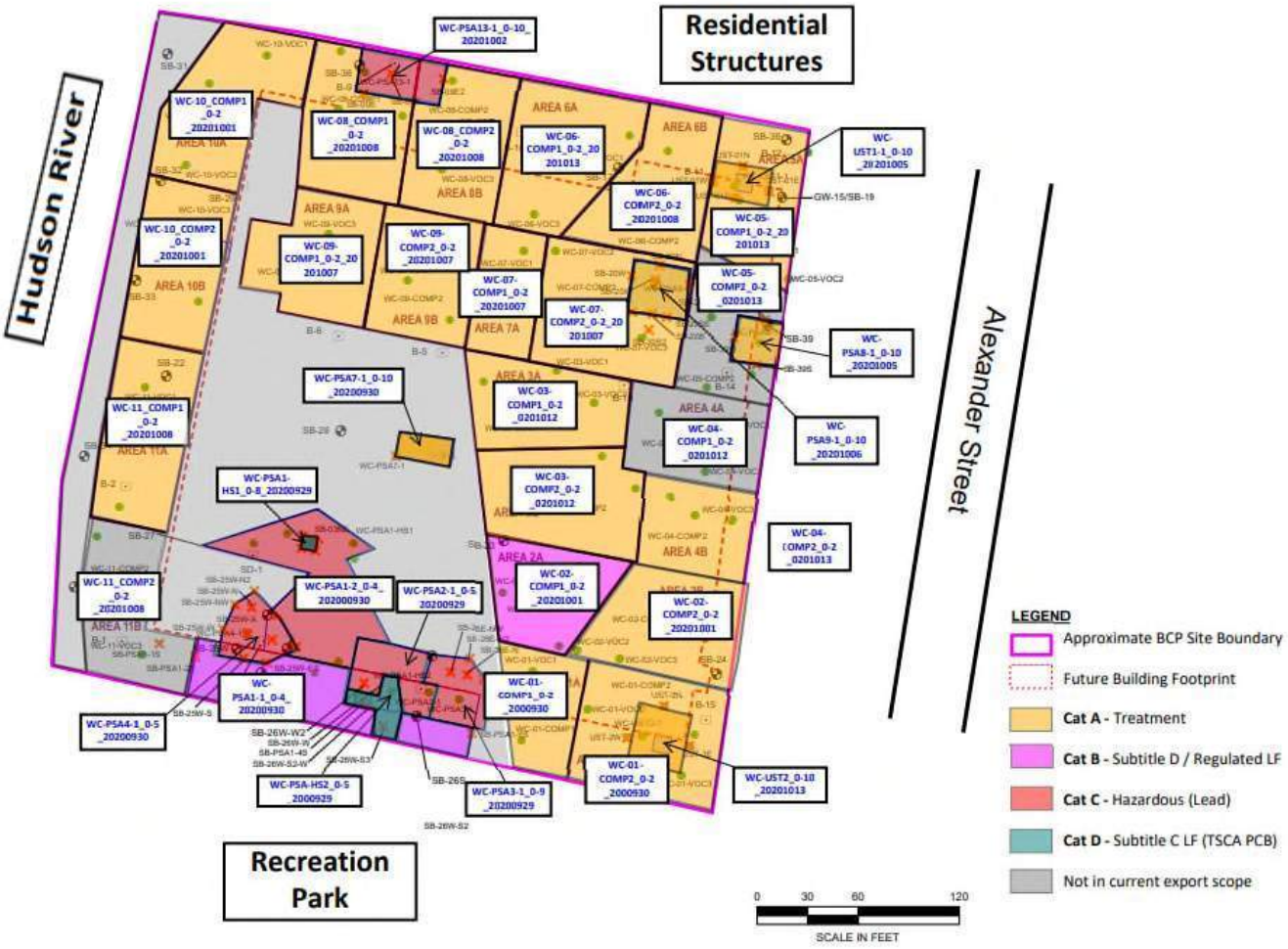

Figure 2. Material Management Plan

4.1.1 Equipment Decontamination

Equipment used for PCB remediation under the SICP will not be used for other site work or remedial work until all work under the SICP has been completed, endpoint samples have been confirmed to meet the SCOs, and decontamination samples have confirmed to be passing. All other equipment will be properly decontaminated on-site in accordance with the RIR/RAWP prior to leaving the Site.

4.2 Non-contaminated materials

TCI will excavate areas for installation of pile caps and utilities. At the direction of AKRF representatives, these non-contaminated materials can be reused onsite or disposed off-site to another facility.

4.3 Approved Disposal Facilities

The following table lists the approved target and backup disposal facilities and the respective permit numbers per category.

Category	Facility	Permit No.	Target/ Backup
A - Treatment / Class B Recyclables	**BSM**	**CBG160002**	**Target**
	SoilSafe Logan	CBG130002	Backup
	SoilSafe Metro12	CBG120001	Backup
	Puresoil	CBG140002	Backup
	CEC	CBG160002	Backup
B - Subtitle D / Regulated LF	**WM Fairless**	**101699**	**Target**
	Conestoga	101509	Backup
C - Hazardous Lead	**ACV (Cycle Chem)**	**HWP060001**	**Target**
	CENJ	HWP040002	Backup
D - Subtitle C LF / TSCA PCBs	**WM Emelle**	**ALD 000 622 464**	**Target**
	US Ecology	MID 048 090 633	Backup

5. Limited Site Restoration

5.1 Soil Backfill

Upon completion of excavation and removal of contaminated materials, TCI will backfill with soils approved by AKRF (i.e. meeting the lower of the NYDEC RRSCOs, PGWSCOs and PFAS Guidance Values). The backfill soils will originate from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. In areas requested by AKRF a geotextile demarcation/warning layer will be installed prior to backfilling. In addition, TCI will use Ultra-Lightweight materials from Northeast Solite Corporation in Saugerties, NY for placement on top of rip-rap along the waterfront line.

5.2 Shoreline Stabilization

TCI will utilize rip-rap for shoreline stabilization along the Hudson River side of the property to protect from wave and current action and to prolong the life of the embankment. TCI will import and install rip-rap along the Site's shoreline in accordance with the NYSDEC Army Corps of Engineering Permits for the Site. TCI will use appropriate equipment for handling and placing rip-rap. Rip-rap will be imported from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. All documents pertaining to the importation of rip-rap will be shared with AKRF.

6. Demobilization

TCI will ensure that all excavation remediation activities are completed in accordance with all regulatory agencies and to AKRF's satisfaction on achieving the excavation remediation goals before demobilizing. All equipment and erosion and sediment controls will be removed from the Site.

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TONY CASALE INC.

Attachment B
Truck Transportation Plan

57 Alexander Street
Yonkers, New York

By Tony Casale, Inc
Ermin Suljic/John Sullivan

January 21, 2021

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Appendix A – Trucking Permits

Appendix B – Material Management Plan

Appendix C – Diposal Facility Permits

1. Introduction

This Truck Transportation Plan (TTP) has been prepared to describe the procedures to be followed during the shipping of soil materials and/or liquids from the property identified as 57 Alexander Street (Site). It includes the names of the companies in charge of handling of materials from excavation through transportation as well as the names and locations of the facilities where materials originating from the Site will be transported to. This TTP also includes an outline for a notification system to be followed in case of possible incidents, regardless on whether a spill has occurred. The goal of this TTP is to ensure proper communications and adherence to applicable regulations.

2. Responsibilities

The engineer in record for the NYSDEC documentation and reporting related to the on-site remediation at the Site is AKRF. TCI will work with AKRF to ensure the requirements of the EPA SICP and RAWP are fulfilled.

Tony Casale, Inc (TCI), as the general contractor is responsible for the proper handling and transportation off-site of any soil and waste materials generated from the Site. TCI will also be responsible for the management of dewatering and will coordinate all transportation activities of soil materials and liquids and supervise their delivery to the approved disposal facility. TCI will ensure the shipping, packing, transportation, and placarding is completed in conformance with the United Stated Department of Transportation (USDOT) requirements. In addition, TCI will ensure that the trucking company(ies) are compliant with site specific procedures and partakes in the communication requirements included in this TTP.

TCI is also responsible for the management of imported fill for backfilling and rip-rap for placement along the Site's shoreline.

As part of this plan TCI will ensure proper packaging and adherence to basic transportation safety concepts are followed to minimize/reduce the risk of accidents. As the materials handler, TCI will execute field tasks in such manner to minimize/reduce the potential for release of contaminated materials. All material handling equipment will be selected to provide safe and compliance transportation of material to the approved disposal facility. TCI will be responsible for the proper excavation, loading, general inspection, and collection of manifests prior to releasing transportation trucks from the Site.

All trucks shall have the required waste-transporter permits from NYSDEC and USDOT (as needed). Trucks shall be lined, equipped with tight-fitting impermeable covers (non-canvas), and covered prior to leaving the Site. Trucks will enter the Site through the proposed stabilized construction entrances along Alexander Street at the northeast and southeast corners of the property as shown in Figure 1. The stabilized construction entrances are referenced in the Site Erosion and Sediment Control Plan, Sheet C-200 of the Site Plans. and will not be allowed to leave the Site without going through a decontamination pad where tires will be inspected and sufficiently cleaned to ensure no off-site soil tracking.

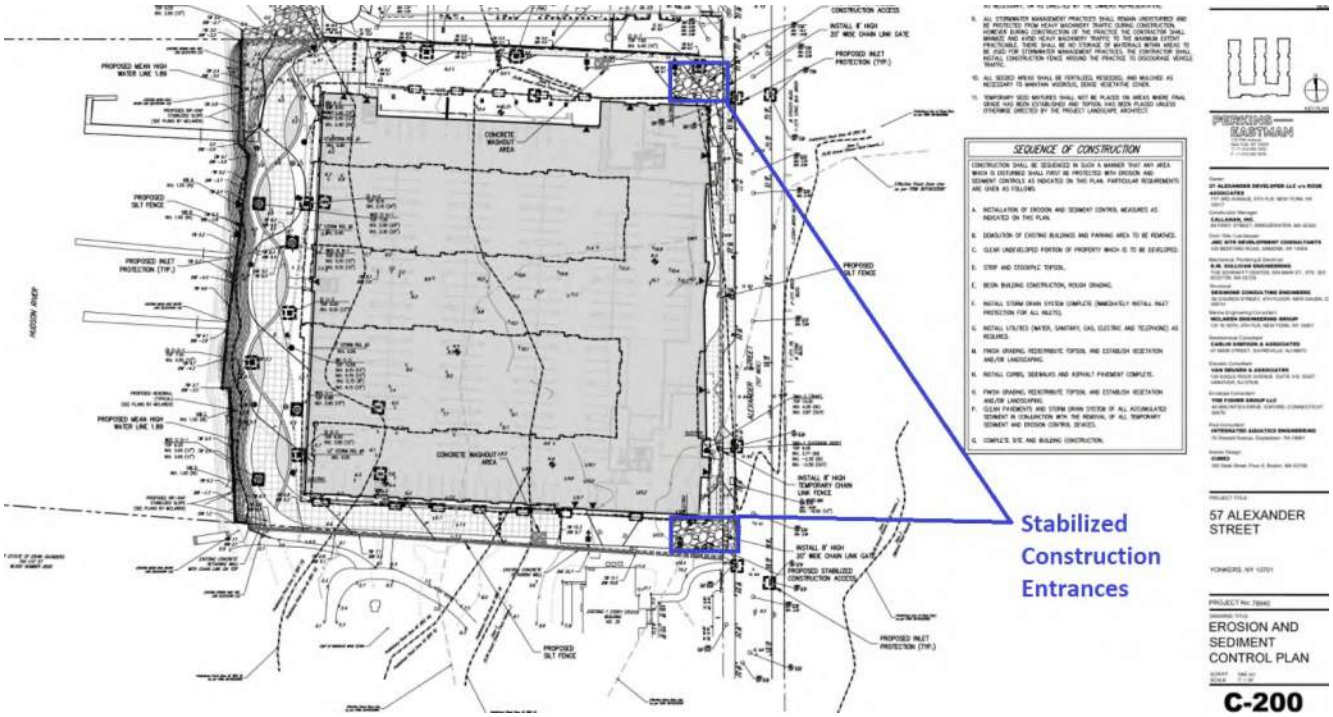

Figure 1. Stabilized Construction Entrances

3. Incident Management

3.1 Minor Occurrence

Minor occurrences will be reported to AKRF. A minor occurrence is defined as minor transportation related event whose seriousness does not rise to the level of an off-normal occurrence. Examples of minor occurrences include site-specific speed limit excess, near miss traffic accidents, police pullover, etc.

3.2 Off-Normal Occurrence

Off-normal occurrences will be reported to AKRF. An off-normal occurrence is defined as an incident that may have attracted additional public attention. Examples of off-normal occurrences include: an event that results in the vehicle being stopped for longer than 30 minutes such as mechanical breakdowns, etc.

3.3 Transportation Incident

Transportation incidents will be reported to AKRF immediately. A transportation incident is defined as a loss of containment of the waste or any event that invalidates the shippers' certification while on route from the site to the designated facility. Trucking companies are responsible for cooperation with the local authorities, emergency responders, TCI and AKRF personnel.

3.4 Recovery

Immediate recovery actions are the responsibility of the trucking companies and their emergency response personnel. TCI will oversee and report on the response actions and assist in coordination between the trucking companies, local, state, and federal emergency responders and AKRF as needed.

3.5 Root Cause

In an effort to evaluate and rectify transportation occurrence or incidents, TCI will direct the trucking companies to complete a root cause analysis of any incident or occurrence and report all findings. TCI will review and verify the trucking companies are implementing corrective actions identified in the root cause analysis.

4. Communications

In the event of any occurrence or incident, the following personnel will be notified immediately. Notification is not considered complete until at least one contact person from each of the following organizations has been directly contacted:

TCI: John Sullivan
P: 914-375-2177
johns@tonycasaleinc.com

AKRF: Patrick McHugh, P.E.
P: 914-922-2387
pmchugh@akrf.com

5. Trucking Companies/Permits

For this project, the following trucking companies will be used:

Company	Part 364 Permit / EPA ID
DI Trucking	NJ-928 / NJR966659282
DSM Trucking	NJ-941 / NA
J Granda Trans	NJ-958 / NA
JC Transport	NJ-883 / NJR986656130
Manolos Trucking	NJ-990 / NA
Mendez Trucking	NJ-816 / NA
J&D Trucking	NJ-417 NA

Pertinent permits and documentation from each trucking company is included in **Appendix A**.

6. Approved Disposal/Import Material Facilities

6.1 Approved Disposal Facilities

The following table lists the approved target and backup disposal facilities and the respective permit numbers per category.

Category	Facility	Permit No.	Target/ Backup
A - Treatment / Class B Recyclables	**BSM**	**CBG160002**	**Target**
	SoilSafe Logan	CBG130002	Backup
	SoilSafe Metro12	CBG120001	Backup
	Puresoil	CBG140002	Backup
	CEC	CBG160002	Backup
B - Subtitle D / Regulated LF	**WM Fairless**	**101699**	**Target**
	Conestoga	101509	Backup
C - Hazardous Lead	**ACV (Cycle Chem)**	**HWP060001**	**Target**
	CENJ	HWP040002	Backup
D - Subtitle C LF / TSCA PCBs	**WM Emelle**	**ALD 000 622 464**	**Target**
	US Ecology	MID 048 090 633	Backup

A figure showing a color-coded designation of material type and the permitted facility where materials will be transported to is included in **Appendix B** (Material management plan**)** and the disposal facility permits are included in **Appendix C**.

6.2 Import Material Facilities

6.2.1 Soil Backfill

Upon completion of excavation and removal of contaminated materials, TCI will backfill with soils approved by AKRF (i.e. meeting the lower of the NYDEC RRSCOs, PGWSCOs and PFAS Guidance Values). The backfill soils will originate from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. In areas requested by AKRF a geotextile demarcation/warning layer will be installed prior to backfilling. In addition, TCI will use Ultra-Lightweight materials from Northeast Solite Corporation in Saugerties, NY for placement on top of rip-rap along the waterfront line.

6.2.2 Rip-Rap Installation

TCI will import and install rip-rap along the Site's shoreline in accordance with the NYSDEC Army Corps of Engineering Permits for the Site. TCI will use appropriate equipment for handling and placing rip-rap. Rip-rap will be imported from either Tilton quarry in Nyack, New Jersey or Thalle Fishkill Quarry in Fishkill, New York. All documents pertaining to the importation of rip-rap will be shared with AKRF.

7. Record Keeping

TCI will maintain and share with AKRF all documentation related to the export of soil, solid waste, crushed concrete, groundwater and decontamination residuals to the approved disposal facilities. Likewise, TCI will maintain and share with AKRF all documentation related to the import of fill materials.

Appendix A
Trucking Permits

DI Trucking

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

CONTACT NAME: DANILO L. CARVALHOESILVA
COUNTY: OUT OF STATE
TELEPHONE NO: (973)437-4455

PERMIT TYPE:

☐ NEW
☐ RENEWAL
▩ MODIFICATION

EFFECTIVE DATE: 01/12/2021
EXPIRATION DATE: **01/08/2022**
US EPA ID NUMBER: NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
380 DEVELOPMENT LLC (Various BUDs)	STATEN ISLAND , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
ACUA HANEMAN "FRITZ" ENVIRONMENTAL PARK	EGG HARBOR TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Allocco Recycling Ltd (Kingsland Ave)	Brooklyn , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BELLMAWR WATERFRONT DEVELOPMENT	BELLMAWR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BLANCHARD FACILITY	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BREEZY POINT COOP	QUEENS , NY	Non-Hazardous Industrial/Commercial	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial	
BTL BARTELL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2021.01.12 07:50:05 -05'00' Date:_____/_____/_____

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

PERMIT TYPE:

☐ NEW
☐ RENEWAL
▩ MODIFICATION

CONTACT NAME:	DANILO L. CARVALHOESILVA	EFFECTIVE DATE:	01/12/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/08/2022**
TELEPHONE NO:	(973)437-4455	US EPA ID NUMBER:	NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
BTL BARTELL	POCONO SUMMIT , PA	Petroleum Contaminated Soil	
CAPITOL DEVELOPMENT	E. BANGOR , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF MARYLAND	HAGERSTOWN , MD	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil Hazardous Industrial/Commercial	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLINTON QUARRY LLC	UNION TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil Hazardous Industrial/Commercial	
DOREMUS AVE SITE PREP & EARTHWORK	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
DOREMUS AVENUE REDEVELOPMENT PROJECT	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
DURABLE RECYCLING	BAYONNE , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

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625 CLINTON AVENUE
KENILWORTH, NJ 07033

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COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/08/2022**
TELEPHONE NO:	(973)437-4455	US EPA ID NUMBER:	NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
DURABLE RECYCLING	BAYONNE , NJ	Petroleum Contaminated Soil	
EARTH EFFICIENT BTL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
ENVIRONMENTAL & RECYCLING SERVICES, INC.	TAYLOR , PA	Non-Hazardous Industrial/Commercial	
ESMI OF NEW JERSEY	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Evergreen Recycling of Corona (Willets Point Blvd)	Corona , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Faztec Industries	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Flag Container Services Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Framitz Inc	Oceanside , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
FREEMANSBURG RESTORATION FACILITY	FREEMANSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GERDAU AMERISTEEL PERTH AMBOY MILL/ANACONDA COOPER SITE	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRAND CENTRAL SANITARY LANDFILL	PEN ARGYL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRAND CENTRAL SANITATION	PEN ARGYLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GREEN ROCK RECYCLING	CLINTON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRIFFIN PIPE PRODUCTION CO.	FLORENCE , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

PERMIT TYPE:

☐ NEW
☐ RENEWAL
▩ MODIFICATION

CONTACT NAME:	DANILO L. CARVALHOESILVA	EFFECTIVE DATE:	01/12/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/08/2022**
TELEPHONE NO:	(973)437-4455	US EPA ID NUMBER:	NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
GRIFFIN PIPE PRODUCTION CO.	FLORENCE , NJ	Petroleum Contaminated Soil	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GROWS LANDFILL NORTH (PA DEP 101680)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HAZLETON CREEK PROPERTIES, LLC	HAZLETON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HENRY HARRIS SLF (ALHERN, INC.)	MULLICA HILL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
High Acres Western Expansion Landfill	Fairport , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
Hunters Point Recycling Inc	Long Island City , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEARNY POINT INDUSTRIAL PARK (KPIP)	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEEGAN LANDFILL (HMDC)	KEARNEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
KINGSLEY LANDFILL	SEWELL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
LIBERTY AGGREGATES	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
MALANKA (MALL) LANDFILL	SECAUCUS , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
MFH SERVICES	WEXFORD , PA	Hazardous Industrial/Commercial	
MIDDLESEX COUNTY UA - EDGEBORO LANDFILL	EAST BRUNSWICK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

PERMIT TYPE:

☐ NEW
☐ RENEWAL
▩ MODIFICATION

CONTACT NAME:	DANILO L. CARVALHOESILVA	EFFECTIVE DATE:	01/12/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/08/2022**
TELEPHONE NO:	(973)437-4455	US EPA ID NUMBER:	NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
MIDDLESEX INDUSTRIAL CENTER	MIDDLESEX , NJ	Non-Hazardous Industrial/Commercial	
NATURES CHOICE	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
New York Recycling LLC	Bronx , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
OVERPECK PARK LANDFILL AREA IV	PALISADES PARK , NJ	Non-Hazardous Industrial/Commercial	
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Pebble Lane Associates LLC	Maspeth , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PITT CONSOL SITE	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL @ PERTH AMBOY	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
ROCKRETE RECYCLING CORP	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
ROCKTECH	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
SILVA CONSTRUCTION & DEMOLITION	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

CONTACT NAME: DANILO L. CARVALHOESILVA
COUNTY: OUT OF STATE
TELEPHONE NO: (973)437-4455

PERMIT TYPE:

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EFFECTIVE DATE: 01/12/2021
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US EPA ID NUMBER: NJR986659282

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
STERICYCLE - HATFIELD	HATFIELD , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil Hazardous Industrial/Commercial	
TAYLORS LANE REMEDIATION PROJECT	CINNAMINSON , NJ	Non-Hazardous Industrial/Commercial	
TILCON - KEARNY RECYCLING	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TILCON NEW YORK, INC.	WHARTON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TM Maintenance Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TREMLEY POINT FLY ASH DISPOSAL SITE	LINDEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TULLYTOWN RESOURCE RECOVERY FACILITY (PA DEP 101494)	TULLYTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
VALLEY INDUSTRIAL PROPERTIES	EAST BANGOR , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WAYNE DISPOSAL, INC	BELLEVILLE , MI	Hazardous Industrial/Commercial	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WMNY Varick 1 Transfer Station	Brooklyn , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
YANNUZZI & SONS	HILLSBOROUGH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-928

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DI TRUCKING LLC
625 CLINTON AVENUE
KENILWORTH, NJ 07033

PERMIT TYPE:

☐ NEW
☐ RENEWAL
▩ MODIFICATION

CONTACT NAME:	DANILO L. CARVALHOESILVA	EFFECTIVE DATE:	01/12/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/08/2022**
TELEPHONE NO:	(973)437-4455	US EPA ID NUMBER:	NJR986659282

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

50 (Fifty) Permitted Vehicle(s)

NJ AP584U
NJ AR713H
NJ AS119T
NJ AS120T
NJ AS129M
NJ AS159M
NJ AS811S
NJ AS812S
NJ AS839K
NJ AT238C
NJ AT319B
NJ AT320B
NJ AT542C
NJ AT590Y
NJ AT591Y
NJ AT611A
NJ AT612A
NJ AT748C
NJ AT873D
NJ AT895C
NJ AT896C
NJ AU119B
NJ AU143R
NJ AU144R
NJ AU205B
NJ AU461C
NJ AU462C
NJ AU742M
NJ AU743M
NJ AU744M
NJ AU745M
NJ AW270H
NJ AW271H
NJ AW398D
NJ AW399D
NJ AW400D
NJ AW401D
NJ AW406E
NJ AW407E
NJ AW408E
NJ AW409E
NJ AW410E
NJ AW532H
NJ AW572C
NJ AW573C
NJ AW826E
NJ AW844N
NJ AW906K
NJ AW907K
NJ AW908K
End of List

DMS Trucking

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-941

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DSM TRUCKING, LLC
53 ROCCO STREET
BELLEVILLE, NJ 07109

CONTACT NAME: DAVID SANCHEZ-MORALES
COUNTY: OUT OF STATE
TELEPHONE NO: (973)820-8586

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 06/10/2020
EXPIRATION DATE: **06/07/2021**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
380 DEVELOPMENT LLC (Various BUDs)	STATEN ISLAND , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Allocco Recycling Ltd (Kingsland Ave)	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BELLMAWR WATERFRONT DEVELOPMENT	BELLMAWR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BREEZY POINT COOP	QUEENS , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial	
CAPE MAY CO. MUA	WOODBINE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:
New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: _ _ Date: / /

Digitally signed by Richard Clarkson
DN: cn=Richard Clarkson, o=NYSDEC, ou=Division of Materials Management, email=richard.clarkson@dec.ny.gov, c=US
Date: 2020.06.09 11:49:04 -04'00'

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-941

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

DSM TRUCKING, LLC
53 ROCCO STREET
BELLEVILLE, NJ 07109

CONTACT NAME: DAVID SANCHEZ-MORALES
COUNTY: OUT OF STATE
TELEPHONE NO: (973)820-8586

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 06/10/2020
EXPIRATION DATE: **06/07/2021**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH OF CARTERET	CARTERET , NJ	Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLINTON QUARRY LLC	UNION TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Dakota Supply Corp	Montrose , NY	Non-Hazardous Industrial/Commercial	
DOREMUS AVENUE REDEVELOPMENT PROJECT	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT BTL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-941

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

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53 ROCCO STREET
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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
ENVIRONMENTAL & RECYCLING SERVICES, INC.	TAYLOR , PA	Non-Hazardous Industrial/Commercial	
Evergreen Recycling of Corona (Willets Point Blvd)	Corona , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Faztec Industries	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Flag Container Services Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Framitz Inc	Oceanside , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
FREEMANSBURG RESTORATION FACILITY	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GERDAU AMERISTEEL PERTH AMBOY MILL/ANACONDA COOPER SITE	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRAND CENTRAL SANITARY LANDFILL	PEN ARGYL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Great Gardens LLC	Yaphank , NY	Non-Hazardous Industrial/Commercial	
GREEN ROCK RECYCLING	CLINTON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HAZLETON CREEK PROPERTIES, LLC	HAZLETON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Hunters Point Recycling Inc	Long Island City , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
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Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
KEEGAN LANDFILL (HMDC)	KEARNEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KINSLEY LANDFILL	SEWELL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Lawton Adams Construction Corp	Somers , NY	Non-Hazardous Industrial/Commercial	
LIBERTY AGGREGATES	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
MORRIS BLANCHARD REDEVELOPMENT	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
NATURES CHOICE	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
New York Recycling LLC	Bronx , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
NYSW SUSQUEHANNA BULK SYSTEMS (MHF SERVICES)	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
OVERPECK PARK LANDFILL AREA IV	PALISADES PARK , NJ	Non-Hazardous Industrial/Commercial	
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Pebble Lane Associates LLC	Maspeth , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
REPUBLIC SERVICES MODERN LANDFILL	YORK , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

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BELLEVILLE, NJ 07109

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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Petroleum Contaminated Soil	
ROCKRETE RECYCLING	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
ROCKTECH	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SILVA CONSTRUCTION & DEMOLITION	NEWARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
South Shore Recycling LLC	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
STERICYCLE - HATFIELD	HATFIELD , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TILCON - KEARNY RECYCLING	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TILCON NEW YORK, INC.	WHARTON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TM Maintenance Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TREMLEY POINT FLY ASH DISPOSAL SITE	LINDEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TULLYTOWN RESOURCE RECOVERY FACILITY (PA DEP 101494)	TULLYTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
VALLEY INDUSTRIAL PROPERTIES	EAST BANGOR , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Petroleum Contaminated Soil	
WMNY Varick 1 Transfer Station	Brooklyn , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
YANNUZZI & SONS	HILLSBOROUGH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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■ MODIFICATION

CONTACT NAME:	DAVID SANCHEZ-MORALES	EFFECTIVE DATE:	06/10/2020
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**06/07/2021**
TELEPHONE NO:	(973)820-8586	US EPA ID NUMBER:	

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

12 (Twelve) Permitted Vehicle(s)

NJ AS742U
NJ AS861R
NJ AS862R
NJ AS994V
NJ AT532X
NJ AT898W
NJ AU118F
NJ AU342R
NJ AU395G
NJ AU537X
NJ AU824A
NJ AW282C
End of List

WASTE TRANSPORTER PERMIT

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

J Granada Trans

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-958

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

J. GRANDA TRANS, LLC
223 GROVE STREET
CLIFTON, NJ 07013

CONTACT NAME: JOSE GRANDA
COUNTY: OUT OF STATE
TELEPHONE NO: (973)343-1297

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 06/26/2020
EXPIRATION DATE: **03/28/2021**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
Allocco Recycling Ltd (Kingsland Ave)	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BAYSHORE RECYCLING	WOODBRIDGE , NJ	Non-Hazardous Industrial/Commercial	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BREEZY POINT COOP - JAMAICA BAY	BREEZY POINT , NY	Non-Hazardous Industrial/Commercial	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial	
BTL BARTELL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial	
Castle Hill Recycling	Bronx , NY	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial	
CLINTON QUARRY	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZE

Digitally signed by Richard Clarkson
DN: cn=Richard Clarkson, o=NYSDEC, ou=Division of Materials Management, email=richard.clarkson@dec.ny.gov, c=US
Date: 2020.06.26 16:01:17 -04'00'

Date: / /

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-958

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PERMIT ISSUED TO:

J. GRANDA TRANS, LLC
223 GROVE STREET
CLIFTON, NJ 07013

CONTACT NAME: JOSE GRANDA
COUNTY: OUT OF STATE
TELEPHONE NO: (973)343-1297

PERMIT TYPE:

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EFFECTIVE DATE: 06/26/2020
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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
DOREMUS AVE SITE PREP & EARTHWORK	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
EVERGREEN RECYCLING OF CORONA, INC	FLUSHING , NY	Non-Hazardous Industrial/Commercial	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial	
Faztec Industries	Staten Island , NY	Non-Hazardous Industrial/Commercial	
Framitz Inc	Oceanside , NY	Non-Hazardous Industrial/Commercial	
FRATTARELLI BROS TOPSOIL OPERATION	CARLSTADT , NJ	Non-Hazardous Industrial/Commercial	
FREEMANSBURG RESTORATION FACILITY	FREEMANSBURG , PA	Non-Hazardous Industrial/Commercial	
GERDAU AMERISTEEL PERTH AMBOY MILL/ANACONDA COOPER SITE	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial	
GRAND CENTRAL SANITARY LANDFILL	PEN ARGYL , PA	Non-Hazardous Industrial/Commercial	
GREEN ROCK RECYCLING	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial	
HAZLETON CREEK PROPERTIES, LLC	HAZLETON , PA	Non-Hazardous Industrial/Commercial	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
Hunters Point Recycling Inc	Long Island City , NY	Non-Hazardous Industrial/Commercial	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEEGAN LANDFILL (HMDC)	KEARNEY , NJ	Non-Hazardous Industrial/Commercial	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
L.I COMPOST/GREAT GARDENS	YAPHANK , NJ	Non-Hazardous Industrial/Commercial	
LIBERTY AGGREGATES	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
NATURES CHOICE	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
New York Recycling LLC	Bronx , NY	Non-Hazardous Industrial/Commercial	
OVERPECK PARK LANDFILL AREA IV	PALISADES PARK , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Pebble Lane Associates LLC	Maspeth , NY	Non-Hazardous Industrial/Commercial	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial	
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial	
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	
ROCKRETE RECYCLING	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial	
ROCKTECH	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
SILVA CONSTRUCTION & DEMOLITION	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
SOIL SAFE, INC.	SWEDESBORO , NJ	Non-Hazardous Industrial/Commercial	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial	
STERICYCLE - HATFIELD	HATFIELD , PA	Non-Hazardous Industrial/Commercial	
STRAVOLA BBQ	BOUND BROOK , NJ	Non-Hazardous Industrial/Commercial	
TILCON - KEARNY RECYCLING	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
TILCON NEW YORK, INC.	WHARTON , NJ	Non-Hazardous Industrial/Commercial	
TM Maintenance Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial	
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial	
VALLEY INDUSTRIAL PROPERTIES	EAST BANGOR , PA	Non-Hazardous Industrial/Commercial	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WMNY Varick 1 Transfer Station	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
YANNUZZI & SONS	HILLSBOROUGH , NJ	Non-Hazardous Industrial/Commercial	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-958

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

J. GRANDA TRANS, LLC
223 GROVE STREET
CLIFTON, NJ 07013

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	JOSE GRANDA	EFFECTIVE DATE:	06/26/2020
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**03/28/2021**
TELEPHONE NO:	(973)343-1297	US EPA ID NUMBER:	

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

8 (Eight) Permitted Vehicle(s)

NJ AS647U
NJ AU194U
NJ AU218N
NJ AU422T
NJ AU855S
NJ AW262N
NY AU162Z
NY AU919R
End of List

DKC	Aviles	JayM
AU194U	AU218N	AU855S

WASTE TRANSPORTER PERMIT

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

JC Transport

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-883

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

JC TRANSPORT, INC.
39-43 PORETE AVENUE
NORTH ARLINGTON, NJ 07031

CONTACT NAME: JORGE CORONEL
COUNTY: OUT OF STATE
TELEPHONE NO: (201)997-6080

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 09/16/2020
EXPIRATION DATE: **08/09/2021**
US EPA ID NUMBER: NJR986656130

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BAYONNE LOGISTICS CENTER/BAYONNE MILITARY OCEAN TERMINAL	BAYONNE , NJ	Non-Hazardous Industrial/Commercial	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial	
BURLINGTON COUNTY RESOURCE RECOVERY COMPLEX	COLUMBUS , NJ	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2020.09.15 09:16:35 -04'00' Date: /

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-883

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

JC TRANSPORT, INC.
39-43 PORETE AVENUE
NORTH ARLINGTON, NJ 07031

CONTACT NAME: JORGE CORONEL
COUNTY: OUT OF STATE
TELEPHONE NO: (201)997-6080

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 09/16/2020
EXPIRATION DATE: **08/09/2021**
US EPA ID NUMBER: NJR986656130

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Petroleum Contaminated Soil	
CLINTON QUARRY	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
DOREMUS AVE SITE PREP & EARTHWORK	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT BTL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
FREEMANSBURG RESTORATION FACILITY	FREEMANSBURG , PA	Non-Hazardous Industrial/Commercial	
GLOUCESTER COUNTY IMPROVEMENT AUTHORITY	SWEDESBORO , NJ	Non-Hazardous Industrial/Commercial	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
KEARNY POINT INDUSTRIAL PARK (KPIP)	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial	
MALANKA (MALL) LANDFILL	SECAUCUS , NJ	Non-Hazardous Industrial/Commercial	
MIDDLESEX COUNTY UA - EDGEBORO LANDFILL	EAST BRUNSWICK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
MIDDLESEX INDUSTRIAL CENTER	MIDDLESEX , NJ	Non-Hazardous Industrial/Commercial	
MORRIS BLANCHARD REDEVELOPMENT	NEWARK , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-883

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

JC TRANSPORT, INC.
39-43 PORETE AVENUE
NORTH ARLINGTON, NJ 07031

CONTACT NAME: JORGE CORONEL
COUNTY: OUT OF STATE
TELEPHONE NO: (201)997-6080

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 09/16/2020
EXPIRATION DATE: **08/09/2021**
US EPA ID NUMBER: NJR986656130

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL @ PERTH AMBOY	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RIVER TERMINAL DEVELOPMENT	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SALEM COUNTY IMPROVEMENT AUTHORITY	ALLOWAY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial	
VALLEY INDUSTRIAL PROPERTIES	EAST BANGOR , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-883

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

JC TRANSPORT, INC.
39-43 PORETE AVENUE
NORTH ARLINGTON, NJ 07031

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	JORGE CORONEL	EFFECTIVE DATE:	09/16/2020
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**08/09/2021**
TELEPHONE NO:	(201)997-6080	US EPA ID NUMBER:	NJR986656130

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

32 (Thirty Two) Permitted Vehicle(s)

NJ AP440M
NJ AR438F
NJ AS310U
NJ AS425V
NJ AS830L
NJ AT249E
NJ AT352D
NJ AT353D
NJ AT384Y
NJ AT778U
NJ AT779U
NJ AT781U
NJ AT782U
NJ AT862D
NJ AT863D
NJ AU111F
NJ AU316D
NJ AU604U
NJ AU605U
NJ AU606U
NJ AU607U
NJ AW363M
NJ AW364M
NJ AW365M
NJ AW366M
NJ AW463F
NJ AW544B
NJ AW545B
NJ AW725N
NJ AW726N
NJ AW727N
NJ AW728N
End of List

Idrovo
AP440M
AR438F
AS830L
AT249E

F & Y
AS310U

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

Manolos Trucking

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

CONTACT NAME: MANUEL PASTUISACA
COUNTY: OUT OF STATE
TELEPHONE NO: (201)852-7771

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

EFFECTIVE DATE: 01/09/2021
EXPIRATION DATE: **10/05/2021**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
Allocco Recycling Ltd (Kingsland Ave)	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial	
BAYONNE LOGISTICS CENTER/BAYONNE MILITARY OCEAN TERMINAL	BAYONNE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BELLMAWR WATERFRONT DEVELOPMENT	BELLMAWR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BREEZY POINT COOP	QUEENS , NY	Non-Hazardous Industrial/Commercial	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BTL BARTELL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial	
CAPE MAY CO. MUA	WOODBINE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CAPITOL DEVELOPMENT	E. BANGOR , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:
New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2021.01.08 07:44:21 -05'00' Date:_____/_____/_____

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	MANUEL PASTUISACA	EFFECTIVE DATE:	01/09/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**10/05/2021**
TELEPHONE NO:	(201)852-7771	US EPA ID NUMBER:	

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH - BETHLEHEM	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF MARYLAND	HAGERSTOWN , MD	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLINTON QUARRY	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CUMBERLAND COUNTY LF-NEWBURG	NEWBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Cycle Chem Inc dba ACV Enviro	New Windsor , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CYTEC INDUSTRIES, INC. - WARNERS	LINDEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
DOREMUS AVE SITE PREP & EARTHWORK	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
DOREMUS AVENUE REDEVELOPMENT PROJECT	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
ENVIRONMENTAL & RECYCLING SERVICES, INC.	TAYLOR , PA	Non-Hazardous Industrial/Commercial	
ESMI OF NEW JERSEY	KEASBEY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	MANUEL PASTUISACA	EFFECTIVE DATE:	01/09/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**10/05/2021**
TELEPHONE NO:	(201)852-7771	US EPA ID NUMBER:	

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Framitz Inc	Oceanside , NY	Non-Hazardous Industrial/Commercial	
FREEMANSBURG RESTORATION FACILITY	FREEMANSBURG , PA	Non-Hazardous Industrial/Commercial	
GERDAU AMERISTEEL PERTH AMBOY MILL/ANACONDA COOPER SITE	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial	
GREEN ROCK RECYCLING	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GRIFFIN PIPE PRODUCTION CO.	FLORENCE , NJ	Non-Hazardous Industrial/Commercial	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial	
GROWS LANDFILL NORTH (PA DEP 101680)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HAZLETON CREEK PROPERTIES, LLC	HAZLETON , PA	Non-Hazardous Industrial/Commercial	
HENRY HARRIS SLF (ALHERN, INC.)	MULLICA HILL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Hunters Point Recycling Inc	Long Island City , NY	Non-Hazardous Industrial/Commercial	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
JERC PARTNERS VII/LLC	EDISON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEEGAN LANDFILL (HMDC)	KEARNEY , NJ	Non-Hazardous Industrial/Commercial	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KINSLEY LANDFILL	SEWELL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
LIBERTY AGGREGATES	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
MALANKA (MALL) LANDFILL	SECAUCUS , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
NATURES CHOICE	KEARNY , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	MANUEL PASTUISACA	EFFECTIVE DATE:	01/09/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**10/05/2021**
TELEPHONE NO:	(201)852-7771	US EPA ID NUMBER:	

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
New York Recycling LLC	Bronx , NY	Non-Hazardous Industrial/Commercial	
OVERPECK PARK LANDFILL AREA IV	PALISADES PARK , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE EARTH RECYCLING	VINELAND , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL @ PERTH AMBOY	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	
ROCKRETE RECYCLING	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial	
ROCKTECH	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SILVA CONSTRUCTION & DEMOLITION	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
South Shore Recycling LLC	Staten Island , NY	Non-Hazardous Industrial/Commercial	
STERICYCLE - HATFIELD	HATFIELD , PA	Non-Hazardous Industrial/Commercial	
STRAVOLA BBQ	BOUND BROOK , NJ	Non-Hazardous Industrial/Commercial	
TAYLORS LANE REMEDIATION PROJECT	CINNAMINSON , NJ	Non-Hazardous Industrial/Commercial	
TETERBORO LANDING	TETERBORO , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TILCON - KEARNY RECYCLING	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
TILCON NEW YORK, INC.	WHARTON , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME: MANUEL PASTUISACA
COUNTY: OUT OF STATE
TELEPHONE NO: (201)852-7771

EFFECTIVE DATE: 01/09/2021
EXPIRATION DATE: **10/05/2021**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TREMLEY POINT FLY ASH DISPOSAL SITE	LINDEN , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TULLYTOWN RESOURCE RECOVERY FACILITY (PA DEP 101494)	TULLYTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WALTER R. EARLE RECYCLING CORP.	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
YANNUZZI & SONS	HILLSBOROUGH , NJ	Non-Hazardous Industrial/Commercial	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-990

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MANOLOS TRUCKING, LLC
58 MOORE PLACE
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
☐ RENEWAL
■ MODIFICATION

CONTACT NAME:	MANUEL PASTUISACA	EFFECTIVE DATE:	01/09/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**10/05/2021**
TELEPHONE NO:	(201)852-7771	US EPA ID NUMBER:	

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

19 (Nineteen) Permitted Vehicle(s)

NJ AR497D
NJ AS126P
NJ AS444X
NJ AS874P
NJ AT184B
NJ AT250E
NJ AT380H
NJ AT773S
NJ AU148N
NJ AU205L
NJ AU837N
NJ AW256P
NJ AW395K
NJ AW417A
NJ AW552A
NJ AW754A
NJ AW755A
NJ AW799P
NJ AW924J
End of List

Serpa	WP	G Gomez
AS444X	AW256P	AW552A
AU837N	AW417A	AW799P
AW924J		

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle used to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for any change to the permit.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department by March 1 of each year.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

Mendez Trucking

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-816

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MENDEZ TRUCKING INC
74 ACADEMY STREET
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

CONTACT NAME: JUAN O. MUNOZ
COUNTY: OUT OF STATE
TELEPHONE NO: (973)979-0100

EFFECTIVE DATE: 02/08/2021
EXPIRATION DATE: **02/07/2022**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
110 Sand Company Clean Fill Disposal Site	Melville , NY	Non-Hazardous Industrial/Commercial	
380 DEVELOPMENT LLC (Various BUDs)	STATEN ISLAND , NY	Non-Hazardous Industrial/Commercial	
Allocco Recycling Ltd (Kingsland Ave)	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial	
BAYONNE LOGISTICS CENTER/BAYONNE MILITARY OCEAN TERMINAL	BAYONNE , NJ	Non-Hazardous Industrial/Commercial	
BAYSHORE SOIL MANAGEMENT, LLC	KEASBEY , NJ	Non-Hazardous Industrial/Commercial	
BELLMAWR WATERFRONT DEVELOPMENT	BELLMAWR , NJ	Non-Hazardous Industrial/Commercial	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BETHLEHEM LANDFILL	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial	
BREEZY POINT COOP	QUEENS , NY	Non-Hazardous Industrial/Commercial	
BRIDGE CRANBURY LLC	CRANBURY , NJ	Non-Hazardous Industrial/Commercial	
BROOK BROTHERS ENTERPRISES/FRATTERELLI BROS	CARSTADT , NJ	Non-Hazardous Industrial/Commercial	
BTL BARTELL	POCONO SUMMIT , PA	Non-Hazardous Industrial/Commercial	
BURLINGTON COUNTY RESOURCE RECOVERY FACILITY	COLUMBUS , NJ	Non-Hazardous Industrial/Commercial	
CAPE MAY CO. MUA	WOODBINE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF CARTERET	CARTERET , NJ	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF MARYLAND	HAGERSTOWN , MD	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2021.01.04 08:59:58 -05'00' Date:_____/_____/_____

WASTE TRANSPORTER PERMIT

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-816

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MENDEZ TRUCKING INC
74 ACADEMY STREET
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

CONTACT NAME: JUAN O. MUNOZ
COUNTY: OUT OF STATE
TELEPHONE NO: (973)979-0100

EFFECTIVE DATE: 02/08/2021
EXPIRATION DATE: **02/07/2022**
US EPA ID NUMBER:

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial	
CLINTON QUARRY	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COPLAY AGGREGATES	WHITEHALL , PA	Non-Hazardous Industrial/Commercial	
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial	
CUMBERLAND COUNTY LF-NEWBURG	NEWBURG , PA	Non-Hazardous Industrial/Commercial	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
Dakota Supply Corp	Montrose , NY	Non-Hazardous Industrial/Commercial	
DOREMUS AVE SITE PREP & EARTHWORK	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #1 BELVIDERE RD)	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT HARMONY (PLANT #2 FOUL RIFT)	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
EARTH EFFICIENT MSM LLC	EAST STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
ENVIRONMENTAL & RECYCLING SERVICES, INC.	TAYLOR , PA	Non-Hazardous Industrial/Commercial	
Evergreen Recycling of Corona (Willets Point Blvd)	Corona , NY	Non-Hazardous Industrial/Commercial	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial	
Faztec Industries	Staten Island , NY	Non-Hazardous Industrial/Commercial	
Flag Container Services Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial	
FORMER GM MOTORS ASSEMBLY PLANT	LINDEN , NJ	Non-Hazardous Industrial/Commercial	
Framitz Inc	Oceanside , NY	Non-Hazardous Industrial/Commercial	
FREEMANSBURG RESTORATION FACILITY	FREEMANSBURG , PA	Non-Hazardous Industrial/Commercial	
GERDAU AMERISTEEL PERTH AMBOY MILL/ANACONDA COOPER SITE	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial	
GRAND CENTRAL SANITARY LANDFILL	PEN ARGYL , PA	Non-Hazardous Industrial/Commercial	
Great Gardens LLC	Yaphank , NY	Non-Hazardous Industrial/Commercial	
GREEN ROCK RECYCLING	CLINTON , NJ	Non-Hazardous Industrial/Commercial	
GREENVIEW	STROUDSBURG , PA	Non-Hazardous Industrial/Commercial	
GRIFFIN PIPE PRODUCTION CO.	FLORENCE , NJ	Non-Hazardous Industrial/Commercial	
GRINNELL RECYCLING INC	SPARTA , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-816

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

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74 ACADEMY STREET
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CONTACT NAME: JUAN O. MUNOZ
COUNTY: OUT OF STATE
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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
GROWS LANDFILL NORTH (PA DEP 101680)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Asbestos	
HAZLETON CREEK PROPERTIES, LLC	HAZLETON , PA	Non-Hazardous Industrial/Commercial	
HENRY HARRIS SLF (ALHERN, INC.)	MULLICA HILL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
High Acres Western Expansion Landfill	Fairport , NY	Non-Hazardous Industrial/Commercial	
HOFFMAN GRIFFETT MINE RECLAMATION FACILITY	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
Hunters Point Recycling Inc	Long Island City , NY	Non-Hazardous Industrial/Commercial	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
JERC PARTNERS VII/LLC	EDISON , NJ	Non-Hazardous Industrial/Commercial	
KEARNY POINT INDUSTRIAL PARK (KPIP)	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEEGAN LANDFILL (HMDC)	KEARNEY , NJ	Non-Hazardous Industrial/Commercial	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
KINSLEY LANDFILL	SEWELL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
LIBERTY AGGREGATES	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
LINCOLN PARK WEST LANDFILL	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
MALANKA (MALL) LANDFILL	SECAUCUS , NJ	Non-Hazardous Industrial/Commercial	
MIDDLESEX INDUSTRIAL CENTER	MIDDLESEX , NJ	Non-Hazardous Industrial/Commercial	
MORRIS BLANCHARD REDEVELOPMENT	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
NATURES CHOICE	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
New York Recycling LLC	Bronx , NY	Non-Hazardous Industrial/Commercial	
OVERPECK PARK LANDFILL AREA IV	PALISADES PARK , NJ	Non-Hazardous Industrial/Commercial	
P PARK NORTH LLC	PROSPECT PARK , NJ	Non-Hazardous Industrial/Commercial	
Pebble Lane Associates LLC	Maspeth , NY	Non-Hazardous Industrial/Commercial	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Non-Hazardous Industrial/Commercial	
PITT CONSOL SITE	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
PURE SOIL @ PERTH AMBOY	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
REPUBLIC SERVICES MODERN LANDFILL	YORK , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
RESOURCE MANAGEMENT TECHNOLOGIES	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	
ROCKRETE RECYCLING	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial	
ROCKTECH	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
RODOTA FILL SITE	BELVIDERE , NJ	Non-Hazardous Industrial/Commercial	
SILVA CONSTRUCTION & DEMOLITION	NEWARK , NJ	Non-Hazardous Industrial/Commercial	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Non-Hazardous Industrial/Commercial	
South Shore Recycling LLC	Staten Island , NY	Non-Hazardous Industrial/Commercial	
STERICYCLE - HATFIELD	HATFIELD , PA	Non-Hazardous Industrial/Commercial	
TAYLORS LANE REMEDIATION PROJECT	CINNAMINSON , NJ	Non-Hazardous Industrial/Commercial	
TETERBORO LANDING	TETERBORO , NJ	Non-Hazardous Industrial/Commercial	
TILCON - KEARNY RECYCLING	KEARNY , NJ	Non-Hazardous Industrial/Commercial	
TILCON NEW YORK, INC.	WHARTON , NJ	Non-Hazardous Industrial/Commercial	
TM Maintenance Inc	Staten Island , NY	Non-Hazardous Industrial/Commercial	
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial	
TREMLEY POINT FLY ASH DISPOSAL SITE	LINDEN , NJ	Non-Hazardous Industrial/Commercial	
TULLYTOWN RESOURCE RECOVERY FACILITY (PA DEP 101494)	TULLYTOWN , PA	Non-Hazardous Industrial/Commercial Asbestos	
VALLEY INDUSTRIAL PROPERTIES	EAST BANGOR , PA	Non-Hazardous Industrial/Commercial	
Vanbro Corporation	Staten Island , NY	Non-Hazardous Industrial/Commercial	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	
WMNY Varick 1 Transfer Station	Brooklyn , NY	Non-Hazardous Industrial/Commercial	
YANNUZZI & SONS	HILLSBOROUGH , NJ	Non-Hazardous Industrial/Commercial	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-816

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

MENDEZ TRUCKING INC
74 ACADEMY STREET
BELLEVILLE, NJ 07109

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

CONTACT NAME:	JUAN O. MUNOZ	EFFECTIVE DATE:	02/08/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**02/07/2022**
TELEPHONE NO:	(973)979-0100	US EPA ID NUMBER:	

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

33 (Thirty Three) Permitted Vehicle(s)

NJ AP639R
NJ AS269R
NJ AS353M
NJ AS354M
NJ AS520B
NJ AS521B
NJ AS530D
NJ AS531D
NJ AS755P
NJ AS756P
NJ AS757P
NJ AS758P
NJ AS763L
NJ AS986S
NJ AT556B
NJ AT557B
NJ AT558B
NJ AU550Z
NJ AU551Z
NJ AU877Z
NJ AU937Z
NJ AW549H
NJ AW582M
NJ AW583M
NJ AW611B
NJ AW612B
NJ AW652G
NJ AW653G
NJ AW654G
NJ AW833L
NJ AW834L
NJ AW837F
NJ AW838F
End of List

J&D Trucking

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-471

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

J & D TRUCKING, INC.
3526 NORTHWEST BOULEVARD
VINELAND, NJ 08360

CONTACT NAME: WILLIAM L. DURHAM, JR.
COUNTY: OUT OF STATE
TELEPHONE NO: (856)691-5145

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

EFFECTIVE DATE: 01/21/2021
EXPIRATION DATE: **01/20/2022**
US EPA ID NUMBER: NJR000029967

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY:

The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
A&M COMPOSTING	MANHEIM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
ATLANTIC COUNTY UTILITIES AUTHORITY	EGG HARBOR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BELLMAWR WATERFRONT DEVELOPMENT	BELLMAWR , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BETHLEHEM EARTH, LP	BETHLEHEM , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BROOKE COUNTY LF	COLLIERS , WV	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
BURLINGTON COUNTY RESOURCE RECOVERY FACILITY	COLUMBUS , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CAPE MAY CO. MUA	WOODBINE , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CARTERET (CLEAN EARTH)	CARTERET , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF MARYLAND	HAGERSTOWN , MD	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NOTE: By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the Environmental Conservation Law, all applicable regulations, and the General Conditions printed on the back of this page.

ADDRESS:

New York State Department of Environmental Conservation
Division of Materials Management - Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

AUTHORIZED SIGNATURE: Laura Stevens Digitally signed by Laura Stevens Date: 2021.01.04 09:05:09 -05'00' Date: ____/____/____

WASTE TRANSPORTER PERMIT

GENERAL CONDITIONS

The permittee must:

1. Carry a copy of this waste transporter permit in each vehicle to transport waste. Failure to produce a copy of the permit upon request is a violation of the permit.

2. Display the full name of the transporter on both sides of each vehicle and display the waste transporter permit number on both sides and rear of each vehicle containing waste. The displayed name and permit number must be in characters at least three inches high and of a color that contrasts sharply with the background.

3. Transport waste only in authorized vehicles. An authorized vehicle is one that is listed on this permit.

4. Submit to the Department a modification application for additions/deletions to the authorized fleet of vehicles. The permittee must wait for a modified permit before operating the vehicles identified in the modification application.

5. Submit to the Department a modification application to add a new waste category or a new destination facility, or to change the current waste or destination facility category. The permittee must wait for a modified permit before transporting new waste types or transporting to new destination facilities.

6. Submit to the Department a modification application for change of address or company name.

7. Comply with requirements for placarding and packaging as set forth in New York State Transportation Law as well as any applicable federal rules and regulations.

8. Contain all wastes in the vehicle so there is no leaking, blowing, or other discharge of waste.

9. Use vehicles to transport only materials not intended for human or animal consumption unless the vehicle is properly cleaned.

10. Comply with requirements for manifesting hazardous waste, regulated medical waste, or low-level radioactive waste as set forth in the New York State Environmental Conservation Law and the implementing regulations. Transporters who provide a pre-printed manifest to a generator/shipper/ offeror of regulated waste shall ensure that all information is correct and clearly legible on all copies of the manifest.

11. Deliver waste only to transfer, storage, treatment and disposal facilities authorized to accept such waste. Permittee must demonstrate that facilities are so authorized if requested to do so.

12. Maintain liability insurance as required by New York State Environmental Conservation Law.

13. Maintain records of the amount of each waste type transported to each destination facility on a calendar-year basis. The transporter is obligated to provide a report of this information to the Department at the time of permit renewal, or to any law enforcement officer, if requested to do so.

14. Pay regulatory fees on an annual basis. Non-payment may be cause for revocation or suspension of permit.

15. This permit is not transferrable. A change of ownership will invalidate this permit.

16. This permit does not relieve the permittee from the obligation to obtain any other approvals or permits, or from complying with any other applicable federal, state, or local requirement.

17. **Renewal applications must be submitted no less than 30 days prior to the expiration date of the permit to:**

New York State Department of Environmental Conservation
Division of Materials Management, Waste Transporter Program
625 Broadway, 9th Floor
Albany, NY 12233-7251

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

PART 364
WASTE TRANSPORTER PERMIT NO. NJ-471

Pursuant to Article 27 ,Titles 3 and 15 of the Environmental Conservation Law and 6 NYCRR 364

PERMIT ISSUED TO:

J & D TRUCKING, INC.
3526 NORTHWEST BOULEVARD
VINELAND, NJ 08360

PERMIT TYPE:

☐ NEW
■ RENEWAL
☐ MODIFICATION

CONTACT NAME:	WILLIAM L. DURHAM, JR.	EFFECTIVE DATE:	01/21/2021
COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/20/2022**
TELEPHONE NO:	(856)691-5145	US EPA ID NUMBER:	NJR000029967

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
CLEAN EARTH OF NEW CASTLE, INC.	NEW CASTLE , DE	Hazardous Industrial/Commercial Waste Oil	
CLEAN EARTH OF NORTH JERSEY	KEARNY , NJ	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	
CLEAN EARTH OF PHILADELPHIA	PHILADELPHIA , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CLEAN EARTH OF SOUTHEAST PENNSYLVANIA	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
COMMONWEALTH ENVIRONMENTAL SYSTEMS, LP	HEGINS , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CONESTOGA LANDFILL	MORGANTOWN , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CUMBERLAND COUNTY IMPROVEMENT AUTHORITY	MILLVILLE , NJ	Non-Hazardous Industrial/Commercial	
CUMBERLAND COUNTY LANDFILL (PA DEP 100945)	SHIPPENSBURG , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
CWM CHEMICAL SERVICES LLC	MODEL CITY , NY	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Waste Tires Non-Residential Raw Sewage or Sewage-Contaminated Wastes Hazardous Industrial/Commercial	
CYCLE CHEM (NJ)	ELIZABETH , NJ	Petroleum Contaminated Soil Hazardous Industrial/Commercial	
ENVIRITE OF PENNSYLVANIA	YORK , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil Hazardous Industrial/Commercial Waste Oil	
ESMI OF NEW JERSEY	KEASBEY , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

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TELEPHONE NO:	(856)691-5145	US EPA ID NUMBER:	NJR000029967

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
ESMI OF NEW JERSEY	KEASBEY , NJ	Petroleum Contaminated Soil	
FAIRLESS LANDFILL (PA DEP 101699)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
GLOUCESTER COUNTY IMPROVEMENT AUTHORITY	SWEDESBORO , NJ	Non-Hazardous Industrial/Commercial	
GREENVIEW	STROUDSBURG , PA	Petroleum Contaminated Soil	
GROWS LANDFILL NORTH (PA DEP 101680)	MORRISVILLE , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	
HENRY HARRIS SLF (ALHERN, INC.)	MULLICA HILL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
IMPACT RECOVERY AND REUSE CENTER	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial	
JERC PARTNERS VII/LLC	EDISON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEARNY POINT INDUSTRIAL PARK (KPIP)	SOUTH KEARNY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KEYSTONE SANITARY LANDFILL	DUNMORE , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
KINGSLAND LANDFILL CLOSURE PROJECT	LYNDHURST , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
LEHIGH VALLEY RECYCLING	COPLAY , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
LINCOLN PARK WEST LANDFILL	JERSEY CITY , NJ	Non-Hazardous Industrial/Commercial	
LINDEN DEVELOPMENT LLC	LINDEN , NJ	Non-Hazardous Industrial/Commercial	
MALANKA (MALL) LANDFILL	SECAUCUS , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
MAX ENVIRONMENTAL TECHNOLOGIES	BULGER , PA	Non-Hazardous Industrial/Commercial	
NEW YORK TERMINALS	ELIZABETH , NJ	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial Waste Oil	
NYS&W RAILWAY NORTH BERGEN NJ	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial	
PHASE III ENVIRONMENTAL	PALMERTON , PA	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MATERIALS MANAGEMENT

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3526 NORTHWEST BOULEVARD
VINELAND, NJ 08360

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☐ MODIFICATION

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TELEPHONE NO:	(856)691-5145	US EPA ID NUMBER:	NJR000029967

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
PHILLIPSBURG COMMERCE PK URBAN RENEWAL ENTITY	PHILLIPSBURG , NJ	Petroleum Contaminated Soil	
PIONEER CROSSING LANDFILL	BIRDSBORO , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL @ PERTH AMBOY	PERTH AMBOY , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
PURE SOIL TECHNOLOGIES	JACKSON , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
REPUBLIC ENVIRONMENTAL SYSTEMS (PA) INC.	HATFIELD , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil Grease Trap Waste Hazardous Industrial/Commercial Waste Oil	
Safety-Kleen	Buffalo , NY	Non-Hazardous Industrial/Commercial Waste Oil	
SAFETY-KLEEN SYSTEMS, INC	LINDEN , NJ	Non-Hazardous Industrial/Commercial Hazardous Industrial/Commercial Waste Oil	
SOIL SAFE, INC.	LOGAN TOWNSHIP , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
SOIL SAFE-METRO 12	CARTERET , NJ	Petroleum Contaminated Soil	
STAGGS LEAP	MULLICA HILL , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
T.M. MAINTENANCE	STATEN ISLAND , NY	Petroleum Contaminated Soil	
TETERBORO LANDING	TETERBORO , NJ	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
TOTAL RECYCLING CORPORATION/FULLERTON SLAG BANK	ALLENTOWN , PA	Non-Hazardous Industrial/Commercial	
TULLYTOWN RESOURCE RECOVERY FACILITY (PA DEP 101494)	TULLYTOWN , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	
WESTERN BERKS LANDFILL	BIRDSBORO , PA	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WESTSIDE TRANSLOAD LLC	NORTH BERGEN , NJ	Non-Hazardous Industrial/Commercial	

*** AUTHORIZED WASTE TYPES BY DESTINATION FACILITY LISTING (continued on next page) ***

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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US EPA ID NUMBER:	NJR000029967

AUTHORIZED WASTE TYPES BY DESTINATION FACILITY: (Continued)
The Permittee is Authorized to Transport the Following Waste Type(s) to the Destination Facility listed :

Destination Facility	Location	Waste Type(s)	Note
WETZEL COUNTY LANDFILL	NEW MARTINSVILLE , WV	Non-Hazardous Industrial/Commercial Petroleum Contaminated Soil	
WHITE PINES LANDFILL	MILLVILLE , PA	Non-Hazardous Industrial/Commercial Asbestos Petroleum Contaminated Soil	

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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COUNTY:	OUT OF STATE	EXPIRATION DATE:	**01/20/2022**
TELEPHONE NO:	(856)691-5145	US EPA ID NUMBER:	NJR000029967

AUTHORIZED VEHICLES:
The Permittee is Authorized to Operate the Following Vehicles to Transport Waste:

(Vehicles enclosed in <>'s are authorized to haul Residential Raw Sewage and/or Septage only)

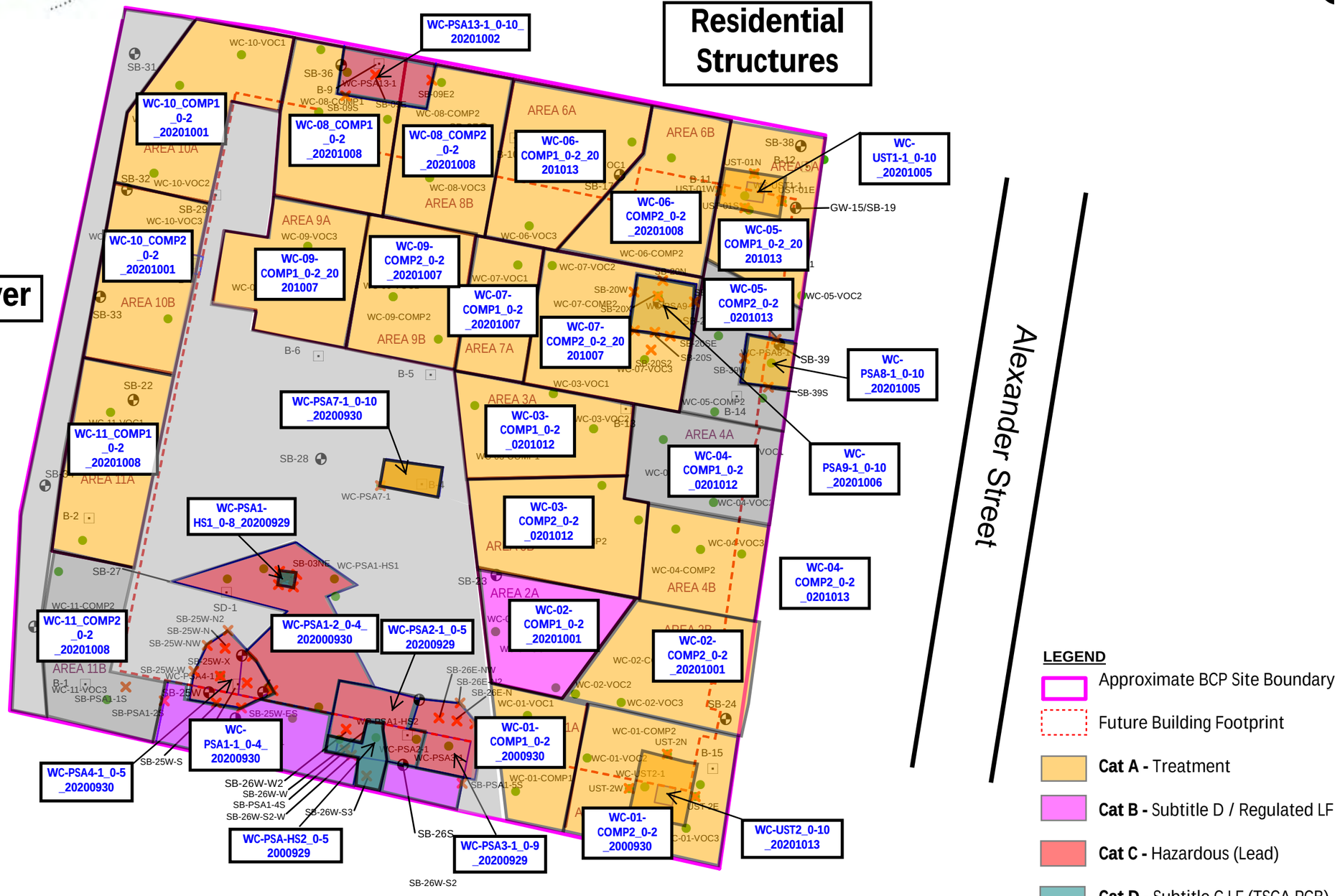
39 (Thirty Nine) Permitted Vehicle(s)

NJ AK807E
NJ AN569X
NJ AN570X
NJ AP736X
NJ AS337X
NJ AS338X
NJ AS339X
NJ AS381R
NJ AS382R
NJ AS677M
NJ AS678M
NJ AS754W
NJ AS755W
NJ AT122K
NJ AT896H
NJ AT897H
NJ AT898H
NJ AT899H
NJ AT900H
NJ AT901H
NJ AT902H
NJ AT903H
NJ AT904H
NJ AT905H
NJ AT906H
NJ AT907H
NJ AT940F
NJ AT960G
NJ AU219V
NJ AU220V
NJ AU221V
NJ AU222V
NJ AU223V
NJ AU449T
NJ AU659A
NJ AU753D
NJ AU754D
NJ AW998H
NJ AW999H
End of List

Appendix B
Material Management Plan

EE-Callahan-57 Alexander St Yonkers - Preliminary MMP-01.27.21

EARTH EFFICIENT



©2020 AKRF O:\Projects\200170 - 57 ALEXANDER STREET\Technical\GIS and Graphics\Hazmat\200170 Fig 3 Waste Characterization Sampling Locations and Soil Disposal and Reuse Areas.mxd11/25/2020 8:18:20 AM mvelleux

30 West Main Street
Riverhead, New York 11901
631.209.4245 phone 631.206.9160 fax
www.earthefficient.com / www.portal.earthefficient.com

57 Alexander St Yonkers
57 Alexander St
Yonkers, NY 10701

Preliminary Cell Approval Table-01.27.21

Category Facility Type	Cat A Treatment				Cat B Subtitle D / Regulated LF		Cat C Hazardous (Lead)		Cat D Subtitle C Landfill (TSCA)	
	BSM	PureSoil	SoilSafe Metro12	SoilSafe Logan	WM Fairless	Conestoga	ACV	CENJ	WM Emelle	US Ecology
WC-01-COMP1_0-2_2000930	✓	✓	✓	✓						
WC-01-COMP2_0-2_20200930	✓	✓	✓	✓						
WC-02-COMP1_0-2_20201001					✓	✓				
WC-02-COMP2_0-2_20201001	✓	✓	✓	✓						
WC-03-COMP1_0-2_20201012	✓	✓	✓	✓						
WC-03-COMP2_0-2_0201012	✓	✓	✓	✓						
WC-04-COMP2_0-2_20201013	✓	✓	✓	✓						
WC-05-COMP1_0-2_20201013	✓	✓	✓	✓						
WC-06-COMP1_0-2_20201013	✓	✓	✓	✓						
WC-06-COMP2_0-2_20201008	✓	✓	✓	✓						
WC-07-COMP1_0-2_20201007	✓	✓	✓	✓						
WC-07-COMP2_0-2_20201007	✓	✓	✓	✓						
WC-08_COMP1_0-2_20201008	✓	✓	✓	✓						
WC-08_COMP2_0-2_20201008	✓	✓	✓	✓						

✓ = Approved & Targeted Destination
✓ = Cross-Approved into listed facility (backup)

Category Facility Type	Cat A Treatment				Cat B Subtitle D / Regulated LF		Cat C Hazardous (Lead)		Cat D Subtitle C Landfill (TSCA)	
	BSM	PureSoil	SoilSafe Logan	SoilSafe Metro 12	WM Fairless	Conestoga	ACV	CENJ	WM Emelle	US Ecology
WC-09-COMP1_0-2_20201007	✓	✓	✓	✓						
WC-09-COMP2_0-2_20201007	✓	✓	✓	✓						
WC-10-COMP1_0-2_20201001	✓	✓	✓	✓						
WC-10-COMP2_0-2_20201001	✓	✓	✓	✓						
WC-11-COMP1_0-2_20201008	✓	✓	✓	✓						
WC-PSA1-1_0-4_20200930					✓	✓				
WC-PSA1-2_0-4_20201012							✓	✓		
WC-PSA2-1_0-5_20200929							✓	✓		
WC-PSA1-HS1_0-8_20200929									✓	✓
WC-PSA1-HS2_0-5_2000929									✓	✓
WC-PSA3-1_0-9_20200929							✓	✓		
WC-PSA4-1_0-5_20200930							✓	✓		
WC-PSA7-1_0-10_20200930	✓	✓	✓	✓						
WC-PSA8-1_0-10_20201005	✓	✓	✓	✓						
WC-PSA9-1_0-10_20201006	✓	✓	✓	✓						
WC-PSA13-1_0-10_20201002							✓	✓		
WC-UST1-1_0-10_20201005	✓	✓	✓	✓						
WC-UST2_0-10_20201013	✓	✓	✓	✓						

✓ = Approved & Targeted Destination

✓ = Cross-Approved into listed facility (backup)

Appendix C
Disposal Facilities
Category A – Class B Recyclable

BSM

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
401 E. State Street
PO Box 420, Mail Code 401-02C
Trenton, New Jersey 08625-0420
Tel: (609) 984-3438 Fax: (609) 777-1951/984-0565
www.nj.gov/dep/dshw/recycling

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

RECYCLING CENTER GENERAL APPROVAL FOR CLASS B RECYCLABLE MATERIALS

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* and N.J.S.A. 13:1E-99.11 *et seq.*, known as the Solid Waste Management Act and New Jersey Statewide Mandatory Source Separation and Recycling Act, respectively, and pursuant to N.J.A.C. 7:26A-1 *et seq.,* known as the Recycling Regulations, this approval is hereby issued to:

Bayshore Recycling #2

Facility Type:	Recycling Center for Class B Materials
Block & Lot Nos.:	Block 41.03 & Lots 3.02, 3.18 & 4.02 Block 51 & Lots 1, 1.02, 1.18, 2, 2.02 & 2.03 Block 52 & Lot 1
Municipality:	Township of Woodbridge
County:	Middlesex
Facility ID No.:	132397
Permit No.:	CBG160002

This General Approval is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection (Department).

This General Approval shall not prejudice any claim the State may have to riparian land nor does it allow the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be riparian, wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department.

March 2, 2017
Issuance Date

Karen Kloo

Karen Kloo, Chief
Bureau of Recycling & Hazardous Waste Management

April 25, 2019
Modification Date

December 31, 2021
Expiration Date

The State of New Jersey is an equal opportunity employer. Printed on recycled and recyclable paper.

Scope of Approval

This General Approval (approval), along with the referenced application documents herein specified, shall constitute the sole approval of Recycling Center operations for Class B Recyclable Material (concrete, asphalt, brick, block, slag (on a case by case basis), glass cullet, untreated wood, potable water treatment residuals, carbon filtration media, street sweepings and petroleum contaminated soil) storage and process center by **Bayshore Recycling Corp.** located in the Township of Woodbridge, Middlesex County, New Jersey. Any registration, approval or permit previously issued by the Division of Solid & Hazardous Waste, or its predecessor agencies, for the specific activities as described below and as conditioned herein, is hereby superseded.

Regulated Activities at the Facility

Conditions 1 through 40 of this general approval are conditions that are applicable to all New Jersey recycling facilities. Conditions 41 through 85 of this general approval are conditions that are applicable to New Jersey recycling facilities that receive, store, process or transfer Class B material.

Facility Description

The recycling center is a Class B facility operated by the Bayshore Recycling Corp. The recycling center is located at 75 Crows Mill Road/100 Bayview Avenue on Block 41.03 & Lots 3.02, 3.18 & 4.02, Block 51 & Lots 1, 1.02, 1.18, 2, 2.02 & 2.03, and Block 52 & Lot 1 in the Township of Woodbridge, Middlesex County. This regional recycling center is authorized to receive concrete, asphalt, brick, block, slag (on a case by case basis), glass cullet, untreated wood, potable water treatment residuals, carbon filtration media, street sweepings and petroleum contaminated soil from demolition contractors, municipalities, manufacturers, gasoline stations, home owners and sites remediated for petroleum contamination. All processed soil will be used for beneficial use projects, brownfields, landfill caps and construction projects. The recycling center is authorized to receive, store, process or transfer the Class B recyclable materials twenty-four (24) hours per day, Monday through Sunday.

Petroleum contaminated soil shall be sampled either at the point of generation or at the recycling center for the petroleum contaminated soils processing operation. The sampling results shall be used to determine the maximum contaminant feed rate or maximum petroleum contaminant concentration for the processing equipment.

Prior to the acceptance of potable water treatment residuals, carbon filtration media and street sweepings the facility shall have received analytical results along with a signed certification from the generator certifying the material meets the Department's non-residential soil remediation standards.

This recycling center general approval modification authorizes the following changes:

1. Reconfiguration of site plan.
2. Revised traffic pattern.
3. Increase in unprocessed and processed storage capacity of petroleum contaminated soils.
4. Permanent incorporation of weekly averaging for the acceptance of petroleum contaminated soils.

Category A – Class B Recyclable

SoilSafe Logan

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MAIL CODE 401-02C
Solid & Hazardous Waste Management Program
P.O. Box 420 401 East State Street
Trenton, New Jersey 08625-0414
Telephone: (609) 292-9880 Fax: (609) 984-0565
http://www.state.nj.us/dep/dshw

BOB MARTIN
Commissioner

RECYCLING CENTER GENERAL APPROVAL FOR CLASS B RECYCLABLE MATERIAL FOR PETROLEUM CONTAMINATED SOIL THAT MAY ALSO CONTAIN CONCRETE, ASPHALT, BRICK, AND BLOCK

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* and N.J.S.A. 13:1E-99.11 *et seq.*, known as the Solid Waste Management Act and New Jersey Statewide Mandatory Source Separation and Recycling Act, respectively, and pursuant to N.J.A.C. 7:26A-1 *et seq.*, known as the Recycling Regulations, this approval is hereby issued to:

Soil Safe, Inc.

Facility Type:	Recycling Center for Class B Materials
Lot & Block Nos.:	Block 201, Lots 1 through 5
Municipality:	Logan Township
County:	Gloucester County
Facility ID No.:	203493
Permit No.:	CBG130002

This General Approval is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection (Department). This General Approval shall not prejudice any claim the State may have to riparian land nor does it allow the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be riparian, wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection.

January 7, 2014
Issuance Date

Anthony Fontana, Chief
Bureau of Transfer Stations &
Recycling Facilities

December 19, 2018
Expiration Date

Category A – Class B Recyclable

SoilSafe Metro 12

State of New Jersey

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CATHERINE R. McCABE
Commissioner

Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
401 East State Street
P.O. Box 420, Mail Code 401-02C
Trenton, NJ 08625-0420
Tel (609) 984-3438 Fax (609) 777-1951/984-0565
www.nj.gov/dep/dshw/recycling

June 25, 2018

Mark Smith, CEO
Soil Safe, Inc.
4600 Alexander Bell Dr., Suite 300
Columbia, MD 21046

RE: Operating Status of Soil Safe, Inc. Metro 12 Facility Pending Renewal of its Recycling Center General Approval for Class B Materials
Facility ID No: **578186**

Dear Mr. Smith,

The Renewal application for the Class B Recycling Center Approval referenced above, which is due to expire on July 1, 2018, has been received in accordance with N.J.A.C.7:26A-3.6 and determined to be administratively complete on April 9, 2018. Therefore, all activities authorized by this General Approval may continue until the renewal is issued.

If you have any questions concerning this matter, please contact Rakesh Patel, of my staff at (609) 984-6814, or by email at rakesh.patel@dep.nj.gov.

Sincerely,

Frank Piliere, P.E., Supervisor
Bureau of Recycling & Hazardous Waste Management

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF DREDGING AND SEDIMENT TECHNOLOGY
P.O. BOX 420
MAIL CODE #401-04P
TRENTON, NEW JERSEY 08625
(609) 633-3801

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

February 24, 2014

Ms. Pamela J. Pellegrini, P.E., P.P., CME
Director Special Projects
J. Timothy Kernan, Inc.
Kingsway Commons
Suite 100
935 Kings Highway
Thorofare, NJ 08086

RE: **REVISED** – Coastal General Permit #15, Freshwater Wetlands General Permit #4 and #11, Flood Hazard Area Verification and Flood Hazard Area Individual Permit
NJDEP File No: 1201-03-0003.3 CAF 120002, FWW120003, FWW120002, FHA 120001, FHA 1200002
Applicant: Rahway Arch Properties, LLC
Project: Rahway Arch Properties – Site Remediation
Borough of Carteret, Middlesex County
Block: 602; 603; 705, Lots: 1&8, 1; 17 and 18

Dear Ms. Pellegrini:

The Office of Dredging and Sediment Technology acting under the provisions of the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B), Flood Hazard Area Control Act (N.J.S.A. 58:16A) and Waterfront Development Law (NJSA 12:5-3) has determined to modify the existing permit issued May 24, 2013, as previously modified on November 13, 2013.

Please note that the permit has been revised to reflect the proper coastal permit nomenclature for the Coastal General Permit #15 for the investigation, cleanup, removal or remediation of hazardous substances.

This permit includes a hardship exception from the requirements of N.J.A.C. 7:13-11.17 to allow for the placement of material to create a temporary Class B recycling facility and for the implementation of the LSRP-approved RAWP dated July 16, 2013, as amended on August 15, 2013, and as clarified in the applicant's August 23, 2013 letter. Accordingly, Condition #37 in the original permit issued May 24, 2013 (as previously modified on November 13, 2013) has been removed from the permit.

All other conditions of the permit remain in full force and effect.

In order to promote cooperation in the management of our natural resources, a copy of this decision shall be shared with appropriate local and federal agencies.

If you should have any questions regarding this decision, please contact me at (609) 292-8838 or by email at suzanne.dietrick@dep.state.nj.us.

Sincerely,

Suzanne U. Dietrick, Chief
Office of Dredging and Sediment Technology
Site Remediation Program

c: Borough of Carteret, Municipal Clerk
Borough of Carteret, Construction Official
Jodi McDonald, NY District Army Corps of Engineers, Regulatory Branch
Anthony Fontana, DSHW
Ken Kloo, SRP

e-copy: Bureau of Coastal and Land Use Enforcement

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFIC OF DREDGING AND SEDIMENT TECHNOLOGY
P.O. Box 420, Mail Code #401-04P
Trenton, New Jersey 08625-0420

PERMIT

In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.	Approval Date: **May 24, 2013 (modified February 24, 2014)** Expiration Date: **May 23, 2018**

Permit Number(s):	Type of Approval(s):	Enabling Statute(s)
1201-03-0003.3 CAF 120002 FWW120003, FWW120002, FHA 120001, FHA120002	Coastal General Permit #15 Freshwater Wetlands General Permit #4 and #11 Flood Hazard Area Verification Flood Hazard Area Individual Permit	NJSA 13:9B FWW NJSA 58:16A FHA NJSA 12:5-3 WFD NJSA 58:10A-1 POLLUTION

Applicant (Hereafter Permittee):	Site Location:
Rahway Arch Properties, LLC 7 Nottingham Drive Florham Park, NJ	Rahway Arch Properties – Site Remediation Salt Meadow Road Borough of Carteret, Middlesex County Block: 602; 603; 705, Lots: 1&8, 1; 17 and 18

Description of Authorized Activities:

The remediation of six impoundments and their surrounding berms and the installation of a stormwater management system on the site pursuant to the Remedial Action Workplan submitted by the Licensed Site Remediation Professional on November 27, 2012. The remediation of the site will temporary disturb approximately 25.01 acres (1,087,518 square feet) of freshwater wetlands transition area to remediate the site and the permanent disturbance of 0.04 acres (1538.1 square feet) of freshwater wetlands transition area for the construction of stormwater outfalls. The remediation of the site will temporarily disturb 3. 29 acres of riparian buffer for which on-site mitigation is required by the permit.

This permit includes a hardship exception from the requirements of N.J.A.C. 7:13-11.17 to allow for the placement of material to create a temporary Class B recycling facility and for the implementation of the LSRP-approved RAWP dated July 16, 2013, as amended on August 15, 2013, and as clarified in the applicant's August 23, 2013 letter.

Prepared by:	Received and/or Recorded by County Clerk
Suzanne U. Dietrick Supervising Environmental Specialist Date: 2/24/14	

THIS PERMIT IS NOT EFFECTIVE AND NO CONSTRUCTION APPROVED BY THIS PERMIT, OR OTHER REGULATED ACTIVITY, MAY BE UNDERTAKEN UNTIL THE APPLICANT HAS SATISIFIED ALL PRE-CONSTRUCTION CONDITIONS AS SET FORTH HEREIN.

This permit is not valid unless authorizing signature appears on the last page.

CONDITIONS APPLICABLE TO ALL LAND USE PERMITS:

1. In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this approval may request a hearing within 30 days after notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Administrative Hearing Request Checklist. The DEP Bulletin is available through the Department's website at http://www.nj.gov/dep/bulletin and the Checklist is available through the Division's website at http://www.nj.gov/dep/landuse/forms/lurpaahr.pdf In addition to your hearing request, you may file a request with the Office of Dispute Resolution to engage in alternative dispute resolution. Please see the website www.nj.gov/dep/odr for more information about this process;

2. The permittee, its contractors and subcontractors shall comply with all conditions of this permit, supporting documents and approved drawings; and

   i. Plans and specification in the application and conditions imposed by this permit shall remain in full force and effect so long as the proposed development or any portion thereof is in existence, unless modified by the Department in writing;
   ii. If this permit contains a condition that must be satisfied prior to the commencement of construction, the permittee must comply with such condition(s) within the time required by the permit or, if no time specific requirement is imposed, then within six months of the effective date of the permit, or provide evidence satisfactory to the Department that such condition(s) cannot be satisfied; and
   iii. Any noncompliance with this permit constitutes a violation, and is grounds for enforcement action, as well as suspension and/or termination of the permit; This approval does not in any way affect the right of the State to seek and collect monetary penalties or to take other enforcement action, should it be determined that a violation has occurred onsite;

3. It shall not be a defense for this permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit;

4. The permittee shall take all reasonable steps to prevent, minimize or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit;

5. The issuance of this permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction, structure or structures. Neither the State nor the Department shall, in any way, be liable for the loss of life or property which may occur by virtue of the activity of development resulting from any permit;

6. The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of this permit. The Department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit;

7. This permit can be modified, suspended or terminated for cause. The filing of a request to modify an issued permit by the permittee, or a notification of planned changes or anticipated noncompliance does not stay any condition of this permit;

8. This permit does not convey any property rights of any sort, or any exclusive privilege;

9. A copy of the permit and other authorizing documents including all approved plans and drawings shall be maintained at the authorized site at all times and made available to Department representatives or their designated agents immediately upon request.

   i. The permittee shall also furnish to the Department within a reasonable time any information that the Department requests to determine compliance with this permit or to determine whether cause exists for suspension or termination of this permit; and
   ii. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by the permit;

10. The permittee shall allow an authorized representative of the Department, upon notification under current rule and upon the presentation of credentials, to:

   i. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
   ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and
   iii. Inspect at reasonable times any facilities, equipment, practices or operations regulated or required under the permit. Failure to allow reasonable access under this section shall be considered a violation of this chapter and subject the permittee to enforcement action;
   iv. Sample or monitor at reasonable times for the purposes of assuring compliance with applicable rules;

11. No change in plans or specifications upon which this permit is issued shall be made except with the prior written permission of the Department;

12. The permittee shall provide reports to the Department as follows:

   i. Monitoring results shall be reported at the intervals specified elsewhere in this permit;
   ii. The permittee shall immediately report to the Department by telephone at (877) 927-6337 any noncompliance that may endanger health or the environment. In addition, the permittee shall report all noncompliance to Bureau of Coastal and Land Use Compliance and Enforcement, 401 E. State Street, 4th Floor, P.O. Box 422, Mail Code: 401-04C, Trenton, NJ 08625, in writing within five business days of the time the permittee becomes aware of the noncompliance. The written notice shall include: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter;
   iii. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information;

13. Development which requires soil disturbance, the creation of drainage structures, or changes in natural contours shall conduct operations in accordance with the latest revised version of

"Standards for Soil Erosion Sediment Control in New Jersey," promulgated by the New Jersey State Soil Conservation Committee, pursuant to the Soil Erosion and Sediment Control Act of 1975, N.J.S.A. 4:24-42 et seq. and N.J.A.C. 2:90-1.3 through 1.14. and must obtain any required approvals from the local Soil Conservation District;

14. If any condition of this permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect the public interest;

15. This permit is not transferable to any person unless the transfer is approved by the Department;

16. The permittee must obtain any and all other Federal, State and/or Local approvals. Authorization to undertake a regulated activity under these rules does not indicate that the activity also meets the requirements of any other rule, plan or ordinance. It is the applicant's responsibility to obtain all necessary approvals for a proposed project;

17. While the regulated activities are being undertaken, neither the permittee nor its agents shall cause or permit any unreasonable interference with the free flow of a regulated feature by placing or dumping any materials, equipment, debris or structures within or adjacent to the regulated area. Upon completion or abandonment of the work, the permittee and/or its agents shall remove and dispose of in a lawful manner all excess materials, debris, equipment, silt fences and other temporary soil erosion and sediment control devices from all regulated areas. Only clean non-toxic fill shall be used where necessary;

18. All excavated material and dredge material shall be disposed of in a lawful manner. (For example, it should be placed outside of any flood hazard area, riparian zone, regulated water, freshwater/coastal wetlands and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area);

19. If this document includes a Coastal Permit or a Flood Hazard Verification then, this document shall be recorded in its entirety in the office of the County Clerk or the Registrar of Deeds and Mortgages for each county where this project is located. Verified notice of this action shall be forwarded to the Department immediately thereafter.

APPROVED PLANS

20. The approved plans are entitled "Land Use Permitting Plans for Rahway Arch Properties- Site Remediation, Blocks: 602; 603; 705, Lots: 1&8, 1; 17 and 18, Borough of Carteret, County of Middlesex, New Jersey" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of thirty-three sheets

21. The approved plans are entitled "Wetlands Transition Area Disturbance Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plan consists of one sheet.

22. The approved plans are entitled "Riparian Zone Disturbance Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of two sheets.

23. The approved plans are entitled "Riparian Zone Enhancement Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of two sheets.

CONDITIONS APPLICABLE TO FRESHWATER WETLAND GENERAL PERMIT #4 and #11:

24. No work as authorized by this permit and as shown on the approved plans may occur between April 1st and August 15th of any given year in order to prevent adverse impacts to the following State Threatened Species:
    - Yellow-crowned night heron
    - Black-crowned night heron
    - Cattle egret

25. The total amount of temporary disturbance associated with this authorization shall not exceed 25.01 acres (1,087,518 square feet) of freshwater wetlands transition area under the Freshwater Wetlands General Permit #4 for remediation of the site. The total amount of permanent disturbance associated with this authorization shall not exceed 0.04 acres (1538.1 square feet) of freshwater wetlands transition area under the Freshwater Wetlands General Permit#11 for the construction of stormwater outfalls. Any additional disturbance of freshwater wetlands, State open waters and/or transition areas besides that shown on the approved plans shall be considered a violation of the Freshwater Wetlands Protection Act rules unless the activity is exempt or a permit is obtained from the Department prior to the start of the proposed disturbance.

26. The permittee shall comply with the Remedial Action Workplan (RAWP) dated November 27, 2012, revised July 16, 2013, and supplemented by the RAWP addendum dated August 15, 2013 and a PAH clarification letter dated August 23, 2013. The LSRP for the identified site in this permit is Alfred Free, EastStar Environmental Group, Inc., License # 575600. Any modification or changes to the construction activities authorized by this permit and/or the approved plans shall be approved in advance in writing by the Department.

27. Upon completion of the remediation of the site, the freshwater wetlands transition areas shall be planted with indigenous grasses as specified in the approved Soil Erosion and Sediment Control Notes and Details" dated May 16, 2013 (Sheet 16 of 17).

28. The permittee will be responsible for the installation of a sediment barrier around all disturbed soils, which is sufficient to prevent the sedimentation of the remaining wetlands and transition area.

29. Any pipes placed through wetlands, transition areas, or State open water must be properly sealed so as to prevent leaking or infiltration. Pipes and backfilled materials must be placed entirely beneath the pre-existing ground elevation.

30. The excavation within the wetlands and transition area must be backfilled with the original soil material or suitable material to within 18 inches of the surface. The upper 18 inches must be backfilled with the original topsoil material to the preexisting elevation and replanted with indigenous species.

31. The applicant shall be responsible for ensuring that the back-filling activities do not interfere with the natural hydraulic characteristics of the wetland, such as flow characteristics of groundwater on the site.

32. The permittee shall obtain all necessary consent from affected off site and easement property owners. No work is to occur without proper permissions.

33. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, NJDEP, P.O. BOX 422, East State Street, Trenton, NJ 08625-0422. At least seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.

34. If the permittee wishes to continue an activity covered by the permit after the expiration date of the permit, the permittee must apply for and obtain a permit extension or a new permit, prior to the permit's expiration. If the term of the authorization exceeds the expiration date with the general permit issued by rule, and the permit upon which the authorization is based is modified by rule to include more stringent standards or conditions, or is not reissued, the applicant must comply with the requirements of the new regulations by applying for a new GP authorization or an Individual permit. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, NJDEP, P.O. BOX 422, East State Street, Trenton, NJ 08625-0422. At least seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.

CONDITIONS APPLICABLE TO THE COASTAL PERMIT #15 PERMIT:

35. The permittee shall comply with the Remedial Action Workplan (RAWP) dated November 27, 2012, revised July 16, 2013, and supplemented by the RAWP addendum dated August 15, 2013 and a PAH clarification letter dated August 23, 2013. The LSRP for the identified site in this permit is Alfred Free, EastStar Environmental Group, Inc., License # 575600. Any modification or changes to the construction activities authorized by this permit and/or the approved plans shall be approved in advance in writing by the Department.

CONDITIONS APPILCABLE TO THE FLOOD HAZARD AREA VERIFICATION:

36. Provisions of the Flood Hazard Area Verification

This portion of the permit verifies the flood hazard elevation at 13.0' NAVD in the FEMA A-Zone on-site and 15.0' NAVD in the FEMA V-Zone. The limits of each zone are shown on the approved plan sheets. Within 90 calendar days of the date of this permit, the permittee shall submit the following information to the clerk of each county in which the site is located, and shall send proof to the Department that this information is recorded on the deed of each lot referenced in the verification:

a. The Department file number for the verification;
b. The approval and expiration dates of the verification;
c. A metes and bounds description of any flood hazard area limit and/or floodway limit approved under the verification;
d. The flood hazard area design flood elevation, or range of elevations if variable, approved under the verification; and
e. The following statement: "The State of New Jersey has determined that all or a portion of this lot lies in a flood hazard area. Certain activities in flood hazard areas are regulated by the New Jersey Department of Environmental Protection and some activities may be prohibited on this site or may first require a permit. Contact the Division of Land Use Regulation at (609) 777-0454 for more information prior to any construction onsite."
f. Failure to have this information recorded in the deed of each lot and/or to submit proof of recording to the Department constitutes a violation of the Flood Hazard Area Control Act rules and may result in suspension or termination of the verification and/or subject the applicant to enforcement action pursuant to N.J.A.C. 7:13-19.

CONDITIONS APPLICABLE TO THE FLOOD HAZARD AREA INDIVIDUAL PERMIT:

* OLD 36 Gone

37. Within 120 days of the filing of the RAO for the site by the LSRP, the Class B recycling facility shall cease operation and be removed from the site.

38. All excavated material and dredged material shall be disposed of in a lawful manner. For example, it should be placed outside of any flood hazard area, riparian zone, regulated water, freshwater wetland and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area.

39. This project has not been reviewed for consistency with the applicable Areawide Water Quality Management Plan or the Statewide Water Quality Management Planning Rules at N.J.A.C 7:15. As such, this authorization shall not be construed as any type of consistency determination for any sewage generating structures on the project site. There shall be no development unless and until the proposed sewage generating structures have been found to be consistent with the appropriate Areawide Water Quality Management Plan. For information regarding the water quality planning process, please contact the Department at (609) 984-6888.

40. The Department has determined that this project meets the requirements of the Stormwater Management rules at N.J.A.C. 7:8 without the use of any BMPs. Any future expansion or alteration of the approved stormwater management system, which would affect water quality, increase the rate or volume of stormwater leaving the site, affect the infiltration capacity on the site, or alter the approved low impact site design, shall be reviewed and approved by the Department prior to construction. This includes any proposed changes to the discharge characteristics of any basin, the construction of new inlets or pipes that tie into the storm sewer network and/or the replacement of existing inlets or pipes with structures of different capacity.

Riparian Buffer Mitigation Requirements

41. The permittee shall compensate for the disturbance to 0.661 acres of forested riparian zone, 0.523 acres of shrub scrub riparian zone, and 1.578 acres of herbaceous riparian zone through an on-site restoration project as shown on the plans entitled "RIPARIAN ENHANCEMENT PLAN, RAHWAY ARCH PROPERTIES – SITE REMEDIATION, SALT MEADOW ROAD, BLOCK 602, LOT(S) 1 AND 8, BLOCK 603, LOT 1, AND BLOCK 705, LOT(S) 17 AND 18, BOROUGH OF CARTERET, MIDDLESEX COUNTY, NEW JERSEY" consisting of 2 sheets, dated January 23, 2013, last revised May 16, 2013 and prepared by Pamela J. Pellegrini of Kernan Consulting Engineers.

42. **The compensation project must be conducted prior to or concurrent with the construction of the approved project.** Concurrent means that at any given time, the compensation must track at the same or greater percentage of completion as the project as a whole.

43. **Prior to the initiation of regulated activities authorized by this permit,** the permittee shall sign a Department approved conservation restriction to protect the compensation area from future development that would remove the vegetation planted. (N.J.A.C. 7:13-10.2(t)3) The conservation restriction shall conform to the format and content of the Riparian Zone Compensation Area model located at http://www.nj.gov/dep/landuse/forms/index.html. The restriction shall be included on the deed and recorded in the office of the County Clerk (the Registrar of Deeds and Mortgages in some counties) in the county wherein the lands of the compensation project are located. A metes and bounds description shown on a map must be included within the recorded conservation restriction. Within 10 days of filing the conservation restriction, the permittee must send a copy of the recorded conservation restriction to the attention of the Mitigation Unit Supervisor, NJDEP, Division of Land Use Regulation at Mail Code 501-02A, P.O. Box 420, Trenton, NJ 08625-0420.

44. The permittee shall monitor the riparian project for at least 3 years beginning the year after the riparian zone compensation project has been completed (N.J.A.C. 7:13-10.2(u)5). The permittee shall submit monitoring reports to the Division of Land Use Regulation, no later than December 31st of each full monitoring year.

    a. All monitoring reports except the final one must include documentation and field data demonstrating that that the goals of the riparian zone compensation project will be achieved as stated in the approved riparian zone compensation proposal and the permit requirements will be satisfied. If the permittee is finding problems with the compensation project and does not anticipate the site will be a full success, recommendations on how to rectify the problems shall be included in the report with a time frame in which they will be completed.

    b. The final monitoring report must include documentation and data demonstrating the following:

i. That the goals of the riparian zone compensation project as stated in the approved riparian zone compensation proposal and the permit conditions have been satisfied.

ii. That at least 85 percent of the compensation plantings have survived and that at least 85 percent of the compensation area is established with native species similar to ones identified on the compensation planting plan. All plant species in the compensation area must be healthy and thriving. All trees must be at least 5 feet in height; and

iii. That the site is less than 10 percent occupied by invasive or noxious species.

45. If the riparian compensation project does not meet the success criteria established above the project shall be considered a failure and the permittee shall submit a revised riparian compensation plan. The revised plan shall be submitted within 60 days of receipt of notification from the Division indicating the riparian compensation project was a failure.

46. If the Division determines that the riparian zone compensation project is not constructed in conformance with the approved plan, the permittee will be notified in writing by the Department and will have 60 days to submit a proposal to indicate how the project will be corrected.

Suzanne Dietrick, Chief
Office of Dredging and Sediment Technology

2/14/14
Date

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MAIL CODE 401-02C
Division of Solid & Hazardous Waste
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BOB MARTIN
Commissioner

RECYCLING CENTER GENERAL APPROVAL FOR PETROLEUM CONTAMINATED SOIL, CONCRETE, ASPHALT, BRICK & BLOCK

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* and N.J.S.A. 13:1E-99.11 *et seq.*, known as the Solid Waste Management Act and New Jersey Statewide Mandatory Source Separation and Recycling Act, respectively, and pursuant to N.J.A.C. 7:26A-1 *et seq.*, known as the Recycling Regulations, this approval is hereby issued to:

Soil Safe, Inc., Metro 12 Facility

Facility Type:	Recycling Center
Lot & Block Nos.:	Block 602, Lot 1; Block 705, Lot 18
Municipality:	Borough of Carteret
County:	Middlesex County
Facility ID No.:	578186
Permit No.:	CBG120001

This General Approval is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection (Department).

This General Approval shall not prejudice any claim the State may have to riparian land nor does it allow the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be riparian, wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department.

June 2, 2014
Issuance Date

Anthony Fontana, Chief
Bureau of Solid Waste Permitting

July 1, 2018
Expiration Date (term of current lease)

Scope of Approval

This General Approval along with the referenced application documents herein specified shall constitute the sole General Approval for the operation of a Class B Recycling Center by Soil Safe, Inc., located in Borough of Carteret, Middlesex County, New Jersey. The facility is authorized to accept petroleum contaminated soil, concrete, asphalt, brick and block. Any registration, approval or permit previously issued by the Division of Solid and Hazardous Waste, or its predecessor agencies is hereby superseded.

This general approval does not convey any property rights of any sort, or any exclusive privilege. Failure to comply with all of the conditions specified herein may result in revocation of this approval and/or may result in such other regulatory or legal actions that the Department is authorized by law to institute, including but not limited to, civil and administrative penalty assessments.

This general approval does not approve any activities by Soil Safe, Inc. outside of the boundaries of the Class B Recycling operations nor does it authorize the permanent placement of fill at the site.

Regulated Activities at the Facility

Items 1 through 38 of this approval contain the general requirements applicable to all recycling centers. Items 39 through 77 of this approval contain the general operating requirements for all recycling centers for the receipt, storage and processing of Class B recyclable materials and specific conditions applicable to the operations of the recycling center.

Facility Description

The Class B recycling center is privately operated by the Soil Safe, Inc., to produce engineered fill, consisting of petroleum contaminated soil and cement (Soil Cement) for the stabilization, remediation, capping, and reclamation of the site for habitat restoration and industrial development. The recycling center is located at the terminus of Salt Meadow Road, Block 602, Lot 1; Block 705, Lot 18, in Borough of Carteret, Middlesex County. This regional recycling center receives petroleum contaminated soil, concrete, asphalt, brick and block. The recycling center is authorized to accept and process, except crushing, recyclable materials 24 hours per day, 7 days per week. The crushing activities are from 7:00 AM to 11:00 PM, 7 days per week.

Approved General Approval Application and Associated Documents

(a) The registrant shall construct and operate the facility in accordance with N.J.A.C. 7:26A-1 *et seq.*, the conditions of this Approval, and the following documents:

(1) Class B Recycling Center Approval Application, Soil Safe, Inc., Metro 12 Facility, dated March 21, 2012 with letter dated May 11, 2012 from Jim Grant, Director of Facility Development and Compliance, Soil Safe, Inc.

(2) Site Plan- "Solid Waste Permitting Plans For Metro12 Class B Recycling Center, Block 602, Lots 1, Block 705, Lots 17 and 18, Borough of Carteret, Middlesex County, New Jersey", Sheets 1 and 2, prepared by Kernan Consulting Engineers, dated May 21, 2013 and signed and sealed by Pamela J. Pellegrini, P.E., P.P., C.M.E.

(3) Letters dated March 14 and May 30, 2013 from Jim Grant, Director of Facility Development and Compliance, Soil Safe, Inc., with additional information for Class B application.

In case of conflict, the provisions of N.J.A.C. 7:26A-1 *et seq.* shall have precedence over the conditions of this Approval, and the conditions of this Approval shall have precedence over plans and specifications listed above.

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1. All persons issued a general approval to operate a recycling center for Class B, Class C and/or Class D recyclable material pursuant to N.J.A.C. 7:26A-1 et seq. shall comply with all conditions of the approval. [N.J.A.C. 7:26A-3.1(a)]
2. The holder of this general approval shall prominently post and maintain a legible sign, at or near the entrance to the recycling center, indicating that the recycling center is an approved New Jersey Department of Environmental Protection recycling center. The sign shall also indicate the following: Hours of operation of the recycling center; Listing of the source separated materials to be received; The size, weight, or other restrictions regarding materials to be received; The maximum amount of contaminants allowed in each load; Warning that loads will be inspected and will be barred from offloading if the contaminant level is exceeded; and Notice that the person offloading shall certify the amount of material per load, municipality of origin of the material and any other information contained on the Recyclable Material Receipt Form. [N.J.A.C. 7:26A-3.5(f)]
3. Application for renewal of this general approval shall be submitted at least three months prior to expiration of the current approval and shall comply with all requirements for renewal set forth in N.J.A.C. 7:26A-3.6 et seq. One copy of the application for renewal of the general approval shall be submitted by the applicant to the municipal clerk of the municipality in which the recycling center is located, and to the solid waste or recycling coordinator of the county in which the recycling center is located. [N.J.A.C. 7:26A-3.6(a)]
4. The applicant for renewal of this general approval shall certify in writing to the Department that there have been no changes in the operations of the recycling center since the issuance of the general approval in order to renew the approval in its existing form. In the event that there have been changes in the operations of the recycling center or where changes are planned, the application for renewal of a general approval shall be accompanied by a written request to modify the general approval in accordance with N.J.A.C. 7:26A-3.10. [N.J.A.C. 7:26A-3.6(b)]
5. In a case where the holder of this general approval does not comply with N.J.A.C. 7:26A-3.6(a) and (b) and continues to operate without renewal of the general approval, the Department may take enforcement action including the assessment of penalties under N.J.S.A. 13:1E-9; require the holder of this general approval to file an application as a new applicant for a general approval in accordance with N.J.A.C. 7:26A-3.2 and pay the application fee as per N.J.A.C. 7:26A-2; and/or take any other appropriate actions. [N.J.A.C. 7:26A-3.6(c)]
6. All persons granted a renewal pursuant to N.J.A.C. 7:26A-3.6(d) shall continue to pay the annual fee as specified in N.J.A.C. 7:26A-2. [N.J.A.C. 7:26A-3.6(h)]
7. The holder of this general approval shall obtain prior approval from the Department for any modification of the general approval. [N.J.A.C. 7:26A-3.10(a)]
8. Any change affecting the conditions of this general approval requires the prior approval of the Department. [N.J.A.C. 7:26A-3.10(b)1]
9. Any change to the information submitted pursuant to N.J.A.C. 7:26A-3.2(a), 3.4, 3.8, 3.18, 3.19, or 3.20 requires the prior approval of the Department, except that changes in end-market information submitted pursuant to N.J.A.C. 7:26A-3.2(a) 7 shall not require the prior approval of the Department but shall be handled in accordance with N.J.A.C. 7:26A-3.10(f). [N.J.A.C. 7:26A-3.10(b)2]

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10. The holder of this general approval shall notify the Department in writing of the intended modification and shall update the information submitted pursuant to N.J.A.C. 7:26A-3.2(a), 3.4, 3.8, 3.18, 3.19 or 3.20. The holder of this general approval shall also provide written notice to the solid waste or recycling coordinator of the applicable county of any request to modify a general approval. [N.J.A.C. 7:26A-3.10(c)]

11. The holder of this general approval shall not institute the modification until it receives written approval from the Department. [N.J.A.C. 7:26A-3.10(e)]

12. Within one week of any change to the end-market information submitted to the Department pursuant to N.J.A.C. 7:26A-3.2(a)7, the holder of this general approval shall submit to the Department a written notification which details any change in the use of the recyclable material transferred from the recycling center to an end-market or in the end-market location to which the recyclable material is transferred. The written notification shall be sent to: Mail Code 401-02C, New Jersey Department of Environmental Protection, Division of Solid and Hazardous Waste, P.O. Box 420, Trenton, New Jersey 08625-0420. [N.J.A.C. 7:26A- 3.10(f)]

13. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any provision of N.J.S.A. 13:1E-1 et seq., the New Jersey Statewide Mandatory Source Separation and Recycling Act, or any rule, regulation or administrative order promulgated pursuant to N.J.S.A. 13:1E-1 et seq. and the New Jersey Statewide Mandatory Source Separation and Recycling Act. [N.J.A.C. 7:26A-3.13(a)1]

14. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any solid waste utility law at N.J.S.A. 48:2-1 et seq. or 48:13A-1 et seq., or any rule, regulation or administrative order promulgated pursuant to N.J.S.A. 48:2-1 et seq. or 48:13A-1 et seq. [N.J.A.C. 7:26A-3.13(a)2]

15. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any provision of any laws related to pollution of the waters, air or land surfaces of the State or of any other State or Federal environmental laws including criminal laws related to environmental protection. [N.J.A.C. 7:26A-3.13(a)3]

16. The Department may revoke this general approval upon a determination that the holder of the general approval has refused or failed to comply with any lawful order of the Department. [N.J.A.C. 7:26A-3.13(a)4]

17. The Department may revoke this general approval upon a determination that the holder of the general approval has failed to comply with any of the conditions of this general approval issued by the Department. [N.J.A.C. 7:26A-3.13(a)5]

18. The Department may revoke this general approval upon a determination that the holder of the general approval has transferred a general approval to a new owner or operator pursuant to N.J.A.C. 7:26A-3.15 without the prior approval of the Department. [N.J.A.C. 7:26A-3.13(a)6]

19. The Department may revoke this general approval upon a determination that the holder of the general approval has failed to obtain any required permit or approval from the Department or other State or Federal agency. [N.J.A.C. 7:26A-3.13(a)7]

20. The Department may revoke this general approval upon a determination that the holder of the general approval has committed any of the acts which are criteria for denial of a general approval set forth in N.J.A.C. 7:26A-3.12. [N.J.A.C. 7:26A-3.13(a)8]

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21. This general approval shall not be transferred to a new owner or operator without the Department's prior approval. [N.J.A.C. 7:26A-3.15(a)]

22. A written request for permission to allow a transfer of this general approval must be received by the Department at least 60 days in advance of the proposed transfer of ownership or operational control of the recycling center. The request for approval shall include the following: the name, address and social security number of all prospective new owners or operators; a written certification by the proposed transferee that the terms and conditions contained in the general approval will be met by the proposed transferee; and a written agreement between the current owner or operator of the recycling center and the proposed new owner or operator containing a specific future date for transfer of ownership or operational control. [N.J.A.C. 7:26A-3.15(a)1]

23. A new owner or operator may commence operations at the recycling center only after the existing approval has been revoked and a new approval is issued to the new owner or operator pursuant to N.J.A.C. 7:26A-3.5. [N.J.A.C. 7:26A-3.15(a)2]

24. The holder of this general approval remains liable for ensuring compliance with all conditions of the approval unless and until the existing approval is revoked and a new approval is issued to the new owner or operator pursuant to N.J.A.C. 7:26A-3.5. [N.J.A.C. 7:26A-3.15(a)3]

25. Compliance with the transfer requirements set forth at N.J.A.C. 7:26A-3.15 shall not relieve the holder of this general approval from the separate responsibility of providing notice of such transfer pursuant to the requirements of any other statutory or regulatory provision. [N.J.A.C. 7:26A-3.15(a)4]

26. The transfer of a controlling interest in the stock or assets of the recycling center that is the subject of this general approval shall constitute a transfer of this general approval. [N.J.A.C. 7:26A-3.15(b)]

27. The holder of this general approval shall maintain a daily record of the amounts of each recyclable material by type and municipality of origin which are received, stored and processed each day, expressed in tons, cubic yards, cubic feet or gallons. Those operators specifying this information in cubic yards shall also indicate the conversion ratio of the materials from cubic yards to tons. [N.J.A.C. 7:26A- 3.17(a)1]

28. The holder of this general approval shall maintain a daily record of the amount of residue disposed of, expressed in tons, cubic yards, cubic feet or gallons, including the name and New Jersey Department of Environmental Protection solid waste registration number of the solid waste collector/hauler contracted to provide the haulage/disposal service. Those persons specifying the amount of residue in cubic yards shall also indicate the conversion ratio of the residue from cubic yards to tons. [N.J.A.C. 7:26A-3.17(a)3]

29. The holder of this general approval shall retain all shipping receipt forms required pursuant to N.J.A.C. 7:26A-3.2(a)16iii for three calendar years following the calendar year for which an annual report is required pursuant to N.J.A.C. 7:26A-3.17(c). [N.J.A.C. 7:26A- 3.17(b)]

30. The holder of this general approval shall submit an annual report containing monthly summary statements of the information required pursuant to N.J.A.C. 7:26A-3.17(a) to the New Jersey Department of Environmental Protection, Division of Solid and Hazardous Waste, on or before March 1 of each year, for the previous calendar year. The summaries shall include the following: monthly totals of the amount of recyclable material received from each customer by municipality of origin; monthly totals of the amount of recyclable product transferred to each end-market; and the amount of residue disposed of during each month. [N.J.A.C. 7:26A- 3.17(c)]

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31. The holder of this general approval shall certify in writing to the Department that all residue generated at the recycling center has been disposed of in accordance with the solid waste management rules at N.J.A.C. 7:26. The certification shall be submitted annually as part of the annual report. [N.J.A.C. 7:26A-3.17(e)]

32. All information submitted to the Department pursuant N.J.A.C. 7:26A shall be handled in accordance with the requirements of the Public Records law, N.J.S.A. 47:1-1 et seq. The Department will hold confidential all end-market information, as well as information pertaining to the municipality of origin of recyclable material, submitted pursuant to N.J.A.C 7:26A-3.2, 3.7, and 3.17 through 3.20 for a period of two years from the date on which the information is submitted to the Department, where specified as confidential by the applicant and where there are no health, safety or environmental concerns which require the release of the information, as determined by the Department. [N.J.A.C. 7:26A-3.17(f)]

33. The holder of this general approval shall provide a recycling tonnage report by March 1 of each year to all municipalities from which recyclable material is received in the previous calendar year. The report shall detail the amount of each source separated recyclable material, expressed in tons or cubic yards, brought to the recycling center, as well as the date on which the recyclable materials were delivered to the recycling center. Those persons specifying this information in cubic yards shall also indicate the conversion ratio of the materials from cubic yards to tons. [N.J.A.C. 7:26A-4.4(a)]

34. The recycling center shall not commence operations unless and until it is included in the applicable district solid waste management plan. [N.J.A.C. 7:26A-4.2]

35. The construction of the recycling center that is the subject of this general approval shall be in conformance with the New Jersey Uniform Construction Code, N.J.S.A. 52:27D-119 et seq., and the rules promulgated pursuant thereto. [N.J.A.C. 7:26A-4.1(b)]

36. The New Jersey Department of Environmental Protection or an authorized representative acting pursuant to the County Environmental Health Act, N.J.S.A. 26:3A2-1 et seq. shall have the right to enter and inspect any building or other portion of the recycling center at any time in order to determine compliance with the provisions of all applicable laws or rules and regulations adopted pursuant thereto. This right to inspect includes, but is not limited to: sampling any materials on site; photographing any portion of the recycling center; investigating an actual or suspected source of pollution of the environment; and, ascertaining compliance or non-compliance with the statutes, rules or regulations of the Department, including conditions of the recycling center approval issued by the Department. [N.J.A.C. 7:26A-1.7(a)]

37. The right of entry specified at N.J.A.C. 7:26A-1.7(a) shall be limited to normal operating hours for the purpose of reviewing and copying all applicable records, which shall be made available to the Department during an inspection and submitted to the Department upon request. [N.J.A.C. 7:26A-1.7(b)]

38. The facility shall comply with the general operating requirements for all Recycling Centers as provided at N.J.A.C. 7:26A-4.1. [N.J.A.C. 7:26A-4]

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39. The following processing equipment or equivalent is approved for utilization at the facility for crushing, screening and mixing:

Ranger Pugmill
6x16 Innovative Processing Equipment Screen
Belgrade Silo
Stedman Rotary Impact Crusher with Conveyors
Rubber Tire Loaders Cat 950/980
Cat 325 Excavators
Cat D6 Dozers
Caterpillar 725/730 Dump Truck
3000 Gallon Water Truck
Bomag 84 inch Vibratory Roller
American Scale Concrete Deck Truck Scale. [N.J.A.C. 7:26A- 3.5(e)]

40. Recycling centers receiving petroleum contaminated soil must have a preparedness and prevention plan. The contingency plan contained in the approved documents must be maintained on-site and updated as necessary. [N.J.A.C. 7:26A- 4.8(b)5]

41. Upon detection of a release of contaminants to the environment, the facility shall perform the following cleanup steps: stop the release, contain the released contaminants, clean up and manage properly the released contaminants and other materials and if necessary, repair or replace any leaking soil containment systems prior to returning them to service. [N.J.A.C. 7:26A-3.5(e)]

42. Upon closure of the facility the owner or operator shall remove or decontaminate petroleum contaminated soils, containment system components, and structures and equipment and manage them as hazardous waste, unless the materials are not hazardous waste under NJAC 7:26G-5. [N.J.A.C. 7:26A-3.5(e)]

43. All equipment and portions of the facility designated for the storage or processing of petroleum contaminated soils shall be visually inspected each operating day for integrity and leaks. [N.J.A.C. 7:26A-3.5(e)]

44. Records shall be maintained for all visual inspections. These records shall document that inspections were performed, any problems found, and the subsequent correction of such problems. All records shall be kept for a minimum of three years. [N.J.A.C. 7:26A-3.5(e)]

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45. The facility shall keep a record of each shipment of petrolcum contaminated soil, concrete, asphalt, brick and block (recyclables) accepted for processing. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. All tracking records shall be maintained by the holder of this general approval as required pursuant to N.J.A.C. 7:26-A-3.2(a)16iii for three calendar years. Records for each shipment shall include the following information: the name and address of the transporter who delivered the recyclables to the facility, the name and address of the generator from whom the recyclables was sent, the NJDEP registration number of the transporter, EPA ID number (if applicable) of the generator, description of the recyclable material (petroleum contaminated soil, concrete, asphalt, brick or block), the quantity of recyclables accepted and the date of acceptance. Prior to the receipt of a shipment of recyclables from a generation source, the holder of this approval shall have received a completed Soil Safe Material Characterization Report as referenced in the Approved General Approval Application and associated documents for that shipment. The report shall include at least the following information: name and address of the generation site, contact information, quantity of recyclables; type of oil contaminating the soil, contamination source (i.e. underground storage tank, above ground storage tank, spill, historic or other), past use of generation site (i.e. industrial, commercial, residential and historic fill), analytical results conducted on the soil and a certification that the information provided is true and accurate. The holder of this approval shall review the information provided to ensure the shipment complies with the facility's acceptance criteria for recyclables prior to authorizing acceptance of a shipment. [N.J.A.C. 7:26A- 3.5(e)]

46. The facility shall maintain on-site an operating record showing analysis records, tracking records, and summary reports of incidents requiring implementation of the contingency plan. This information shall be made available to Department personnel upon request and shall be kept for a minimum of three years. [N.J.A.C. 7:26A- 3.5(e)]

47. The following source separated Class B recyclable materials, which have been separated at the point of generation from other waste materials or separated at a permitted solid waste facility authorized to separate recyclable materials, may be received, stored and processed at this recycling center:

Non-hazardous petroleum contaminated soils that otherwise would be ID-27 if not recycled, and non-hazardous petroleum contaminated soil containing concrete, asphalt, brick & block. In addition, the recycling center may accept concrete, asphalt, brick & block screened from petroleum contaminated soil.

i. Only soil contaminated with the following compounds shall be accepted and processed at this facility: gasoline, kerosene, jet fuel, Numbers 1 through 6 fuel oil, polynuclear aromatic hydrocarbons (coal tars), historic petroleum contamination and used oil. Used oil shall be defined as any oil that has been and as a result of such use, is contaminated by physical or chemical impurities. No soils may be accepted that have been contaminated with materials that are other waste materials, or waste by-products, such as sludges.

ii. No soils with free petroleum product or other liquids shall be accepted at the facility. For soils containing greater than 17,000 ppm EPH, the soil shall be determined not to contain free liquids by USEPA SW-846 method 9095.

No hazardous waste, as defined by N.J.A.C. 7:26G-5, shall be accepted by the facility. [N.J.A.C. 7:26A- 3.5(e)]

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48. At no time shall the receipt, storage, processing, or transferring of non-source separated construction and demolition material be allowed at this recycling center. The prohibition of this material shall be strictly enforced and any incident shall be considered a serious violation to the conditions of this Approval. [N.J.A.C. 7:26A-3.5(e)]

49. All Class B soil accepted by the facility shall be processed as detailed below to create a cement modified soil product. Trucks transporting soil from approved sites per Condition 45 of this Approval shall be weighed at the scale, be visually inspected, and have the manifest verified. If acceptable, the driver shall be directed to offload the shipment in the Raw Material Stockpile Area. The material may be blended with other material in the preprocessing pile as needed to assure a homogenous feedstock for processing. Incoming shipments of material that are segregated prior to processing shall be identified by a wooden stake on which is written the source material project number. Once the segregated pile has been released for processing it shall be combined with other materials in the preprocessing pile.

The material from the preprocessing pile shall be fed into the feed hopper for the screening plant where water may be added to control dust and provide hydration to the soil. Oversized material generated from the screening shall be transported to the oversized raw material stockpile area. Incidental recyclable metals removed shall be stored in roll-offs and delivered to an approved recycling center. Non-recyclable waste materials such as plastic and wood shall be placed in a roll-off and shipped off-site for disposal. The 4 inch minus material shall be fed by conveyor to the pugmill. In the pugmill counter rotating arms shall blend the material with pozzolonic additives. A minimum of 1% by weight pozzolonic additives shall be blended into the soil. Additional amounts of additive may be used to meet specific geotechnical requirements as determined by the LSRP for the remediation project. The process shall be operated in accordance with the requirements specified in the facility's Air Permit. The cement modified soil product shall then be transported by conveyor belt to the processed material stockpile area. [N.J.A.C. 7:26A- 3.5(e)]

50. The cement modified soil shall be stockpiled, sampled and tested pursuant to the requirements specified by the governing Licensed Site Remediation Professional (LSRP) for the Rahway Arch Properties, LLC remediation project in accordance with the Remedial Action Workplan (RAW) submitted to the Department 7/16/13, 8/15/13 addendum, and 8/23/13 clarification letter. After a sample is taken, no additional product shall be added to sampled pile. If the test results from the sampled pile demostrate the pile has achieved end market criteria, the material shall be transported to the end market (remedial action project). If it fails to achieve acceptance criteria, it may be reintroduced for further treatment or shall be shipped off-site as solid waste.

Oversized material from the screening operation shall be stockpiled as indicated on the approved site plan. In the event oversized material is segregated from petroleum contaminated soil at the donor site, it shall be offloaded either in the raw material stockpile area or directly into the oversized stockpile area. The oversized material shall be fed to the crusher feed hopper. It shall be size reduced and then transported to the end market or blended back into the material in the preprocessing stockpile area for processing. [N.J.A.C. 7:26A- 3.5(e)]

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51. Incidental amounts of rebar, metal and other by-products which adhere to the Class B recyclable materials, as specified in this Approval, and which are returned to the economic mainstream as raw material or products, may be received, stored, processed, or transferred at this recycling center. The receipt of such incidental amounts of these materials need not be separately accounted for, but the storage and end-markets for these materials shall be subject to specific conditions of this Approval. [N.J.A.C. 7:26A- 3.5(e)]

52. The holder of this general approval shall operate the recycling center and construct or install associated appurtenances thereto, in accordance with the provisions of N.J.A.C. 7:26A-1 et seq., the conditions of this general approval, and the general approval application documents. [N.J.A.C. 7:26A-3.5(e)]

53. In case of conflict, the conditions of this approval shall have precedence over the general approval application documents, and the most recent revisions and supplemental information approved by the Department shall prevail over prior submittals and designs. [N.J.A.C. 7:26A-3.5(e)]

54. One complete set of the general approval application documents, this general approval, and all records, reports and plans as may be required pursuant to this approval shall be kept on file at the recycling center and shall be available for inspection by authorized representatives of the Department or delegated agents upon presentation of credentials. [N.J.A.C. 7:26A-3.5(e)]

55. Hours of operation for receiving, storing and processing the source separated recyclable material shall be limited as following:

- receiving and processing (except crushing) up to 24 hours per day 7 days per week.
- crushing shall be limited to 7:00 a.m. to 11:00 p.m. 7 days per week. [N.J.A.C. 7:26A- 3.5(e)]

56. Material deliveries to the recycling center shall be scheduled in such a manner as to minimize truck queuing on the recycling center property. Under no circumstances shall delivery trucks be allowed to back-up or queue onto public roads. [N.J.A.C. 7:26A- 3.5(e)]

57. The recycling center may receive no more than 7,000 tons per day of source separated non-hazardous petroleum contaminated soil consisting of a maximum of 1,500 tons per day of concrete, asphalt, brick & block. The recycling center may receive concrete, asphalt, brick & block from the donor site either commingled with petroleum contaminated soil or separately. However, the combination of all Class B material accepted on a daily basis shall not exceed 7,000 tons per day. [N.J.A.C. 7:26A-3.5(e)]

58. The total amount of unprocessed non-hazardous petroleum contaminated soils, concrete, asphalt, brick & block stored on-site shall not exceed 60,000 cubic yards in the Raw Material Stockpile Area. The Oversized Material Stockpile Area is for screened oversized concrete, asphalt, brick & block that will later be crushed. The material in the Oversized Material Stockpile Area shall not exceed 6,600 cubic yards. Unprocessed materials stored on-site shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawing. [N.J.A.C. 7:26A- 3.5(e)]

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59. If at any time, the amount of unprocessed non-hazardous petroleum contaminated soils, concrete, asphalt, brick & block stored on-site exceeds 60,000 cubic yards in the Raw Material Stockpile Area, the recycling center shall immediately cease receiving unprocessed non-hazardous petroleum contaminated soil, concrete, asphalt, brick & block until the amount of unprocessed material stored on-site falls below 60,000 cubic yards. Further, if at any time, the amount of concrete, asphalt, brick & block stored on-site exceeds 6,600 cubic yards in the Oversized Material Stockpile Area, the recycling center shall immediately cease receiving any non-hazardous petroleum contaminated soils, concrete, asphalt, brick & block until the amount of this material in this area falls below 6,600 cubic yards. [N.J.A.C. 7:26A- 3.5(e)]

60. Unprocessed recyclable material shall not remain on-site, in its unprocessed form, for more than one (1) year. [N.J.A.C. 7:26A-3.9(b)]

61. The total amount of processed non-hazardous petroleum contaminated soils stored within the Class B facility area shall not exceed 20,000 cubic yards. Processed materials stored within the Class B facility area shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawing.

The total amount of processed concrete, asphalt, brick & block stored within the Class B facility area shall not exceed 1,000 cubic yards. Processed materials stored within the Class B facility shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawing. [N.J.A.C. 7:26A- 3.5(e)]

62. If at any time, the amount of processed non-hazardous petroleum contaminated soils stored within the Class B facility exceeds 20,000 cubic yards, the recycling center shall immediately cease processing activities until the amount of processed non-hazardous petroleum contaminated soils falls below 20,000 cubic yards.

If at any time, the amount of processed (crushed) concrete, asphalt, brick & block stored within the Class B facility exceeds 1,000 cubic yards, the recycling center shall immediately cease processing activities until the amount of processed concrete, asphalt, brick & block falls below 1,000 cubic yards. [N.J.A.C. 7:26A- 3.5(e)]

63. All processed material shall be stored separately from residues. [N.J.A.C. 7:26A-3.5(e)]

64. The maximum amount of contaminants, as defined in N.J.A.C. 7:26A-1.3, allowed in each incoming load of Class B recyclable material shall be limited to 1% by volume. Incidental by-product materials shall not be considered to be contaminants. [N.J.A.C. 7:26A- 3.5(e)]

65. Horizontal and vertical control points for the unprocessed and processed materials stockpile areas shall be set and maintained on-site. Horizontal limitation markers shall be set at the corners of the stockpile areas as depicted on the approved site plan. Vertical limitation markers shall be set at locations in close proximity of the stockpile areas and shall clearly establish an elevation height of 20 feet above the existing grade for the unprocessed stockpile areas and 20 feet above the existing grade for the processed stockpile areas. [N.J.A.C. 7:26A- 3.5(e)]

Subject Item: RCBG990094 - Class B Recycling Operations

66. Metal pipe or metal rods or the equivalent as approved by the Department shall be used to establish these control points. Prior to the acceptance of Class B material, the Bureau of Transfer Stations and Recycling Facilities shall be notified and a joint site inspection shall be held at the facility between the owner/operator and representatives of the Department for the purpose of establishing the locations of these markers. [N.J.A.C. 7:26A- 3.5(e)]

67. Ingress and egress of the facility shall be restricted to Salt Meadow Road only. [N.J.A.C. 7:26A-3.5(e)]

68. Methods of effectively controlling dust shall be implemented at the facility in order to prevent offsite migration. [N.J.A.C. 7:26A-3.5(e)]

69. Fire fighting and emergency procedures shall be posted, and shall include the telephone numbers of local fire, police, ambulance, and hospital facilities. If a fire occurs on-site, the facility shall immediately notify the local fire official and the N.J.D.E.P. Environmental Action Hotline at 1-877-927-6337. [N.J.A.C. 7:26A-3.5(e)]

70. Any suspected or prohibited hazardous waste, as defined at N.J.A.C. 7:26G-5, found in a load accepted at the recycling center shall not be returned to the generator. Such materials shall be segregated and stored in a secure manner and shall be immediately reported to the N.J.D.E.P. Environmental Action Hotline at 1-877-927-6337. The owner/operator of the recycling center shall secure the name of the collector/hauler suspected of delivering such waste to the facility and related information surrounding the incident, if available, and shall make this information known to N.J.D.E.P. enforcement personnel. [N.J.A.C. 7:26A-3.5(e)]

71. All revisions to the site plan and the approved documents which may be required as a result of the above, shall be submitted to this office for modification to this Approval. [N.J.A.C. 7:26A-3.5(e)]

72. Pursuant to N.J.A.C. 7:26A-3.11(a), the holder of this general approval shall obtain prior approval from the Department for any increase in the design capacity of the facility. The facility shall submit a request to the Department, in writing, for the proposed increase and shall submit updated information pursuant to the requirements of N.J.A.C. 7:26A-3.2(a), 3.4, or 3.8, as applicable. The facility shall also provide written notice of the request to the solid waste or recycling coordinator of the applicable district. [N.J.A.C. 7:26A-3.5(e)]

73. All incoming shipments of Class B material shall be sampled and analyzed in accordance with the requirements specified in the facility's Air Pollution Control Permit issued by the Department. All analytical records must be kept for a minimum of three years and made available for inspection by state and local officials upon request.

    The sampling, collection, preservation, and handling for the sampling and analysis must be performed in accordance with the New Jersey Technical Requirements for Site Remediation at N.J.A.C. 7:26E and the latest edition of the New Jersey Department of Environmental Protection, Field Sampling Procedures Manual. All analysis must be performed by a New Jersey certified laboratory. [N.J.A.C. 7:26A- 3.5(e)]

74. All soils must be tested using the most current approved test methodology in accordance with USEPA SW-846. [N.J.A.C. 7:26A-3.5(e)]

Subject Item: RCBG990094 - Class B Recycling Operations

75. The facility will use the cement modified soil produced by the Class B facility as engineered fill material for use at the Rahway Arch Properties, LLC remediation project in accordance with the Remedial Action Workplan (RAW) submitted to the Department 7/16/13, 8/15/13 addendum, and 8/23/13 clarification letter. The Rahway Arch Properties, LLC remediation project is the only end market authorized to receive product produced by the Class B facility.

The facility shall comply with all sampling and analytical requirements for the cement modified soil product approved by the governing Licensed Site Remediation Professional for the Rahway Arch Properties, LLC remediation project and in accordance with the RAW referenced above. [N.J.A.C. 7:26A- 3.5(e)]

76. No Class B material shall be accepted by the facility until all required permits and approvals necessary to operate the facility including an Air Pollution Control Permit issued by the Department are obtained. [N.J.A.C. 7:26A- 3.5(e)]

77. Soil Safe shall provide a $500,000 financial assurance in the form of a letter of credit or performance bond (a rating of at least A or A+ by A. M. Best or an equivalent rating by Moody's, Standard & Poor's, or Fitch). The financial assurance shall be provided in accordance with the requirements specified in N.JA.C. 7:26A-3.4(d) or (e) No Class B material shall be accepted at the facility until the financial assurance is submitted to the Department.

Also, Soil Safe shall maintain (and provide a copy to the Department) a Certificate of Liability Insurance demonstrating at least the following minimum insurance coverage and limits:

General Liability - $1 million per occurrence, $2 million general aggregate, $2 million products/completed operations, $10 million excess.

Environmental Pollution - Third Party Claims for Cleanup Costs, Bodily Injury or Property Damage, $1 million per condition, $10 million excess.

Environmental Pollution - Third Party Claims for Contingent Transportation, $1 million per condition, $10 million excess.

Contractors Pollution - $1 million per claim, $10 million excess.

The State of New Jersey, Department of Environmental Protection shall be named as an additional named insured for the above insurance coverage. No Class B material shall be accepted at the facility until a Certificate of Liability Insurance demonstrating compliance with the terms above is submitted to the Department.
. [N.J.A.C. 7:26A- 3 .4]

EastStar Environmental Group, Inc.
Consulting and Field Services

April 2, 2014

Mr. Mark Smith
President and CEO
Soil Safe Incorporated
6700 Alexander Bell Drive
Suite 300
Columbia, Maryland 21046

RE: Remediation of the Rahway Arch Site using Soil Safe Product

Dear Mark:

I have been retained by Rahway Arch Properties, LLC as the Licensed Site Remediation Professional (LSRP) for remediation of the Rahway Arch Site. The site is located at 300 Salt Meadow Road, Carteret, New Jersey 07008 and is described as Block 602, Lots 1 and 8; Block 603, Lot 1 and Block 705, Lots 17 and 18 in Carteret.

The Rahway Arch Site contains approximately 85 acres of contaminated alum-YPS sludge impoundments and their associated containment berms. These impoundments were constructed and filled by American Cyanamide from 1937 through 1974. The remedial investigations have determined that remediation of the site is required to protect human health and the environment.

As the LSRP, I am responsible for ensuring that the site is remediated in accordance with the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS - NJAC 7:26C) and the Technical Requirements for Site Remediation (Tech Rule - 7:26E).

On July 16, 2013, I issued and certified the final Remedial Action Workplan (RAW) for the site. The RAW was supplemented by an addendum issued on August 15, 2013 and a clarification letter issued on August 23, 2013. A component review of the RAW and associated documents was completed by the NJDEP Site Remediation Program (SRP) on August 25, 2013, verifying that the plan for remediation of the site complies with ARRCS and the Tech Rule.

Remediation of the Rahway Arch Site will consist of construction of a cap system over the 85 acre contaminated area. The cap system will be constructed to the lines and grades shown on the approved remediation plan set prepared and sealed by Pamela Pellegrini, P.E., of Kernan Consulting Engineers dated May 16, 2013. I have reviewed and approved the plans as meeting the remediation requirements for this site.

The cap system will be constructed using engineered fill product manufactured by Soil Safe at its Metro12 Class B Recycling Center. The Metro12 facility will be located on a portion of the Rahway Arch Site. Remediation of the Rahway Arch Site is the sole approved end market for the engineered fill from Metro12. Additional recyclable soils may be used on site as part of the remediation project that are not processed through the Class B Recycling Center, provided they meet the requirements contained in the RAW. These additional materials include the materials initially brought to the site to construct the Class B facility.

All materials used in the cap system, including the engineered fill product, must meet the geotechnical and environmental requirements contained in the RAW. The product will be sampled, analyzed and approved by the LSRP before it may be placed in the cap. The Fill Use Plan contained in the RAW, which includes the sampling and analysis requirements, complies with the Tech Rule and the NJDEP document *Alternative and Clean Fill Guidance for SRP Sites*, dated December 29, 2011.

Upon completion of the remedial action, I will be issuing a Response Action Outcome (RAO) as the final remediation document for the site.

If you have any questions regarding this site remediation project, please call me at (410) 290-8777.

Sincerely,
EastStar Environmental Group, Inc.

Albert P. Free, P.E., CSP, LSRP
President
LSRP License Number 575600

cc: Chester A. Pucillo – Rahway Arch Properties, LLC

REMEDIAL ACTION WORKPLAN

for the

Rahway Arch Properties Site

Block 602, Lot 1 and 8; Block 603, Lot 1; Block 705, Lots 17 and 18
(formerly Block 9.03, Lot 21; Block 10, Lots 8-11 and 12-21 and
Block 11.01, Lots 8-14 and 28)
Carteret, New Jersey 07008

Original Report Issued: November 27, 2012
Final Report Issued: July 16, 2013

prepared for:

Rahway Arch Properties, LLC
7 Nottingham Drive
Florham Park, New Jersey 07932

prepared by:

EastStar Environmental Group, Inc.
10632 Little Patuxent Parkway
Suite 106
Columbia, Maryland 21044

approved by:

Albert P. Free, P.E. CSP, LSRP
LSRP Number 575600
President

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1. INTRODUCTION

Rahway Arch Properties, LLC (Rahway Arch Properties) has contracted with EastStar to provide LSRP services for remediation of the Rahway Arch site in Carteret, New Jersey. The Rahway Arch site is a 125.7 acre property located at the terminus of Salt Meadow Road (formerly Driftway Street). It is more precisely defined as Block 602, Lot 1; Block 603, Lot 1and Block 705, Lot 18. This property was formerly defined as Block 9.03, Lot 21; Block 10, Lots 8-10 and 12-21 and Block 11.01, Lots 8, 10-14 and 28.

The remediation project site also includes portions of two properties owned by the Borough of Carteret. The Borough has entered into an agreement with Rahway Arch Properties and EastStar for remediation of the contaminated areas of these parcels. The Carteret parcels are Block 602, Lot 8 (formerly defined as Block 10, Lot 11) and Block 705, Lot 17 (formerly defined as Block 11.01, Lot 9). Combined these parcels encompass 5.2 acres although the majority of Block 705, Lot 17 is outside the limit of remediation.

The general location of the site is shown on Figure 1.1. The specific location of the site and its boundaries are shown on Figure 1.2. The most recent USGS quadrangle map of the site and vicinity is shown in Figure 1.3. The property boundaries with the block and lot lines is shown in Figure 1.4.

Remediation of the site is being performed in accordance with the requirements of the Site Remediation Reform Act (SRRA), the Administrative Requirements for Remediation of Contaminated Sites (ARRCS) {NJAC 7:26C} and the Technical Requirements for Site Remediation (Tech Rule) {NJAC 7:26E}. Rahway Arch Properties opted-in to the Licensed Site Remediation Program on December 5, 2011 by submitting the LSRP Notification of Retention or Dismissal form to New Jersey Department of Environmental Protection (NJDEP). Albert P. Free of EastStar was retained as the Licensed Site Remediation Professional (LSRP) for the site.

Remedial activities have previously been performed on this site, a Declaration of Environmental Restrictions (DER) was recorded in April 1995 and a restricted use No Further Action (NFA) letter was issued by NJDEP in September 2002. The DER and NFA established non-residential remediation standards as the applicable remediation standards for the site.

The current conditions on the site are no longer protective and additional contamination and areas of concern have been identified that were not known or perhaps not present when the NFA was issued. On March 15, 2013, NJDEP issued a notice of intent to rescind the NFA to Cytec, Incorporated, the former property owner. In addition, the site does not meet the intent of Section 47g (1) of SRRA because no portion of the site is usable for future development or recreational use.

A Preliminary Assessment (PA) for the property was prepared in August 2012. The PA identified 14 Areas of Concern (AOCs) and recommended further investigation of nine AOCs. Because of the known areal extent of the contamination on the site, EastStar decided to forgo the separate Site Investigation (SI) phase and proceed directly to a remedial investigation (RI).

The RI was conducted from June through November 2012 and is described in detail in a remedial investigation report (RIR) dated November 15, 2012. The RI confirmed that the

FIGURE 1.1

General Location Map of the Rahway Arch Site

EastStar Environmental Group, Inc.
Consulting and Field Services

10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044

Scale:	AS SHOWN	Date:	November 2012
Drawn By:	JAC	Checked By:	APF

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Graphic Scale
1,000 500 0 1,000
1 inch = 1,000 feet

Compass
N W E S

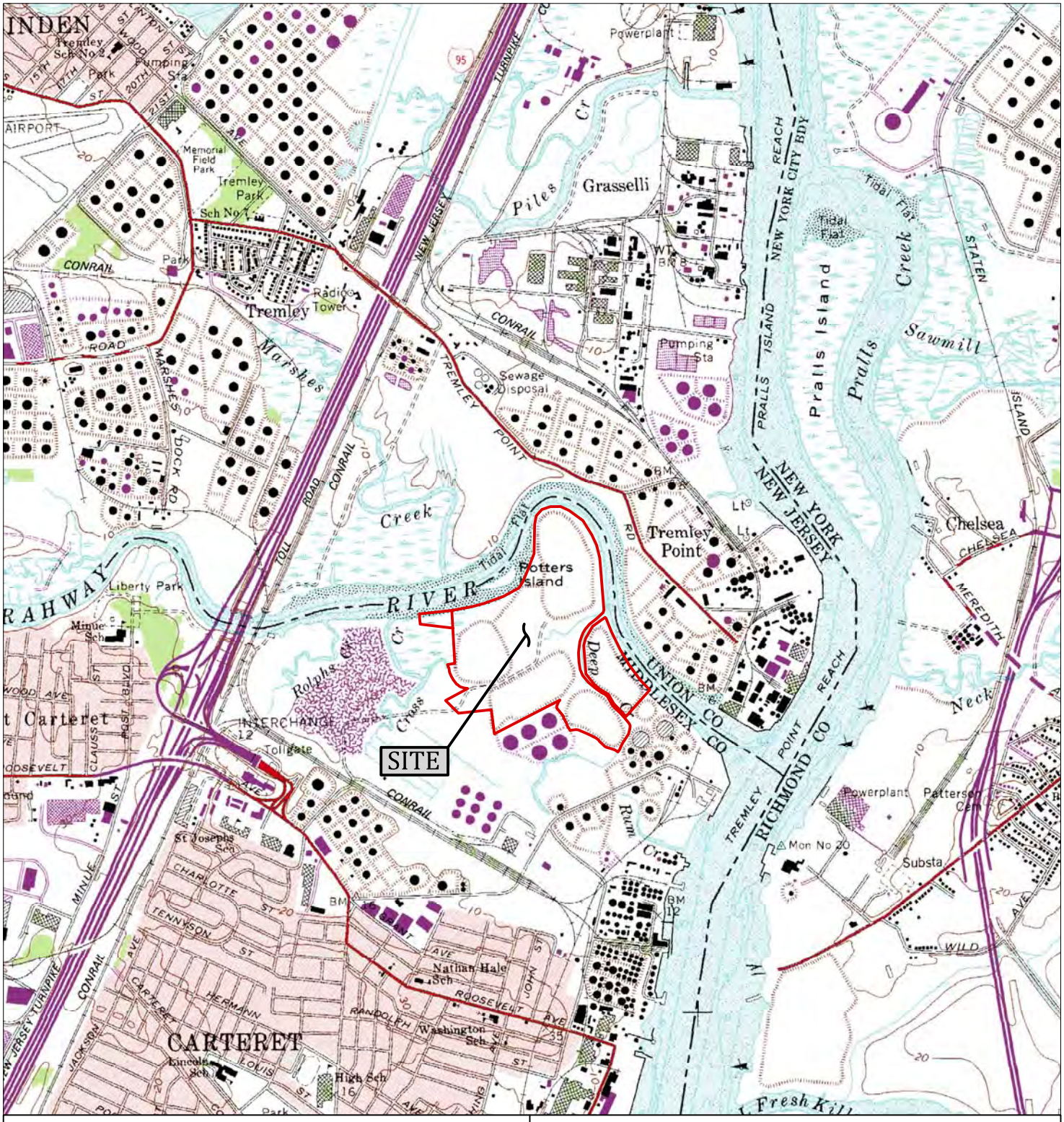
FIGURE 1.2
AERIAL PHOTO AND VICINITY MAP

RAHWAY ARCH PROPERTY SITE

BLOCK 602, LOT 1; BLOCK 603, LOTS 1 & 8 AND
BLOCK 705 LOTS 17 & 18
BOROUGH OF CARTERET
MIDDLESEX COUNTY, NEW JERSEY

Source: Google Imagery, 2011

Project	Date	Scale
1027	11/14/12	1 IN = 1,000 FT



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Graphic Scale

2,000 1,000 0 2,000

1 inch = 2,000 feet

Compass

N W E S

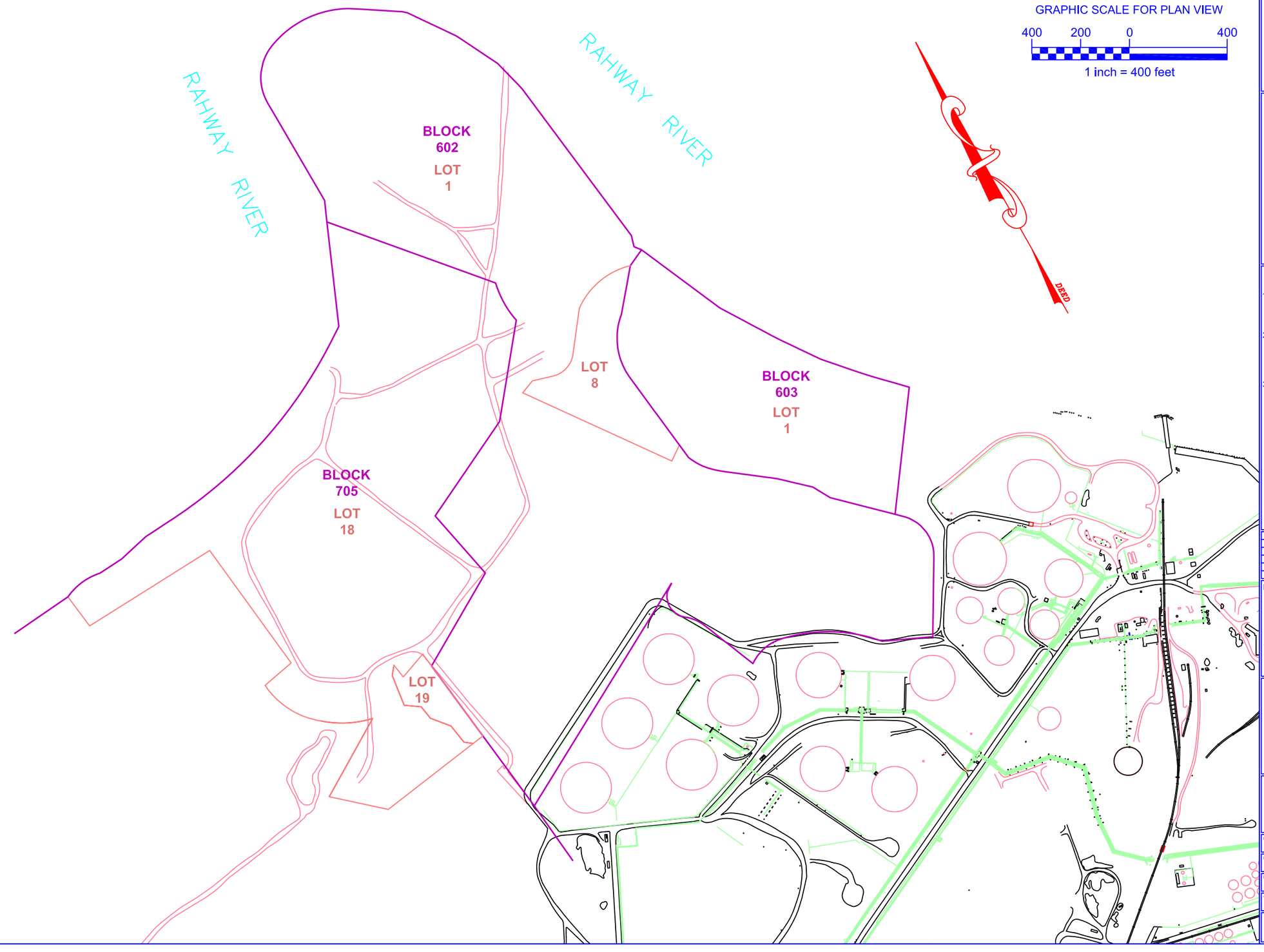
FIGURE 1.3
USGS QUADRANGLE SITE LOCATION MAP

RAHWAY ARCH PROPERTY

BLOCK 602, LOT 1; BLOCK 603, LOTS 1 & 8
BLOCK 708 LOTS 17 & 18
BOROUGH OF CARTERET
MIDDLESEX COUNTY, NEW JERSEY

Source: USGS Arthur Kill, NY-NJ Quadrangle - 7.5 Minute Series, 1979

Project	Date	Scale
1027	11/14/12	1 IN = 2,000 FT



Rahway Arch

RAHWAY ARCH PROPERTIES, LLC

7 Nottingham Drive
Florham Park, New Jersey 07932

REMEDIAL INVESTIGATION OF THE RAHWAY ARCH SITE

BLOCK 602, LOT 1
BLOCK 603 LOTS 1 &8
BLOCK 705 LOTS 17 & 18

BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

General Notes and Legend

1. BASE MAP INFORMATION OBTAINED FROM CREST ENGINEERING, INC. PLAN ENTITLED WETLAND LOCATION MAP, DATED 8/7/97.
2. RAHWAY ARCH PROPERTIES LLC PARCELS: BLOCK 602, LOT 1; BLOCK 603, LOT 1; BLOCK 705, LOT 18. FORMERLY BLOCK 9.03, LOT 21; BLOCK 10, LOTS 8-10, 12-21; BLOCK 11.01, LOTS 8,10-14 AND 28.
3. BOROUGH OF CARTERET PARCELS: BLOCK 602, LOT 8 AND BLOCK 705, LOT 17. FORMERLY BLOCK 10, LOT 11; BLOCK 11.01, LOT 9.

Engineer

Albert P. Free, P.E., CSP, LSRP
NJ PE Number 24GE03816200

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FIGURE 1.4
BLOCK AND LOT LAYOUT

File Name: Site Blocks and Lots.dwg	Scale: 1 Inch = 400 feet
Date: November 14, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

undocumented fill material that has been placed on the site and the alum-YPS sludge in the impoundments contain metals, cyanide and PAHs above non-residential soil direct contact remediation criteria and soil impact to groundwater screening levels. The groundwater on the site, sampled through the sixteen existing groundwater monitoring wells, is also contaminated with metals and cyanide. Additionally, the site in its current condition is unusable and poses a safety risk to the public.

The RI included a geotechnical investigation that determined the alum-YPS sludge in the impoundments and the underlying peat and clay layers have minimal strength. In their current condition, these layers cannot support a load that would allow the site to be usable. However, the geotechnical report did identify a construction process for capping the site with engineered fill that would allow:

- Elimination of the unsafe conditions
- Passive recreational use and/or safe habitat
- Possible future development over a portion of the site.

Contained in this report is the Remedial Action Workplan (RAW) for remediating the site in accordance with the SRP regulations and guidelines. This remediation will consist of both engineering and administrative controls that will accomplish these remedial action goals:

- Comply with SRRA and the requirements of the LSRP program
- Comply with SRP regulations and guidance documents
- Comply with all other Federal, State and local requirements
- Eliminate direct contact hazard with contaminated surface fill and alum-YPS sludge
- Prevent precipitation from coming in contact with the contaminated materials and discharging to groundwater or surface water, as occurs currently
- Promote runoff and evapotranspiration of precipitation rather than infiltration
- Ensure the long term integrity of the berms that currently contain the alum-YPS sludge
- Eliminate site safety hazards posed by soft soils and sludge and ponded water in the open impoundments
- Allow possible future development on a portion of the site by the property owners, making at least a portion of the site usable.

This RAW describes capping the site using engineered fill, following the guidelines recommended in the geotechnical report. It has been prepared in accordance with the requirements of the Tech Rule and contains specifics on the cap design and the materials that may be used to construct the engineered fill. It also contains the details on the administrative controls including a deed notice and groundwater classification exception area (CEA).

The specific engineering and environmental requirements for the cap are described in detail in Section 6 of this RAW. The fill use plan for the engineered fill material is described in detail in Section 7. This remedial action has been designed to meet all of these requirements, which must be met prior to issuance of a Response Action Outcome (RAO).

This RAW has been revised from the initial report that was issued on November 27, 2012 following input from the NJDEP Site Remediation Program (SRP). SRP performed a component review of the RAW and provided feedback to EastStar. This feedback has been used in preparing this Final RAW. The remedial design has also been modified slightly because of the new Advisory Base Flood Elevations published by FEMA.

2. SITE HISTORY

2.1 Historic Site Use

The project site is the old Cytec Impoundments site, a former industrial waste disposal facility operated by American Cyanamid Company (now Cytec Incorporated) from the mid-1930s through 1974 to dispose of a mixture of acidic sludge from an alum manufacturing process and alkaline sludge from a yellow prussiate of soda (YPS) manufacturing process.

American Cyanamid Company owned and operated a chemical manufacturing plant, known as the Warner Plant, located on 30 acres of property in Tremley Point, at the confluence of the Rahway River with the Arthur Kill in Linden, New Jersey, from 1917 to 1998. The plant produced a number of organic and inorganic products including:

- "Ammo-Phos" – a concentrated fertilizer made by reacting ammonia with phosphoric acid. The ammonia was produced by reacting calcium Cyanamid and steam. The phosphoric acid was produced by mixing sulfuric acid with phosphate rock.
- Ammonia and nitric acid for military purposes during World War I
- Alum and aluminum sulfate compounds for water treatment
- Yellow prussiate of soda (YPS)
- Sulfuric acid, acrylamide, polyacrylamide and sodium hydrosulfide
- Paper treatment chemicals
- Mining and ore production chemicals
- Non-persistent organophosphate insecticides including malathion and Cygon
- A broad range of organic chemicals including surfactants, rubber accelerators, motor oil additives and fumigants (hydrocyanic acid)

The Warner Plant was remediated under an Administrative Consent Order issued by NJDEP on August 23, 1990. According to the U.S. EPA, human exposures and migration of contaminated groundwater are considered to be under control at the Warner Plant at this time.

While it was operating, waste alum and YPS sludges from the Warner Plant were slurried and pumped across the Rahway River to the project site. It is not known if any other waste products from the Warner Plant were included in the slurry. Demolition debris from work performed at the Warner Plant was used on the project site for road and berm reconstruction and is part of the undocumented fill identified on the site.

Alum production consisted of digesting bauxite ore with sulfuric acid. The resulting acidic sludge was primarily silica. YPS production consisted of reacting calcium cyanide with hydrated ferrous sulfate and soda ash. The resulting basic sludge was primarily calcium carbonate and contained cyanide salts. The two waste streams were mixed together to form a neutral slurry and were pumped into the impoundments for disposal. Surface water from the

Arthur Kill was used to liquefy the slurry for pumping. River water was also pumped to the site between slurry discharges to prevent sludges from settling in the pipeline. It is not known whether other waste streams or materials were blended with the sludges prior to disposal. YPS sludge disposal at the site ended in 1970. Alum sludge disposal ended in 1974.

The 124.7 acre site contains six impoundments, encompassing approximately 85 acres, located on the Rahway River. The impoundments were constructed above existing grade with wooden and earthen dikes. They currently contain approximately 2,000,000 tons of the cyanide containing alum-YPS sludge. The size and capacity of each of the impoundments varies, as does the thickness of the sludge, which ranges from 5 to 20 feet. A scaled site map showing the location of the six impoundments is provided in Figure 2.1.

Evidence indicates that undocumented fill material has been imported and used on the site over the years to cover the alum-YPS sludge, maintain the dikes and stabilize the surface in several of the impoundments. This fill material was imported from various sites over the years for operations and maintenance of the disposal areas. Because it was imported to the site for operation and maintenance of the impoundments, the fill may not be considered historic fill, as defined by the Tech Rule. However, the undocumented fill has the physical and chemical characteristics of historic fill.

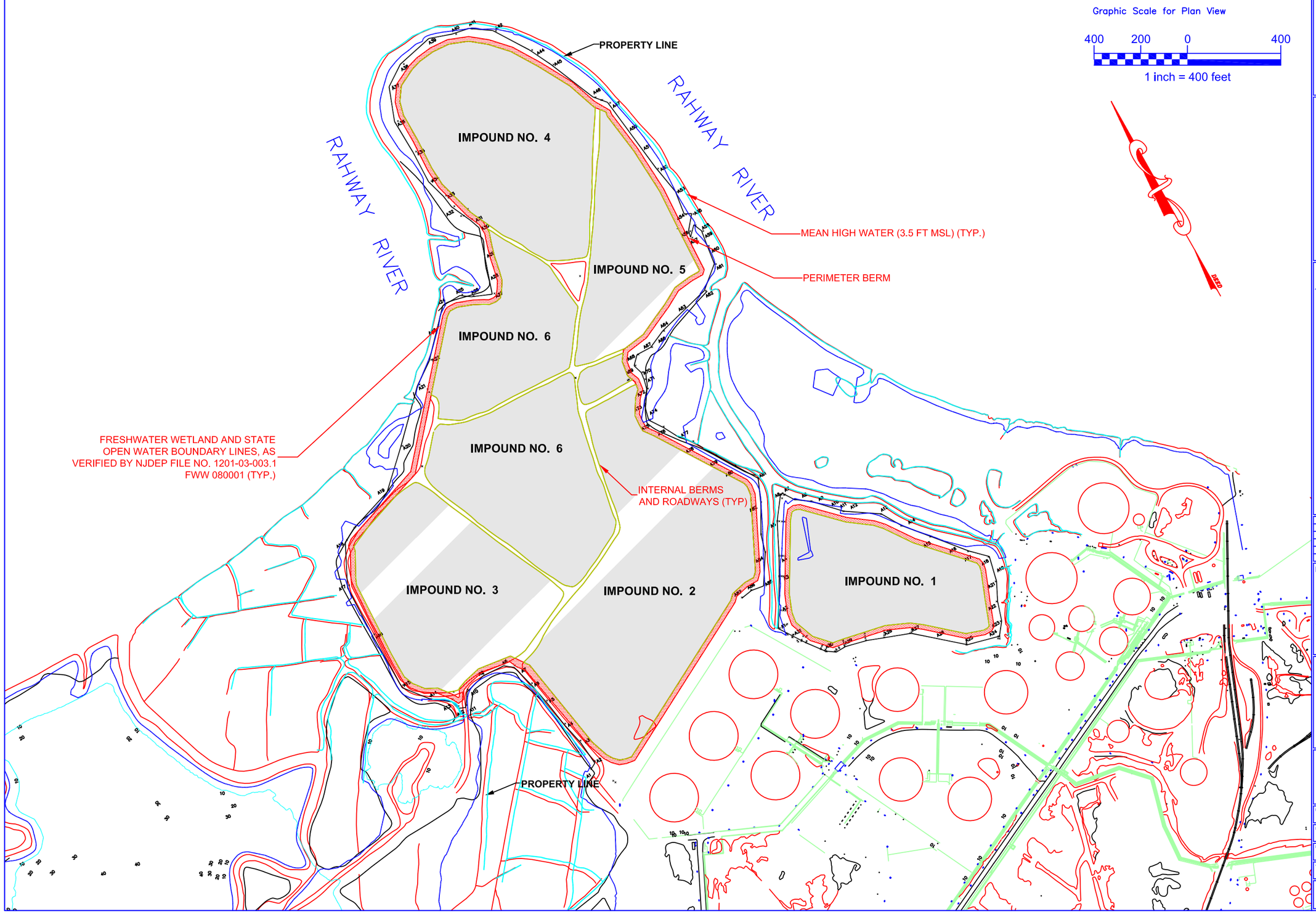
From the time that waste from the Warner Plant was no longer placed in the impoundments until 2005, the site was unused. Various activities were performed during that time to maintain the berms, prevent nuisance dusting, characterize the environmental conditions and monitor the groundwater. Several plans for additional remediation and eventual reuse of the site were developed by Cytec, but none of the plans ever proceeded past the concept stage, likely due to the poor geotechnical conditions posed by the alum-YPS sludge.

In 2005, a portion of the site in Impoundment 2 was leased by Dauman Recycling Company to operate a Class B recycling facility for wood waste and pallets. Dauman operated on the site from 2006 through 2008. Permit violations related to improper storage and handling of the wood waste were recorded. According to the DataMiner, several of these violations are still outstanding. Several piles of wood waste remain on Impoundment 2, and the surface of some areas of Impoundment 2 is covered with wood chips.

2.2 Current Site Use

Rahway Arch Properties purchased the site in 2010 from Cytec. No activities or development have occurred on the site since that time other than the site and remedial investigations described in the RIR. At the present time, the site consists of the six sludge impoundments surrounded by the containment berms. Several pathways were built through the impoundments by Cytec to allow access for maintenance or access to the eight existing monitoring well clusters. The berm between Impoundments 4 and 5 is not visible, merging these two impoundments into a single larger impoundment.

In its current condition, the project site is unusable. Most of Impoundments 1 and 6 are filled with standing water. Vegetative cover is either sparse or non-existent over most of the area of the remaining impoundments, with the exception of Impoundment 1 and the low areas of



Graphic Scale for Plan View

400 200 0 400

1 inch = 400 feet

DATA

Rahway Arch

RAHWAY ARCH PROPERTIES, LLC

7 Nottingham Drive
Florham Park, New Jersey 07932

REMEDIAL INVESTIGATION OF THE RAHWAY ARCH SITE

BLOCK 602, IOT 1
BLOCK 603, LOTS 1 & 8
BLOCK 705 LOTS 17 & 18

BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

General Notes and Legend

1. BASE MAP INFORMATION OBTAINED FROM CREST ENGINEERING, INC. PLAN ENTITLED WETLAND LOCATION MAP, DATED 8/7/97.

Engineer

Albert P. Free, P.E., CSP, LSRP
NJ PE Number 24GE03816200

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Consulting and Field Services

10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
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FIGURE 2.1
SCALED SITE MAP OF THE IMPOUNDMENTS

File Name: Impoundments.dwg	Scale: 1 Inch = 400 feet
Date: November 14, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Impoundment 3. A 12 inch cover of soil and sewage sludge had been placed over the impoundments from 1986 through 1989 to promote vegetative growth. This work was required under an April 1978 amended administrative consent order issued by New Jersey Superior Court to control dust blowing off of the site and onto the Turnpike. This 12 inch cover has been eroded away in most locations on the impoundments leaving exposed alum-YPS sludge. Phragmites have grown in the soil on the berms and the roadways surrounding the impoundments.

The impoundments are impassable and are unsafe for foot or vehicular traffic because the sludge has no shear strength and cannot bear any weight. A pole or rod can be pushed by hand its full length into the sludge with minimal effort. This creates a dangerous condition for persons, vehicles and wildlife on the site and makes the site, in its current condition, unusable.

Impoundment 3 is the lowest area on the site and appears to have been inundated regularly by the Rahway River. Trash and debris consistent with river water flowing onto the impoundment are visible.

Impoundment 2 has been covered with several feet of soil (undocumented fill) and was used for the aforementioned wood waste recycling operation. That operation was halted in 2008, although wood waste from the operation remains on-site. A portion of the soil surface is covered with wood chips, and several piles of wood chips remain on the site.

A large stockpile of used railroad ties and dock bulkhead is located on Impoundment 5. Cytec used railroad ties as a means of bridging the soft soils and alum-YPS sludge during maintenance and rebuilding of the access roads on the berms. The Fill Investigation documented areas where the railroad ties were used. This stockpile appears to be extra ties that were delivered to the site but never used and additional treated lumber waste from demolition of a dock bulkhead, likely from the Warner Plant. The amount of material in this stockpile far exceeds the volume that would be needed for maintenance of the roads.

3. REMEDIAL INVESTIGATION FINDINGS

3.1 Remedial Investigation

3.1.1 Overview

The field work for the RI was performed in July and August 2012. This work consisted of:

- Environmental sampling of surface and subsurface soils and the alum-YPS sludge from soil borings
- Groundwater sampling in the surface and Brunswick Formation aquifers using the existing 16 groundwater monitoring wells
- Geotechnical investigation using soil borings and cone penetrometer tests in the impoundments, berms and adjoining wetlands

The scope of sampling for the RI was reduced because the physical features of the site clearly delineated the contaminated area. The 85 acre contaminated area was delineated by the six alum-YPS sludge impoundments and the surrounding berms. The approximately 2,000,000 tons of alum-YPS sludge (AOCs 1, 3 and 13) was contained in the six impoundments. The undocumented fill (AOCs 5 and 10) was observed over berms and the six sludge impoundments. The contaminated water percolating through the sludge (AOCs 4, 11 and 12) exists in all six impoundments.

The environmental investigations of the soil and sludge and the groundwater were performed by EastStar. Laboratory analyses of the samples were performed by QC Laboratories. The geotechnical investigation was performed by Michael J. Baker, Jr. Inc. Geotechnical laboratory analyses were performed by URS Corporation.

The results of the environmental sampling are described in detail in the RIR. The results of the geotechnical investigation, completed in October 2012, are described in detail in Baker's geotechnical investigation report and are summarized in the RIR.

3.1.2 Soils and Sludge Investigation

The surface soil, alum-YPS sludge and underlying natural materials were all sampled and analyzed in the RI. Previous investigations had shown that the surface soil (undocumented fill) throughout the site is contaminated with polynuclear aromatic hydrocarbons (PAHs) and metals above non-residential remediation standards. Over time, this undocumented fill soil has been placed over all areas of the 85 acres of impoundments that comprise the remediation project. Previous investigations have also shown that the alum-YPS sludge is contaminated with metals and cyanide above non-residential remediation standards.

Because of the existing data showing that these materials are contaminated, only a few samples of the undocumented fill and alum-YPS sludge were collected during the RI. The RI samples were primarily intended to verify the contaminants in these layers, identify other possible contaminants in these layers and determine if the underlying layers were also contaminated.

Samples in each layer collected during the RI were analyzed for metals, cyanide and PAHs, the known contaminants of concern on the site. Selected samples were also analyzed for semi-volatile organic compounds (S-VOCs), volatile organic compounds (VOCs) and petroleum hydrocarbons (EPH).

The RI analytical results confirmed the findings of all of the previous investigations regarding the surface and alum-YPS sludge contamination. The surface soils are contaminated with metals, cyanide and PAHs; and the alum-YPS sludge is contaminated with metals and cyanide. Further, the results determined that the underlying soils were also contaminated with metals above non-residential and impact to groundwater standards. No VOC, S-VOC (except PAHs) or EPH contamination was detected in any of the underlying layers above non-residential or impact to groundwater standards.

The highest measured contaminant concentrations in each layer for contaminants that exceeded a standard are summarized in Table 3.1. All of the soil and sludge sample analysis results from the RI are summarized in Appendix A.

3.1.3 Groundwater Investigation

Sixteen groundwater monitoring wells are currently located on the site in eight two well clusters. Each well cluster consists of a shallow well screened in the surface aquifer and a deep well screened in the Brunswick Formation aquifer. Prior to the RI, the 16 monitoring wells were last sampled in 1999. Therefore, prior to sampling, EastStar re-developed the wells. The re-development process is described in the RIR.

After re-development, the sixteen wells were purged and sampled using low flow sampling techniques. Each sample was analyzed for metals, cyanide, PAHs, VOCs and EPH.

The analytical results showed that the groundwater contains metals and cyanide contamination above Class IIB groundwater standards in both the shallow and deep aquifers. No PAH, VOC or EPH contaminants were detected above these standards in either aquifer.

Cytec sampled and analyzed these wells for a limited parameter list in 1995 through 1999. Comparison of the RI results to the results obtained by Cytec in 1999 shows that the highest concentrations of arsenic, manganese and silver concentrations in the groundwater have increased overall on the site and that arsenic, manganese, iron, silver and cyanide concentrations have increased in specific wells from the period from 1999 to present.

The highest measured contaminant concentrations in each aquifer for contaminants that exceeded the groundwater standard are summarized in Table 3.2. These results are compared to the 1999 Cytec results in Table 3.3. All of the groundwater sample analysis results from the RI are summarized in Appendix B.

3.1.4 Geotechnical Investigation

The geotechnical investigation identified seven distinct strata from the ground surface to the under lying bedrock of the Brunswick Formation.

Table 3.1 - Summary of Highest Soil/Sludge Contaminant Concentrations from the RI

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	Surface Fill	Alum-YPS Sludge	Peat	Organic Clay
Inorganics							
Aluminum	mg/kg	none	3,900	20,500	29,200	25,200	13,800
Antimony	mg/kg	450	6	7.64	1.79	6.04	<2.50
Arsenic	mg/kg	19	19	248	5.33	28.3	12.7
Beryllium	mg/kg	140	0.5	1.13	1.13	1.39	0.822
Cadmium	mg/kg	78	1	1.95	4.33	12.2	<0.636
Cobalt	mg/kg	590	59	21.4	75.3	16.5	13.2
Lead	mg/kg	800	59	757	60	303	40.7
Manganese	mg/kg	5,900	42	415	356	493	775
Mercury	mg/kg	65	0.1	31.6	0.262	0.991	0.495
Nickel	mg/kg	23,000	31	118	38.4	75.0	31.2
Zinc	mg/kg	110,000	600	652	185	796	138
Cyanide	mg/kg	23,000	13	1,330	2,850	1,130	69.8
Polynuclear Aromatic Hydrocarbons							
Benzo(a)anthracene	ug/kg	2,000	500	4,170	<1,100	<1,010	
Benzo(b)fluoranthene	ug/kg	2,000	2,000	4,690	<910	<840	
Benzo(k)fluoranthene	ug/kg	23,000	16,000	4,010	<1,170	<1,080	
Benzo(a)pyrene	ug/kg	200	200	4,870	<1,080	<996	
Chrysene	ug/kg	230,000	52,000	4,620	<1,050	<968	
Dibenz(a,h)anthracene	ug/kg	200	500	1,340	<815	<752	
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	2,920	<1,050	<971	

Table 3.2 - Summary of Highest Concentrations in Groundwater from the RI

Parameter	Units	GW Quality Criteria	Surface Aquifer	Brunswick Formation
Inorganics				
Aluminum	mg/l	0.2	0.260	0.207
Antimony	mg/l	0.006	0.0239	0.0927
Arsenic	mg/l	0.003	0.267	0.425
Beryllium	mg/l	0.001	0.0019	0.0018
Cadmium	mg/l	0.004	<0.0011	<0.0011
Cobalt	mg/l	none	0.0375	0.0076
Lead	mg/l	0.005	<0.0175	<0.0175
Manganese	mg/l	0.05	5.33	4.60
Mercury	mg/l	0.002	0.000046	0.000033
Nickel	mg/l	0.1	0.0231	<0.0034
Zinc	mg/l	2	0.120	0.0784
Cyanide	mg/l	0.1	12.40	0.391
Polynuclear Aromatic Hydrocarbons				
Benzo(a)anthracene	ug/l	0.1	0.02	0.02
Benzo(b)fluoranthene	ug/l	0.2	0.02	0.02
Benzo(k)fluoranthene	ug/l	0.5	0.02	0.02
Benzo(a)pyrene	ug/l	0.1	0.02	<0.02
Chrysene	ug/l	5	0.02	0.02
Dibenz(a,h)anthracene	ug/l	0.3	<0.02	0.03
Indeno(1,2,3-cd)pyrene	ug/l	0.2	<0.02	<0.02

Table 3.3 - Comparison of Groundwater Data to Cytec 1999 Data

Parameter	Units	Surface Aquifer			Brunswick Formation		
		Cytec 1999	RIR 2012	Change	Cytec 1999	RIR 2012	Change
Volatile Organic Compounds							
Benzene	ug/l	23	<3.80	lower	<0.26	<0.22	same
Chlorobenzene	ug/l	6.9	<3.20	lower	<0.58	<0.23	same
Inorganics							
Aluminum	mg/l	1.21	0.260	lower	2.92	0.207	lower
Antimony	mg/l	n/a	0.0239		n/a	0.0927	
Arsenic	mg/l	0.0246	0.267	higher	0.00995	0.425	higher
Beryllium	mg/l	n/a	0.0019		n/a	0.0018	
Cadmium	mg/l	n/a	<0.0011		n/a	<0.0011	
Cobalt	mg/l	n/a	0.0375		n/a	0.0076	
Iron	mg/l	24.9	28.6	same	261	39.6	lower
Lead	mg/l	n/a	<0.0175		n/a	<0.0175	
Manganese	mg/l	5.82	5.33	same	2.58	4.60	higher
Mercury	mg/l	n/a	0.000046		n/a	0.000033	
Nickel	mg/l	n/a	0.0231		n/a	<0.0034	
Silver	mg/l	<0.00147	0.0128	higher	<0.00147	0.0347	higher
Thallium	mg/l	0.00568	<0.0324	same	0.00840	<0.0324	same
Zinc	mg/l	n/a	0.120		n/a	0.0784	
Cyanide	mg/l	50.0	12.4	lower	10	0.391	lower
Polynuclear Aromatic Hydrocarbons							
Benzo(a)anthracene	ug/l	n/a	0.02		n/a	0.02	
Benzo(b)fluoranthene	ug/l	n/a	0.02		n/a	0.02	
Benzo(k)fluoranthene	ug/l	n/a	0.02		n/a	0.02	
Benzo(a)pyrene	ug/l	n/a	0.02		n/a	<0.02	
Chrysene	ug/l	n/a	0.02		n/a	0.02	
Dibenz(a,h)anthracene	ug/l	n/a	<0.02		n/a	0.03	
Indeno(1,2,3-cd)pyrene	ug/l	n/a	<0.02		n/a	<0.02	

n/a - Cytec did not analyze the groundwater samples for these parameters.

Stratum I: FILL (Existing Berm): This stratum was encountered at ground surface to depths ranging from 0.5 feet to 14.9 feet below ground surface within most of the berm borings. Fill was also encountered at ground surface in several impoundment borings. The stratum generally consisted of black to brown to gray, loose to very dense, Silty SAND (SM) with Gravel and red-brown, Clayey GRAVEL (GC) to stiff to very stiff, yellow to light gray, Clayey SILT (ML) and red-brown, Sandy Lean CLAY (CL), with varying amounts of debris (bricks, rail ties, and similar debris). The SPT N-values ranged from 5 to 200 blows per foot (bpf), averaging 43 bpf.

Stratum II: FILL (Sludge): This stratum was encountered in some berm borings, all impoundment borings and one wetland boring. It was found at ground surface or just below berm fill soils to depths ranging from 2.3 feet to 19.8 feet. Soils within this layer can be generally classified as gray to dark gray, very loose to dense, Elastic SILT (MH) with varying amounts of peat and sand. The SPT-N values varied from 0 to 38 bpf, averaging 9 blows bpf, indicating a wide range of density for this layer. The sludge had liquid limits ranging from 59 to 62 percent, averaging 61 percent and plasticity indices ranging from 1 to 10 percent, averaging 5 percent. The moisture content ranged from 73.6 to 269.9 percent, averaging 122 percent.

Stratum III: Peat: This stratum was encountered in almost all borings below Stratum I and/or II to depths ranging from 8.7 feet to 29.9 feet below ground surface. In wetland borings, it was encountered at ground surface. Soils within this layer can be generally classified as gray, very loose to very dense, Elastic SILT (MH) with varying amounts of Sand and brown, very loose, Silty SAND (SM) to gray to dark gray, very soft to very stiff, Organic Fat CLAY (CH-OH); very soft to stiff, Organic Lean CLAY (CL) with varying amounts of Sand, and very soft to soft, Sandy Silty CLAY (CL-ML), with varying amounts of plant fiber. The SPT-N values varied from 0 to over 35 bpf, averaging 3 bpf. The higher blow counts were generally found near interfaces with harder soils. The soil was highly plastic with liquid limits ranging from 25.0 to 467.0 percent, averaging 141 percent and plasticity indices ranging from 15 to 256 percent, averaging 69 percent. The moisture content ranged from 26.1 to 375.7 percent, averaging 101 percent.

Stratum IV: Soft Organic Clay/Silt: This stratum was encountered in almost all borings, generally below Stratum III and above Stratum V or VI. Soils within this layer can be generally classified as very loose to very dense, Elastic SILT (MH) with varying amounts of Sand to gray to dark gray, very soft to very stiff, Organic Fat CLAY (CH-OH); very soft to stiff and Organic Lean CLAY (CL) with varying amounts of Sand. The SPT-N values varied from 0 to over 7 bpf, averaging 5 bpf.

Stratum V: Stiff Clay/Silt: This stratum was encountered in some borings, generally below Stratum III or IV. Soils within this layer can be generally classified as tan to white, very loose to very dense, Poorly-Graded GRAVEL with Silt and Sand, Silty GRAVEL with Sand. The SPT-N values varied from 4 to over 60 bpf, averaging 24 bpf.

Stratum VI: Alluvial Soil: This stratum was encountered in almost all borings, generally below Stratum III or IV. Soils within this layer can be generally classified as grey to brown, loose to very dense, Silty GRAVEL (SM) with Sand; Poorly-Graded GRAVEL (GP) with Sand; Clayey SAND (SC); Silty SAND (SM); and Sandy SILT (ML). The SPT-N values varied from 0 to over 200 bpf, averaging 55 bpf.

Stratum VII: Residual Soil: This stratum was generally below Stratum V or VI to the boring termination depth. Soils within this layer can be generally classified as red-brown, medium dense to very dense, Clayey SAND (SC) and Clayey SILT (ML) to very stiff to hard, Sandy Lean CLAY (CL); commonly with Shale fragments. The SPT-N values varied from 10 to over 200 bpf, averaging 59 bpf.

3.2 Previous Site Investigations

3.2.1 Surface Fill and Alum-YPS Sludge Sampling

The RIR describes the results from three previous surface fill and alum-YPS sludge sampling events performed on the site by NJDEP in 1991, New Jersey Turnpike Authority in 2005 and EastStar in 2011. The 2011 EastStar study was the most extensive of the prior site investigations; confirming and expanding on the findings of the 1991 NJDEP and 2005 Turnpike Authority investigations, both of which are fully described in the RIR.

In the 2011 EastStar investigation, 20 test pits were excavated around the site in berms and on the accessible areas of the impoundments. The investigation was specifically designed to locate and characterize the undocumented fill that had been placed on the site over the years. The test pits showed that the undocumented fill material was ubiquitous on the surface of the site, over the entire site.

The analytical results from the 2011 investigation showed that the undocumented surface fill was contaminated with metals, PAHs, cyanide and petroleum hydrocarbons. The PAH contamination was wide-spread throughout the entire site including the berms, roads and the cover material on the impoundments at concentrations exceeding non-residential remediation standards. The contamination could not be isolated to a single area on the site. Fourteen of the 20 samples contained one or more PAH compounds in excess of the non-residential remediation standards. These contaminated samples were scattered over the entire 85 acre investigation area.

Two samples from the 2011 investigation contained benzo(a)pyrene (BaP) at 49,700 ug/kg and 59,300 ug/kg. Note that these two samples were more than 900 feet apart and were not collected from the same area of the site. In addition, neither sample was collected from the area near the old railroad tie stockpile. The highest measured BaP concentration is 300 times the remediation standard.

The highest measured concentrations from these investigations are summarized in Table 3.4. All of the results are summarized in Appendix C. The PAH contamination results are shown on Figure 3.1.

3.2.2 Impoundment Sampling

In February 2012, as an initial gauge of current site conditions, EastStar collected three grab samples of alum-YPS sludge from three of the impoundments and four grab samples of water ponded in the impoundments. The objective for collecting these samples was to get a preliminary feel for the environmental conditions of the sludge and the water that was percolating through the sludge into the groundwater.

EastStar collected three sludge samples, one each from Impoundments 3, 4 and 5. These samples were analyzed for TAL metals, cyanide and PAHs. The results showed that concentrations of aluminum, lead, manganese, mercury and cyanide exceeded either the non-residential direct contact remediation standards or the impact to groundwater screening levels. Cyanide concentrations ranged from 547 to 1,570 mg/kg. PAHs were not detected in any of these sludge samples.

Four water samples of standing water in three of the impoundments were also collected. Two samples were collected from Impoundment 3 and one sample each was collected from Impoundments 4 and 6. These samples were analyzed for TAL metals, cyanide and PAHs. The results showed that concentrations of arsenic, copper, lead, thallium and cyanide exceeded the surface water quality criteria for SE water. Cyanide concentrations ranged from 3,980 mg/l to 43,200 mg/l. The cyanide concentrations are up to 308 times the surface water quality criteria. PAHs were not detected in any of the standing water samples.

The highest concentrations from these sample analyses are summarized in Table 3.5. A summary of all of the results is provided in Appendix C.

Table 3.4 - Highest Measured Concentrations from the Fill Investigation

Parameter		Non-Res Remed Std	Impact to GW Scr Lvl	Alum-YPS Sludge
Inorganics				
Aluminum	mg/kg	none	3,900	n/a
Antimony	mg/kg	450	6	n/a
Arsenic	mg/kg	19	19	32.5
Barium	mg/kg	59,000	1,300	339
Beryllium	mg/kg	140	0.5	n/a
Cadmium	mg/kg	78	1	5.91
Chromium	mg/kg	none	none	64.9
Cobalt	mg/kg	590	59	n/a
Lead	mg/kg	800	59	792
Manganese	mg/kg	5,900	42	n/a
Mercury	mg/kg	65	0.1	7.61
Nickel	mg/kg	23,000	31	n/a
Selenium	mg/kg	5,700	7	2.18
Silver	mg/kg	5,700	1	<0.534
Zinc	mg/kg	110,000	600	n/a
Cyanide	mg/kg	23,000	13	5
Polynuclear Aromatic Hydrocarbons				
Benzo(a)anthracene	ug/kg	2,000	500	60,200
Benzo(b)fluoranthene	ug/kg	2,000	2,000	51,600
Benzo(k)fluoranthene	ug/kg	23,000	16,000	52,300
Benzo(a)pyrene	ug/kg	200	200	59,300
Chrysene	ug/kg	230,000	52,000	57,000
Dibenz(a,h)anthracene	ug/kg	200	500	13,500
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	23,200
Petroleum Hydrocarbons				
Diesel Range Organics	mg/kg	none	none	1,360

n/a - Sample not analyzed for that parameter

Graphic Scale for Plan View

400 200 0 400

1 inch = 400 feet

NOTES

Test pit and monitoring well locations were measured on-site 3/30-31/11 using a hand held GPS.

Samples locations from NJDEP Remedial Investigation are estimated from a sketch provided by NJDEP.

Sample locations from the NJ Turnpike Authority investigation are estimated based upon a drawing prepared by PMK Group, 3/13/06.

Results from NJDEP and NJTA sampling that were below the laboratory reporting limit are shown at one-half of the laboratory reporting limit.

Analytical parameters that exceed Non-residential Remediation Standards are shown in red with bold and itallic font.

TP-02 (ug/kg)	
BaA	608
BaP	***608***
BbF	700
BkF	448
Chr	711
DahA	<269
Ideno	287

TP-03 (ug/kg)	
BaA	303
BaP	***277***
BbF	350
BkF	323
Chr	343
DahA	<154
Ideno	<131

S-9 (ug/kg)	
BaA	315
BaP	***315***
BbF	315
BkF	315
Chr	315
DahA	***315***
Ideno	315

S-8 (ug/kg)	
BaA	325
BaP	***325***
BbF	325
BkF	325
Chr	325
DahA	***325***
Ideno	325

S-7 (ug/kg)	
BaA	310
BaP	***310***
BbF	310
BkF	310
Chr	310
DahA	***310***
Ideno	310

S-10 (ug/kg)	
BaA	360
BaP	***360***
BbF	360
BkF	360
Chr	360
DahA	***360***
Ideno	360

TP-02A (ug/kg)	
BaA	411
BaP	***447***
BbF	496
BkF	391
Chr	460
DahA	71.8
Ideno	220

S-11 (ug/kg)	
BaA	335
BaP	***335***
BbF	335
BkF	335
Chr	335
DahA	***335***
Ideno	335

S-6 (ug/kg)	
BaA	365
BaP	***365***
BbF	365
BkF	365
Chr	365
DahA	***365***
Ideno	365

TP-13 (ug/kg)	
BaA	***54,200***
BaP	***49,700***
BbF	***46,700***
BkF	***46,200***
Chr	52,600
DahA	***11,800***
Ideno	***20,600***

TP-19 (ug/kg)	
BaA	979
BaP	***916***
BbF	696
BkF	813
Chr	1,090
DahA	<105
Ideno	287

TP-05 (ug/kg)	
BaA	***2,090***
BaP	***2,060***
BbF	1,600
BkF	2,070
Chr	2,150
DahA	<266
Ideno	773

E-3 (ug/kg)	
BaA	1,960
BaP	***1,700***
BbF	950
BkF	2,260
Chr	1,820
DahA	***300***
Ideno	605

TP-12A (ug/kg)	
BaA	***6,880***
BaP	***3,610***
BbF	***7,040***
BkF	6,580
Chr	6,860
DahA	***1,420***
Ideno	***2,760***

HA-22 (ug/kg)	
BaA	635
BaP	***615***
BbF	952
BkF	548
Chr	702
DahA	<225
Ideno	279

TP-09 (ug/kg)	
BaA	674
BaP	***468***
BbF	514
BkF	503
Chr	800
DahA	<267
Ideno	<226

TP-15 (ug/kg)	
BaA	332
BaP	***332***
BbF	464
BkF	278
Chr	425
DahA	<114
Ideno	122

E-2 (ug/kg)	
BaA	34
BaP	***300***
BbF	300
BkF	300
Chr	56
DahA	***300***
Ideno	300

S-5 (ug/kg)	
BaA	19
BaP	***335***
BbF	335
BkF	335
Chr	335
DahA	***335***
Ideno	335

S-2 (ug/kg)	
BaA	10
BaP	***285***
BbF	285
BkF	285
Chr	11
DahA	***285***
Ideno	285

TP-16 (ug/kg)	
BaA	***60,200***
BaP	***59,300***
BbF	***51,600***
BkF	***52,300***
Chr	57,000
DahA	***13,500***
Ideno	***23,200***

E-1 (ug/kg)	
BaA	225
BaP	***253***
BbF	199
BkF	249
Chr	246
DahA	***300***
Ideno	83

TP-17 (ug/kg)	
BaA	***2,220***
BaP	***1,970***
BbF	1,740
BkF	1,740
Chr	2,120
DahA	***533***
Ideno	930

TP-08 (ug/kg)	
BaA	***9,840***
BaP	***8,560***
BbF	***10,000***
BkF	2,070
Chr	10,200
DahA	***1,640***
Ideno	***3,520***

S-1 (ug/kg)	
BaA	***2,100***
BaP	***1,800***
BbF	1,200
BkF	1,400
Chr	2,600
DahA	160
Ideno	295

S-3 (ug/kg)	
BaA	13
BaP	***300***
BbF	300
BkF	300
Chr	15
DahA	***300***
Ideno	300

TP-11 (ug/kg)	
BaA	***2,510***
BaP	***2,530***
BbF	***2,480***
BkF	2,490
Chr	2,660
DahA	***402***
Ideno	1,070

PAH Analysis Legend	
BaA	Benzo(a) Anthracene
BaP	Benzo(a) Pyrene
BbF	Benzo(b) Fluoranthene
BkF	Benzo(k) Fluoranthene
Chr	Chrysene
DahA	Dibenz(a,h) Anthracene
Ideno	Ideno(1,2,3-cd) Pyrene

LEGEND

- TP-01 Test Pit Location
- CRT-4 Existing Monitoring Well Cluster
- Road with Fill over RR Ties
- Road with Fill
- Mixed Fill over RR Ties
- Mixed Fill
- RR Ties
- Construction Fill
- NJTA E-1 - NJ Turnpike Authority Samples, Nov. 2005
- NJDEP S-1 - NJDEP Remedial Investigation Samples, Oct. 1991

Rahway Arch

RAHWAY ARCH PROPERTIES, LLC

7 Nottingham Drive
Florham Park, New Jersey 07932

REMEDIAL INVESTIGATION
OF THE
RAHWAY ARCH SITE

BLOCK 602, LOT 1
BLOCK 603, LOTS 1 & 8
BLOCK 705 LOTS 17 & 18

BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

Engineer

Albert P. Free, P.E., CSP, LSRP
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Figure 3.1
Fill Investigation
Results for PAHs

File Name:	Scale:
RIR Figures 2-2 and 3-1.dwg	1 Inch = 400 feet
Date: November 14, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Table 3.5 - Highest Measured Concentrations from the February 2012 Preliminary Samples

Parameter	Non-Res Remed Std (mg/kg)	Impact to GW Scr Lvl (mg/kg)	Alum-YPS Sludge (mg/kg)	Water Quality Criteria (ug/l)	Water in Impoundment (ug/l)
Inorganics					
Aluminum	none	3,900	42,400	none	0.770
Antimony	450	6	<1.45	640	<5.30
Arsenic	19	19	9.92	0.061	6.70
Barium	59,000	1,300	214	none	50.0
Beryllium	140	0.5	0.234	42	<0.120
Cadmium	78	1	0.422	8.8	<0.280
Chromium	none	none	36.4	750	8.60
Cobalt	590	59	8.23	none	7.60
Lead	800	59	91.9	24	31.0
Manganese	5,900	42	332	100	92.7
Mercury	65	0.1	0.229	0.051	0.0500
Nickel	23,000	31	20.3	22	1.40
Selenium	5,700	7	2.46	71	29.9
Silver	5,700	1	<1.34	1.9	<0.780
Zinc	110,000	600	42.7	81	11.4
Cyanide	23,000	13	1,570	140	43,200
Polynuclear Aromatic Hydrocarbons					
Benzo(a)anthracene	2	0.5	<0.268	0.18	<0.750
Benzo(b)fluoranthene	2	2	<0.222	0.18	<0.970
Benzo(k)fluoranthene	23	16	<0.285	1.8	<0.680
Benzo(a)pyrene	0.2	0.2	<0.264	0.018	<0.630
Chrysene	230	52	<0.242	18	<0.620
Dibenz(a,h)anthracene	0.2	0.5	<0.199	0.018	<0.520
Indeno(1,2,3-cd)pyrene	2	5	<0.257	0.18	<0.570

4. PREVIOUS REMEDIAL ACTIVITIES

4.1 Current Status

From 1979 through 2002, Cytec performed remedial actions on the site in response to two administrative consent orders. These activities included vegetation of the impoundments, a five-year monitoring program for ground water and surface water and a Declaration of Environmental Restriction (DER). An No Further Action and Covenant Not to Sue (NFA&CNS) letter was issued for the site in 2002 following completion of these remedial actions.

In 2011, as a result of the prevalent current site conditions, coupled with the results of the 2011 EastStar fill investigation, Rahway Arch Properties determined that the remedial actions were no longer protective of human health and the environment. After presentation of the findings to NJDEP, Rahway Arch Properties rescinded the April 2011 biennial certification report on November 23, 2011. On December 5, 2011, as required by SRRA, Rahway Arch Properties opted into the LSRP program. Remediation, starting with the preliminary assessment and the remedial investigation, has been proceeding since that time following SRP requirements.

4.2 Cytec Activities

4.2.1 Vegetation Activities

During the 1970s numerous complaints were made regarding blowing dust from drying alum-YPS sludge in the impoundments. Anecdotal history of these complaints includes reduction in visibility on the nearby N.J. Turnpike from the blowing dust. In April 1978, the New Jersey Superior Court issued an Amended ACO that, among other items, required American Cyanamid to initiate a program to establish suitable vegetation within the impoundments. The vegetation was required to prevent sludge erosion in the then abandoned impoundments and to minimize wind erosion of the dried surface sediment.

In 1979 American Cyanamid began a study of methods for vegetating and stabilizing the sludge. Since the sludge was deficient of several essential nutrients, composted sewage sludge from Camden and Philadelphia was utilized as a base for vegetative growth. This composted sewage sludge was spread over all of the impoundments.

No data is available regarding the environmental characteristics or possible contamination of the composted sewage sludge and it does not appear that the sludge was ever tested for contaminants. This sludge appears to be the first of the undocumented fill that was brought to the site.

American Cyanamid began vegetating the impoundments in 1986. Sewage sludge was placed over all six impoundments, essentially covering the 85 acres with undocumented fill. By 1989 vegetation efforts were complete on all impoundments.

The vegetation efforts had limited long term success. At the present time the vegetation exists only on portions of Impoundments 1, 3, 4 and 5. Standing water exists on significant portions of Impoundments 1 and 6 and smaller areas of the other impoundments. Exposed alum-YPS sludge is apparent on the surface of all of the impoundments.

4.2.2 1995 Remedial Action Plan and Addendum

During the early 1990s, the site was investigated under the direction of the NJDEP-SRP. In 1994, Cytec proposed a remedial action plan consisting of an operation and maintenance program and a Declaration of Environmental Restriction (DER). In response to comments from SRP, Cytec issued a remedial action plan addendum on February 6, 1995 that added a five year groundwater and surface water monitoring program. The groundwater monitoring plan included the installation of three additional monitoring well pairs, including two well pairs near the Rahway River and a more definitive upgradient well pair. NJDEP approved the 1995 Cytec remedial action workplan and addendum based upon data supplied by Cytec and the inclusion of certain engineering and institutional controls, including the Declaration of Environmental Restrictions, described below.

The approved remedial action plan included the following engineering controls to be implemented at the site:

- Maintain the impoundments through quarterly inspections and performing general maintenance and repairs, as needed.
- Place signs along the Rahway River and Arthur Kill to deter trespassers
- Maintain locked gates at the two existing access points
- Fertilize and re-seed, as needed, to maintain vegetative cover
- Clear brush from the monitoring wells to allow access
- Place stone on access roads
- Repair tidal damage to the rip-rap containment system on the outsides of the berms

The monitoring plan conducted at the site consisted of sampling groundwater and surface water semi-annually for the first three years and annually for the last two years. The samples were analyzed for volatile organic compounds (VOCs) and selected inorganic constituents (aluminum, arsenic, total and free cyanide, iron, manganese, silver, and thallium). Trend analysis was performed on the data using Mann-Kendall with the intent to establish a negative trend in the analyte concentrations.

NJDEP asked that additional groundwater and surface water sampling be performed following completion of the initial five year period, based upon the analytical results. Cytec objected to the requirements and this work was never performed. The groundwater sampling program was terminated in 2001, but no additional samples were collected after 1999. The surface water sampling program was terminated in 2002. Limited additional surface water sampling for manganese was performed between 1999 and 2002.

At the present time, the signs do not appear to ever have been installed on the site and the vegetative cover is not well maintained. No tidal damage repairs are apparent. Rahway Arch Properties maintains the gates locked and maintains access to the monitoring wells.

4.2.3 Declaration of Environmental Restrictions

On April 24, 1995, Cytec recorded a Declaration of Environmental Restrictions (DER) for the site in the Middlesex County Land records. The DER is recorded in Liber 4236, Folio 348, and is analogous to a Deed Notice, as currently described in the Tech Rule.

The DER covers the entire site (originally 21 parcels; now three parcels) and establishes that non-residential soil remediation standards would be the basis for site remediation. The DER established institutional controls for the site, references the approved remedial action plan and amendment and requires that any engineering controls implemented as part of the site remediation of the site be maintained.

The institutional controls established by the DER consist of:

- Restricted use of the site
- In the event of any emergency disturbance of the site, DEP must be notified immediately, the area and time of disturbance is limited to the minimums necessary to respond to the emergency, all measured necessary to limit exposures to human health and the environment must be implemented, the affected areas must be restored and a report must be provided to NJDEP.
- No alterations, improvements or disturbances of the site are allowed without prior written approval by NJDEP
- Signage along the Rahway River and Arthur Kill to prevent trespassing, as described in the approved remedial action plan and amendment

The DER is enforceable on the property owner, any lessees and NJDEP. The DER conveys with the property and is enforceable upon all future owners or operators of the property.

4.2.4 No Further Action – Covenant Not to Sue

On September 24, 2002, NJDEP issued a Restricted Use No Further Action and Covenant Not to Sue (NFA&CNS) letter for the project site. This letter was issued at the request of Cytec, following completion of the groundwater monitoring program and acceptance of the results by NJDEP.

The NFA&CNS requires the property owner, and all subsequent property owners, to:

- Maintain the engineering and institutional controls to ensure they remain protective of human health and the environment
- Monitor the engineering and institutional controls for compliance and effectiveness and provide a written certification to DEP every two years that the engineering and institutional controls are being properly maintained and continue to be protective of public health, safety and the environment.

The NFA&CNS may be revoked by NJDEP if the engineering and institutional controls are not maintained and monitored.

Currently, the site is not in compliance with these conditions. The signage does not appear to ever have been installed along the river. The sewage sludge and vegetative cover has eroded off of the alum-YPS sludge in many locations. Additional materials that contribute to the site contamination were brought to the site by Cytec, including:

- Contaminated undocumented fill materials
- Solid waste consisting of used railroad ties and bulkhead timbers
- Wood waste from the former Class B recycling facility

Following completion of EastStar's Remedial Investigation of the site, SRP determined that the NFA was no longer protective of the site. On March 15, 2013, the Department issued as Notice of Intent to Rescind the NFA and CNS to Cytec. On April 15, 2013, Cytec responded to the notice. No further action has been taken regarding the rescission of the NFA since that response.

5. AREAS OF CONCERN

The Preliminary Assessment identified 14 Areas of Concern (AOCs) related to the condition of the site. These areas of concern were investigated as part of the Remedial Investigation. The results of the RI determined that one of the AOCs was not contaminated and did not require any further remedial action. The remaining 13 AOCs were determined to be either contaminated or potentially contaminated. Remedial action or further investigation during the remediation of this site was recommended for these AOCs. The remedial actions described in this RAW will fully address all of these 13 contaminated AOCs.

The aerial extents of the following AOCs comprise the entire 85 acres of contaminated impoundments and berms and correspond with the limits of remediation:

AOC 1 – Sludge Chemical Constituents

AOC 4 – Impacts to Surface Water

AOC 5 – Fill Used to Construct Access

AOC 10 – Undocumented Fill

AOC 11 – Contaminated Water in Impoundments

AOC 12 – Groundwater Contamination

AOC 13 – Public Safety from Exposed Sludge

The engineered fill cap, placed to the limits of remediation in accordance with the following sections of this RAW, will remediate all seven of these AOCs. Because of its design, the cap will have the further effect of stabilizing the existing berms (AOC 3) eliminating the risk of berm failure releasing contaminated alum-YPS sludge and undocumented fill materials into the river.

Two remaining contaminated AOCs relate to the solid waste from the railroad ties and dock materials (AOC 8) and the former wood waste recycling facility (AOC 14). Both of these AOCs will also be remediated during the site remediation.

Additional investigation of the surrounding wetlands for impact due to the alum-YPS sludge and the undocumented fill is necessary. These impacts are addressed as AOCs 2, 7 and 9. No impacts were identified in the RI or previous investigations. Additional investigation of these areas, including sampling and analysis in accordance with Section 4.8(b) and 4.8(c) of the Tech Rule and the Ecological Evaluation Technical Guidance document will be performed during the remedial action to ensure there has been no impact. Sampling will be performed in both the wetland areas and the adjacent surface water features. A RAO will not be issued for the entire site until this investigation has been completed, and any impacts identified in this additional investigation have been addressed.

The AOCs, findings of the RI and recommendations for remedial action are provided in Table 5.1.

Table 5.1 - Rahway Arch Property Areas of Concern and Findings of the Remedial Investigation

AOC	Title	Description	Findings	Recommendations
1	Sludge Chemical Constituents	The alum-YPS sludge may contain other chemical constituents. The Warner Plant produced a number of chemical products and had a number of waste streams. These additional constituents may be mixed with the sludge. Undocumented fill has been placed on top of and mixed with the sludge as part of the vegetation efforts. Additionally, demolition debris from buildings at the Warner Plant were used in the berms. The fill and debris were never tested and are considered undocumented fill.	Inorganc and PAH compounds were detected in the alum-YPS sludge and fill in excess of NRDCRC and IGWSC concentrations.	Place engineered fill cap over impoundments and berms.
2	Residue Sludge Extent	The sludge is mostly contained within the soil berms. However, a review of historical boring logs in the vicinity of the berms identified a layer of sludge beneath the berms in some locations. In addition, historical reports indicate that in some areas, sludge likely extends beyond the present location of the berms resulting from several incidents of embankment failure.	No impact was identifed outside the impoundments and berms.	Additional investigation, including sampling and analysis, will be performed during the remedial action in both the wetland areas and the adjacent surface water features.
3	Residue Sludge and Containment Berm Stability	The structural properties of the sludge are very poor. The sludge within the impoundments had negligible shear strength and is not capable of supporting any significant weight, including lightly loaded construction equipment. The sludge is sensitive and thixotropic. The structural stability of the berms is questionable. Previous reports have documented past instances of failures.	The sludge and berms will support the weight of the cap. However, a specific construction sequence, a drainage mat and time between placement of cap lifts to allow excess pore water pressure to dissipate will be necessary.	Place engineered fill cap over impoundments and berms.

Table 5.1 - Rahway Arch Property Areas of Concern and Findings of the Remedial Investigation

AOC	Title	Description	Findings	Recommendations
4	Impacts to Surface Water Quality	The portion of the Rahway River that abuts the site is classified as SE3 (saline estuarine).Surface water quality data collected in the 1990s indicates that cyanide and manganese were detected at concentrations that exceed the applicable most stringent surface water quality standard (SWQS). Cyanide is a site-specific contaminant associated with the sludge and could be mobilized by storm water runoff and/or by discharge of shallow groundwater. The relatively high levels of manganese in the surface water were believed to be associated with the high levels of manganese characteristic of the regional groundwater. However, the sludge was not analyzed for manganese to determine if this was a site-specific contaminant. A six inch transite pipe used to discharge sludge onto the site from the former American Cyanamid plant runs across the Rahway River. This pipe, if it was not removed or properly abandoned, may act as preferential pathway for migration of potential contaminants into the Rahway River. Also, NJDEP reported the existence of Outfall No. 7, the NJPDES permitted outfall for discharging supernatant from the impoundments. Discolored surface runoff was observed from the impoundments in 2012. Samples collected of water in the impoundments detected elevated concentrations of cyanide and metals, in excess of surface water quality criteria.	Elevated concentrations of inorganics and PAHs, including cyanide and manganese, were detected in the fill and alum-YPS sludge. These contaminants could leach through the berms and impact surface water. Pieces of transite pipes were observed in Impoundment 5.	Place engineered fill cap over impoundments and berms. Additional sampling and analysis will be performed during the remedial action in the adjacent surface water features.
5	Fill Used to Construct Access Roads	Fill generated during the demolition of structures at the Warner Plant in Linden was used to construct and maintain the access roads around the embankments. This fill may be potentially impacted by historical operations associated with these structures. Other undocumented fill, including composed sewage sludge, C&D debris and excess soil excavated from re-development sites has been used on the berms and access roads over the years.	Surface fill materials on the berms and the impoundments contained inorganics and PAHs in excess of NRDCRS and IGWSL concentrations.	Place engineered fill cap over impoundments and berms.
6	Indoor Vapor Intrusion	Groundwater samples from monitoring wells MW-1S and MW-1D contain volatile organic compounds (VOCs), which exceed the applicable NJDEP Generic Vapor Intrusion Screening Levels for groundwater. These impacts were suspected to be associated with operations of Industrial Reclamation Service, an operator on the neighboring property or the Carteret landfill. The extent of the elevated levels of VOCs is not currently known.	VOCs were not detected above indoor air screening levels in the groundwater.	No further action required.

Table 5.1 - Rahway Arch Property Areas of Concern and Findings of the Remedial Investigation

AOC	Title	Description	Findings	Recommendations
7	Ecological Evaluation	The discharge of impacted groundwater into the surface water bodies in the vicinity of the site is possibly impacting the local ecology. The literature review did not identify any ecological studies of the site, with the exception of delineation of the extent of wetlands.	Fill and sludge were not detected in the wetland areas. Completed pathways for ecological impact were not identified.	Additional investigation, including sampling and analysis, will be performed during the remedial action in both the wetland areas and the adjacent surface water features.
8	Solid Waste	A significant pile of railroad ties is located on Impoundment 5. Railroad ties were used to stabilize the access roads. This pile appears to be extra ties delivered to the site but not used.Several piles of chipped wood waste along with scattered wood chips are located on Impoundment 2. These materials appear to be remnants of the wood waste recycling operation that was located on Impoundment 2 in 2005 through 2008.	These materials remain on site.	Remove or use during site remediation.
9	Natural Resources Damages	A Natural Resource Damages assessment was not performed as a part of this PA or any previous investigations.	No natural resource damages were identified.	Additional sampling and analysis will be performed during the remedial action in the adjacent wetland and surface water features to verify that there have not been any damages.
10	Undocumented Fill	EastStar performed a fill investigation performed in 2011 and determined that, in addition to the alum-YPS sludge, undocumented fill materials have been placed over most of the site. Sampling and analysis of these fill materials determined that they are contaminated with PAHs, metals and petroleum hydrocarbons. PAH concentrations range up to 300 times the non-residential direct contact remediation criteria.	Inorganc and PAH compounds were detected in the alum-YPS sludge and fill in excess of NRDCRC and IGWSC concentrations.	Place engineered fill cap over impoundments and berms.

Table 5.1 - Rahway Arch Property Areas of Concern and Findings of the Remedial Investigation

AOC	Title	Description	Findings	Recommendations
11	Contaminated Water in Impoundments	The impoundments act like bathtubs, trapping precipitation. This precipitation is forced to percolate through the contaminated fill and alum-YPS sludge into the groundwater. Alternatively during periods of heavy rainfall, this water will seep through the sides of the berms or will overtop the berms, threatening the berm stability.Limited sampling performed in 2012 has shown that the water has dissolved contaminants from the impoundment contents. Elevated concentrations of cyanide and metals were measured in four samples collected from three of the impoundments in March 2012. The only discharge paths for this contaminated water are into groundwater or surface water. EastStar estimates that 25,000,000 gallons per year of water will percolate through the sludge and enter the groundwater. In 1986, American Cyanamid's consultant Hydrosystems estimated this quantity could be up to 46,000,000 gallons per year and that the resulting discharge of cyanide could be 100 pounds per day. Hydrosystems calculated that this discharge exceeded the U.S. EPA reporting limit for cyanide discharge under the National Contingency Plan.	Limited amounts of water observed during RI in July-August 2012, but the condition remains unchanged.	Place engineered fill cap over impoundments and berms.
12	Groundwater Contamination	Groundwater samples were last collected on the site in 1999. However, the contaminants in the sludge have remained exposed to infiltration since that time. As a result, the condition of the groundwater under the site is unknown at this time. The existing 16 groundwater monitoring wells installed by American Cyanamid and Cytec remain on the site. Although unused for a long time, in 2011 the wells were open and appeared to be usable.	Wells were re-developed and sampled. Metals contamination exceeds groundwater standards.	Place engineered fill cap over impoundments and berms.
13	Public Safety from Exposed Sludge	The sludge in the impoundments has no shear strength and will not support weight. This poses a direct safety hazard to any persons or animals that wander out onto the impoundments. The remedial action plan and the DER discuss engineering controls to limit access by locking to two gates and posting no trespassing signage along the Rahway River and Arthur Kill. While the gates are locked, no signage was observed.	This condition is unchanged.	Place engineered fill cap over impoundments and berms. This will eliminate need for signage.
14	Former Wood Waste Recycling Facility	A Class B recycling facility for recycling wood waste was operated on Impoundment 2 for several years. This facility had numerous permit violations, including several NOVs that remain outstanding at this time. As discussed in AOC 8, remnants of the operation are visible on the site at this time.	This condition is unchanged.	Remove or use during site remediation.

6. PLANNED REMEDIAL ACTION

6.1 Overview of Remedial Action

The RI confirmed that the alum-YPS sludge in the impoundments and the undocumented fill material in the impoundments and on the berms contain metals, cyanide and PAHs above non-residential soil direct contact remediation criteria and soil impact to groundwater screening levels. These contaminants are ubiquitous throughout the 85 acres covered by the sludge impoundments and the berms. The groundwater on the site, sampled through the sixteen existing groundwater monitoring wells, is also contaminated with metals and cyanide.

Additionally, the site in its current condition is unusable and poses a safety risk to the public. Geotechnical data showed that the alum-YPS sludge in the impoundments and the underlying peat and clay layers have minimal strength. These layers, in their present state, cannot support a load that would allow the site to be usable. This unstable and unusable condition exists for all six sludge impoundments and also covers the 85 acre remediation areas (excluding the limited areas covered by the berms). However, the geotechnical report did identify a construction process for capping the site with a specifically designed engineered fill that would stabilize the site and berms and would allow future development over a portion of the site.

Based upon these results, a plan was developed for remediation of the site as required under the SRP regulations and guidelines. The remediation will:

- Eliminate direct contact hazard with contaminated surface fill materials and alum-YPS sludge
- Prevent precipitation from coming in contact with the contaminated materials and discharging to groundwater or surface water
- Promote runoff and evapotranspiration of precipitation rather than infiltration
- Ensure the long term integrity of the berms
- Eliminate site safety hazards posed by soft soils and sludge and ponded water in the impoundments
- Allow safe passive uses, including habitat, and possible future development on a portion of the site by the property owners, making at least a portion of the site usable.

This remedial action will consist of a combination of engineering and administrative controls. An engineered fill cap will achieve the goals of the site remediation. Administrative controls will ensure that the cap remains protective and address contaminant concentrations in the groundwater.

6.2 Engineered Fill Cap

6.2.1 Engineered Fill Cap Design Guidelines

To achieve the remediation goals, the engineered fill cap must address and meet the following design criteria:

- The remediated site must be raised above high tide levels of the Rahway River and the newly promulgated Advisory Base Flood Elevations (ABFE). The ABFE elevation over most of the site is 15 feet above MSL. Low lying portions of the impoundments are routinely flooded by the Rahway River.

- The existing bathtub-like impoundments that trap precipitation, resulting in infiltration through the contaminated materials, must be filled and graded to no longer retain water.

- Permeability of the cap must be less than the underlying alum-YPS sludge. The design permeability for the reduced permeability cap is $2x10^{-6}$ cm/s.

- The site must be graded to cause stormwater to runoff and not infiltrate into the contaminated soil and sludge. At the present time an estimated 25,500,000 gallons of water per year percolate through the contaminated materials into the groundwater. The cap has been designed to eliminate at least 95% of this infiltration.

- Stormwater must be directed to the berms where it can be discharged to surface water. Recharge of the stormwater through the contaminated materials cannot be permitted.

- The stormwater runoff must be managed and discharged through an engineered stormwater management system to prevent erosion damage and uncontrolled flow over the berms into the river.

- The cap must stabilize the existing berms that were installed in the 1930s. These berms were built directly over the meadow mat and do not have center cores to prevent infiltration of water from the impoundments through the berms. Engineered fill material with structural properties is required to stabilize these berms.

- The cap must provide a stable surface to eliminate the existing, unsafe, very soft conditions with the alum-YPS sludge.

- The cap must provide a barrier layer to prevent direct contact and windblown dust exposure hazards that currently exist on the site.

No other feasible and practical remediation option, other than capping the site with a reduced permeability material, exists that would accomplish these goals. As part of the permit application process to the Division of Land Use Regulation and Permitting (LURP) for the permits to perform this remedial action, EastStar performed a detailed alternatives analysis. This was done using the guidelines contained in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP – 40 CFR 300.430) which involve analyzing the remedial alternatives for a site relative to effectiveness, implementation and cost. Alternatives that meet these requirements are further evaluated based on nine criteria mandated by CERCLA and SARA, consisting of:

1. Overall protection of human health and the environment
2. Compliance with applicable or relevant and appropriate requirements (ARARs)
3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility, or volume
5. Short-term effectiveness

6. Implementability
7. Cost
8. State acceptance
9. Community acceptance.

The results of this analysis confirmed the conclusion that the remediation, as described by this RAW, is the only technically feasible option that can accomplish the remediation goals and is therefore the only remediation option for this site.

Use of an engineered fill cap over the limit of remediation shown in Figure 6.1 provides further justification for the reduced sampling performed in the RI. The limit of contamination has been delineated by the impoundments and berms and corresponds with the limit of remediation. Since all of the area will be remediated via an engineered fill cap, there is no need for additional samples within the impoundments and berms.

The cap must cover the entire 85 acre limit of remediation shown in Figure 6.1 in order to accomplish all of the remediation goals. Even if limited areas of the site did not exceed direct contact remediation criteria, leaving an area uncapped would not remediate the impacts to ground and surface water, the unstable berms, the existing unstable sludge surface and the windblown dust exposure hazards.

Additionally, the alum-YPS sludge and the undocumented fill are ubiquitous throughout the 85 acre contaminated area. These materials are known to be contaminated above the remediation criteria. This contamination can be expected to exist throughout the entire remediation area.

Leaving an area of the site uncapped would prevent the LSRP from issuing an entire site RAO upon completion of the remedial action.

Kernan Consulting Engineers (Kernan) of Thorofare, New Jersey was retained to develop these design guidelines into a detailed design for permitting and construction. Included in the design plan set are grading plans, cross-sections, stormwater management and design details. EastStar provided a list of design assumptions, the limits of remediation and a typical cross-section to Kernan for use in the design. The design assumptions are given in Table 6.1. The limit of remediation is shown in Figure 6.1 and the typical cross-section is shown in Figure 6.2.

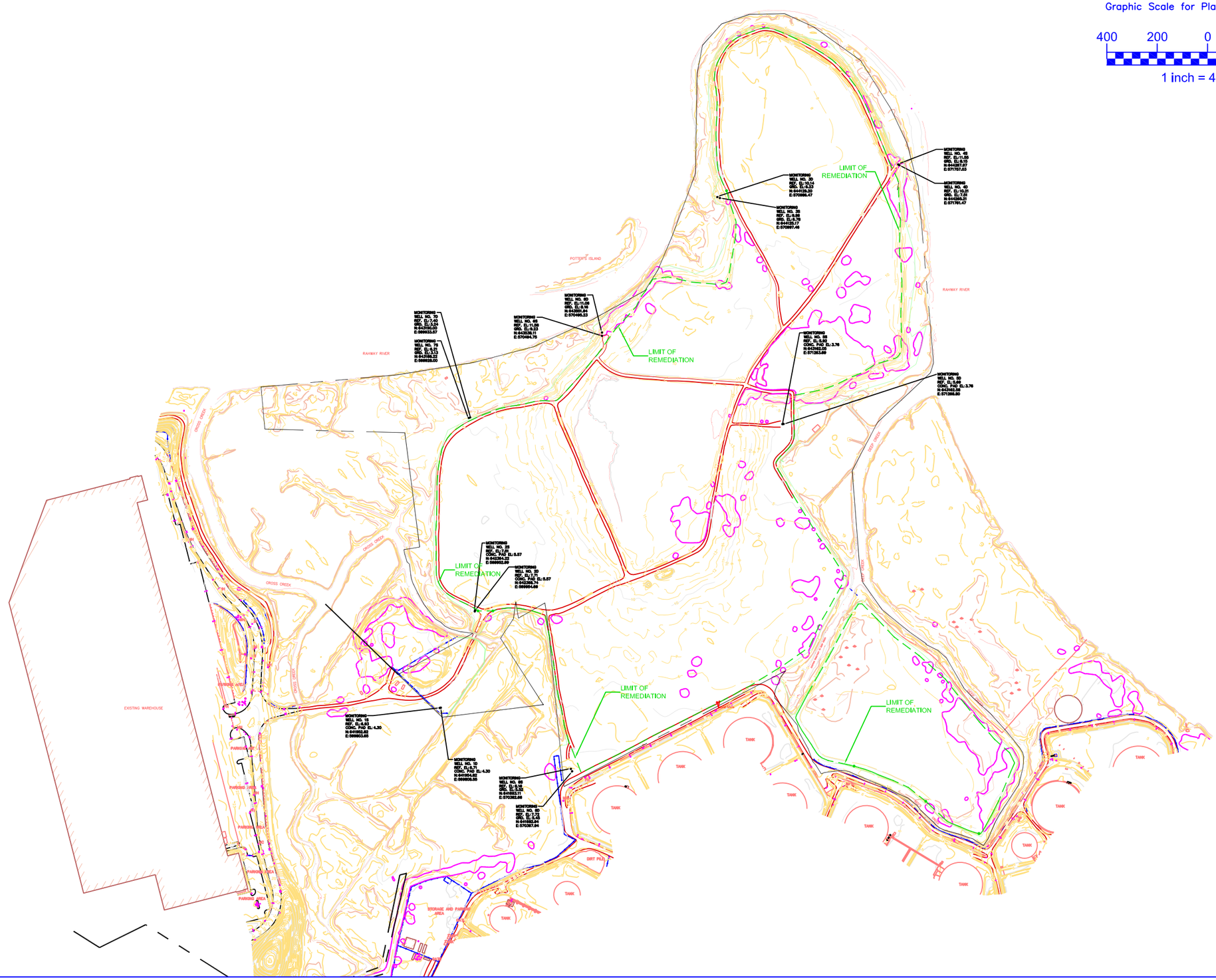
6.2.2 Stormwater Management Requirements

The existing impoundments have a bathtub effect on the site specific hydrology. Precipitation is collected in the impoundments and is trapped there until it percolates through the contaminated fill and alum-YPS sludge to the groundwater. As far back as during the 1980s, Impound 6 was described in the historic remediation documents as having a water cover. Likewise, significant portions of Impounds 1, 3, 4 and 5 are also consistently and historically flooded.

In addition to drawing contaminants down into the groundwater, the trapped precipitation causes the soft and unstable conditions that currently exist on the site. As described in the AOCs, these soft conditions create a safety hazard to persons and wildlife on the site and make the entire site unusable.

Table 6.1 – Engineered Fill Cap Design Assumptions

General Assumptions	All work done from top of berms inward towards the impoundments. No engineered fill material is to be placed on the outside slopes of the berms.
	No engineered fill will be placed in any wetland areas.
	Structural integrity of the berms is questionable and, other than their weight, they should not be relied upon to provide support to the cap.
Stormwater Management Assumptions	Because the receiving stream is tidal, quantity control is not required by the regulations. However, some degree of collection, quantity control and management will be necessary to prevent erosion of the cap and on the side slopes of the berms.
	Capped site will be vegetated; therefore there will be no increase in impervious surface comparing existing to proposed conditions.
Engineered Fill Assumptions	All engineered fill material is 4" minus.
	Some oversized and crushed material will be available for bridging extremely soft/wet areas.
	Target placement parameters: ❑ Loose Lift Thickness: 8-12 inches ❑ Compaction: 90-95% modified proctor ❑ Moisture Content: 0-2% above optimum ❑ Permeability: $2x10^{-6}$ cm/s or less
	Engineered fill placed directly on the sludge cannot be compacted to the target levels. Two to three lifts must be placed and compacted to the extent possible before proper compaction can be achieved.
Cap Design Assumptions	Maximum side slopes = 8H to 1V (to be evaluated in the Geotechnical Report)
	Top slopes = between 1% and 4% with a target of 2.5%
	Engineered fill will be placed on existing ground surface unless the Geotechnical Evaluation indicates that keying into the sludge is necessary. Any excavated sludge/existing soil would be spread within the impoundments and then capped



Rahway Arch
RAHWAY ARCH PROPERTIES, LLC
7 Nottingham Drive
Florham Park, New Jersey 07932

REMEDIAL ACTION WORKPLAN RAHWAY ARCH SITE

BLOCK 602 LOT 1
BLOCK 603 LOTS 1 & 8
BLOCK 705 LOTS 17 & 18

BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

General Notes and Legend

1. BASE MAP, PROPERTY LINES AND TOPOGRAPHY INFORMATION OBTAINED FROM KERNAN ENGINEERING, INC. PLAN ENTITLED "EXISTING CONDITIONS PLAN", DATED 9/11/12.

Engineer

Albert P. Free, P.E., CSP, LSRP
NJ PE Number 24GE03816200

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10632 Little Patuxent Parkway, Suite 106
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FIGURE 6.1 LIMIT OF REMEDIATION

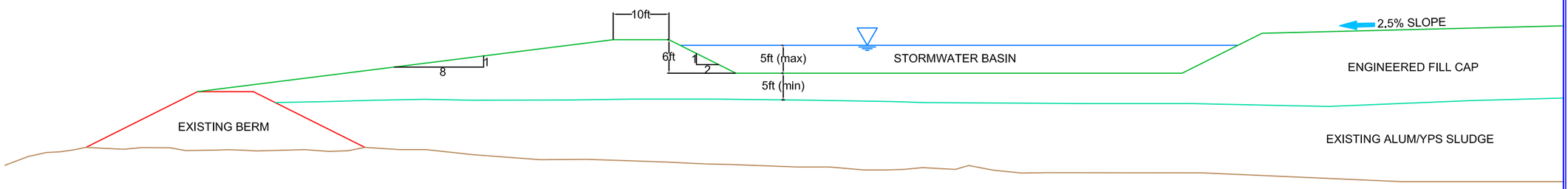
File Name: Site Blocks and Lots.dwg	Scale: 1 Inch = 400 feet
Date: Septemeber 12, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Graphic Scale for Plan View

20 10 0 20

1 inch = 20 feet



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BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

General Notes and Legend

1. See Rahway Arch Site Remedial Action Workplan Cap Design Parameters for details regarding the cap design and construction requirements.
2. Side Slopes subject to change based upon results of the Geotechnical Investigation.
3. Stormwater Basin sizes to be determined.

Engineer

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FIGURE 6.2 TYPICAL CAP DESIGN CROSS-SECTION

File Name: Rahway Remediation Concept.dwg	Scale: 1 Inch = 20 feet
Date: September 12, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Stormwater management is a critical feature in the remedial design of this site. The extensive ponding of stormwater and infiltration must be eliminated as part of any attempt at site remediation. **Without proper stormwater management, any attempt to cap the site will simply result in a continuation of the existing conditions and will not result in an effective site remediation**.

The stormwater management system for the remediated site must meet these requirements:

- Ensure that all precipitation will runoff the site, eliminating the current bathtubs and any potential for ponding
- Handle all of the stormwater runoff, assuming the reduced permeability cap will result in a RCN of 97 or higher.
- Collect and manage the stormwater to prevent erosion of the cap
- Line any stormwater basins with reduced permeability cap material to ensure that percolation does not occur from the basins.
- Discharge stormwater outside the limits of remediation and do not recharge any of the stormwater within the limits of remediation

As a result of these criteria and the large size of the remediation area (85 acres), the cap will need to consist of more than the minimal cap typically used to prevent direct contact exposure. The elevations of the bottoms of the stormwater management basins will be the controlling elevations for the reminder of the cap design. The basins will also need to be large enough to contain the runoff-volumes. Refer to the Kernan stormwater management basin design report for the stormwater runoff calculations and the details of the basin design.

Five feet of fill will be required under the bottoms of the basins, consisting of three feet of fair drainage material, described in the geotechnical recommendations, and two feet of reduced permeability engineered fill cap. Without this thickness of material, the soft soils and sludge will prevent proper compaction of the engineered fill resulting in a cap that does not meet the permeability specification.

6.2.3 Geotechnical Recommendations

In the geotechnical engineering report Baker provided recommendations regarding the design and construction of the engineered fill cap. Key to its concern was addressing settlement of the soft soils on the site and ensuring proper compaction and stabilization of the cap.

Both the settlement and the stability analysis indicate that the proposed grading plan can be safely achieved as long as construction is performed in stages with waiting periods between stages. It is anticipated that the completion of the capping project will take approximately 5 years; therefore this should not be an issue. Based on the current available data, 90% consolidation of the cohesive soil underneath the sludge will take two to three years after the placement of fill. For a sludge layer 13 feet thick, the estimated time required to reach 90% of consolidation is approximately 48 days.

Planned construction sequencing will typically allow 4 to 6 months between loadings. Settlement, consolidation and pore water pressure will be monitored throughout the cap construction process to confirm compliance with the geotechnical requirements

The following construction sequence is recommended:

1. Prepare the subgrade.

   Cut the limited number of trees within the remediation area flush with ground surface.

   Do not remove or disturb root mat or meadow mat.

   Leave small vegetative cover, such as grass and reeds, in place. The vegetation will help to carry the construction equipment load during the site preparation and placing the first several feet of the fill.

2. Place 3 feet of "fair drainage material" on top of the impoundments. The "fair drainage material" is defined as soil materials with permeability greater than 5.0×10^{-5} cm/s. The following procedure should be followed for placing the fair drainage material:

   - End-dump the initial fill materials into the impoundment from the adjacent access road. The first lift of the fill should consist of fair drainage material.

     - Use appropriate trucks and equipment compatible with constructability design.
     - End-dump on the previously placed fill
     - To avoid a local bearing failure, limit the height of dumped piles, e.g., to less than 4 ft above the adjacent sludge or 5 feet above the previous fill, to avoid a local bearing failure. Spread piles immediately to avoid local depressions.
     - Use appropriate lightweight dozers and/or front-end loaders to spread the fill.

   Traffic on the first lift should be limited. Localized observations of tire rutting and spot area depressions will guide efforts to employ the appropriate size and weight construction vehicles.

   The first lift should be compacted only by tracking in place with low-ground-pressure bulldozers, end-loaders or similar equipment.

   Once the fair drainage material is at least 2 ft above the original ground, subsequent lifts can be compacted with a smooth drum vibratory roller or other suitable compactor. If localized liquefied conditions occur, the vibrator should be turned off and the weight of the drum alone should be used for compaction.

   Generally, the above procedure applies to Impoundments 1, 4, 5 and 6. Minor adjustment of the thickness of the first lift and the construction sequence might be required during the construction.

3. After the fair drainage material is placed, the geotechnical instrumentation needs to be installed, consisting of: Settlement Plates, Vibrating Wire Piezometers and Slope

Inclinometers. While the detailed requirements for this instrumentation may be modified by the geotechnical engineer during the construction, a brief summary is:

- The settlement plates should be placed at the top of the first lift. The objective of the settlement plate installation is to control the construction sequence.
- For the piezometers located near the river, filters shall be installed in both organic cohesive soil as well as the sludge. At other locations, the filters of the piezometers only need to be installed within the sludge. The objective for the piezometers is to monitor the dissipation of the excess pore pressures generated during the construction. The shear strength of the soil will increase after the dissipation.
- The slope inclinometers should be installed along the edge of the proposed fill to ensure that slope stability is maintained.
- Additional geotechnical in-situ tests such as CPTu and field vane shear testing may be required during the construction

See the following section of this RAW for more details on the geotechnical instrumentation placement.

4. This is the end of Stage One construction. The starting time for the next construction stage will be based on the instrumentation monitoring results. Generally, the criterion for the next construction stage is when the soft material reaches a minimum 90% of the primary consolidation. The estimated waiting period is approximately 38 days.

5. At areas near the river (Impoundments 4 and 6), the fill placement might be controlled by the time required to dissipate the pore pressure of the existing cohesive soils underneath the sludge. Longer waiting period times might be required as determined by the geotechnical monitoring. More frequent instrumentation monitoring will be required to ensure the rate of fill placement is slow enough to allow the dissipation of excess pore pressure.

6. Place the fill for each consecutive construction stage. The thickness of each construction layer should not exceed 5 ft. The fill material needs to be roller compacted.

7. To facilitate the dissipation of the pore water pressure in the in-situ cohesive soil underneath the sludge, the site shall be filled through a pre-determined sequence with relatively equal loading factors.

Due to the relatively high shear strength of the existing surface materials in Impounds 2 and 3, fill materials may be stockpiled 10 feet above adjacent ground. If higher stockpiles are required, the stockpiles should be placed in a staged manner, thereby allowing the underlying soils to consolidate. Once the stockpile has reached the desired height, further staged placement should not be required. The consolidation of the underlying materials should also be monitored with field shear strength testing prior to increasing the stockpile height. In all other areas, piles should be no more than 6 feet high for any prolonged period of time.

6.2.4 Geotechnical Monitoring Plan

After the fair drainage material has been placed, the geotechnical instrumentation will be installed and the geotechnical monitoring plan will be implemented. The schedule for placement of any subsequent cap material will be governed by the results of the geotechnical monitoring.

The geotechnical instrumentation will consist of settlement plates, vibrating wire piezometers and inclinometers. Baker has recommended that the instrumentation be placed at the locations provided in Table 6.2 for the settlement plates, Table 6.3 for the vibrating wire piezometers and Table 6.4 for the slope inclinometers.

6.2.5 Cap Design

Kernan prepared a detailed cap design that meets the previously outlined remediation objectives, conceptual design and geotechnical requirements. The LSRP has reviewed and approved this design as meeting the requirements for site remediation while minimizing the volume of fill required to construct the cap.

Key features of the cap design include:

- Covering all contaminated AOCs, encompassing the 85 acres of berms and impoundments, with reduced permeability engineered fill to the limits of remediation.
- Maintaining at least 2 feet of reduced permeability engineered fill in all areas of the site including at the bottoms of the stormwater management basins.
- Constructing side slopes at 8 horizontal to 1 vertical (8H:1V) to maintain a factor of safety against slope failure of at least 1.3.
- Constructing the remainder of the cap at 2.5% slope to ensure proper drainage and prevent stormwater infiltration.
- Managing 100% of the stormwater on the site as runoff and conveying this runoff off of the remediation area to prevent percolation into the underlying contaminated materials. The stormwater management system consists of a series of collection swales along the perimeter of the cap, four dry ponds and drainage flumes.

Kernan has developed a 21 sheet set of design drawings that includes the existing conditions, the proposed class B facility, grading plans and profiles, sediment and erosion control plans and construction details and notes. The list of sheets that will be included in the plan set is shown in Figure 6.3. The grading plans from this cap design at 1" = 100' scale are provided in Appendix D to this RAW.

6.2.6 Used Railroad Ties

The large pile of railroad ties and wood from demolition of a bulkhead that is located on Impound 5 will be addressed during the site remediation. Some of the ties may be useful during the site remediation and cap construction activities. Cytec has had success using the ties to

Table 6.2 - Settlement Plate Locations Recommended by Michael Baker, Inc.

Settlement Plate Number	Northing (ft)	Easting (ft)
SP-1	570,681.69	642,532.11
SP-2	570,133.86	642,776.74
SP-3	570,145.24	643,236.96
SP-4	570,706.47	643,159.61
SP-5	571,229.91	643,780.89
SP-6	571,335.68	644,248.12
SP-7	571,714.86	644,186.74
SP-8	571,335.68	644,248.12
SP-9	571,619.51	643,685.98
SP-10	571,953.06	642,164.95
SP-11	571,830.79	641,874.42
SP-12	571,953.06	642,164.95
SP-13	571,830.79	614,874.42

Table 6.3 - Vibrating Wire Piezometer Locations Recommended by Michael Baker, Inc.

Piezometer Number	Northing (ft)	Easting (ft)	Probe Elevation (ft)
VW-1	570,676.04	642,502.77	-12, -20
VW-2	570,676.04	642,502.77	-12, -20
VW-3	570,084.62	643,228.39	-12, -20
VW-4	570,734.91	643,146.35	-12, -20
VW-5	570,734.91	643,146.35	-12, -20
VW-6	571,314.74	644,279.51	-12, -20
VW-7	571,689.62	644,223.79	-12, -20
VW-8	571,314.74	644,279.51	-12, -20
VW-9	571,595.21	643,651.00	-12, -20
VW-10	571,930.74	642,187.58	-12, -20
VW-11	571,850.29	641,850.75	-12, -20
VW-12	571,930.74	642,187.58	-12, -20
VW-13	571,850.29	641,850.75	-12, -20

Table 6.4 – Slope Inclinometer Locations Recommended by Michael Baker, Inc.

Inclinometer Number	Northing (ft)	Easting (ft)	Bottom Elevation of Probe (ft)
IN-1	570,305.94	642,055.82	-35
IN-2	569,795.94	642,770.90	-35
IN-3	570,114.93	643,235.70	-35
IN-4	570,657.78	643,607.96	-35
IN-5	571,018.34	644,186.03	-35
IN-6	571,336.17	644,790.87	-35
IN-7	571,726.89	644,241.95	-35
IN-8	571,721.79	643,483.05	-35
IN-9	571,419.25	642,671.14	-35
IN-10	571,974.44	642,141.70	-35

bridge soft areas in the alum-YPS sludge and the underlying materials. If appropriate and approved by the geotechnical engineer, some of these stockpiled ties may be used for this purpose. Any remaining ties not used as part of the site remediation and construction will be removed from the site for appropriate disposal.

6.3 Groundwater Remediation

6.3.1 Groundwater Characteristics

The general site hydrostratigraphy is described in detail in reports by Blasland, Bouck and Lee (BBL) and Hydrosystems, Incorporated in their prior investigations for Cytec that are detailed in the RIR. Groundwater is contained within two distinct aquifers:

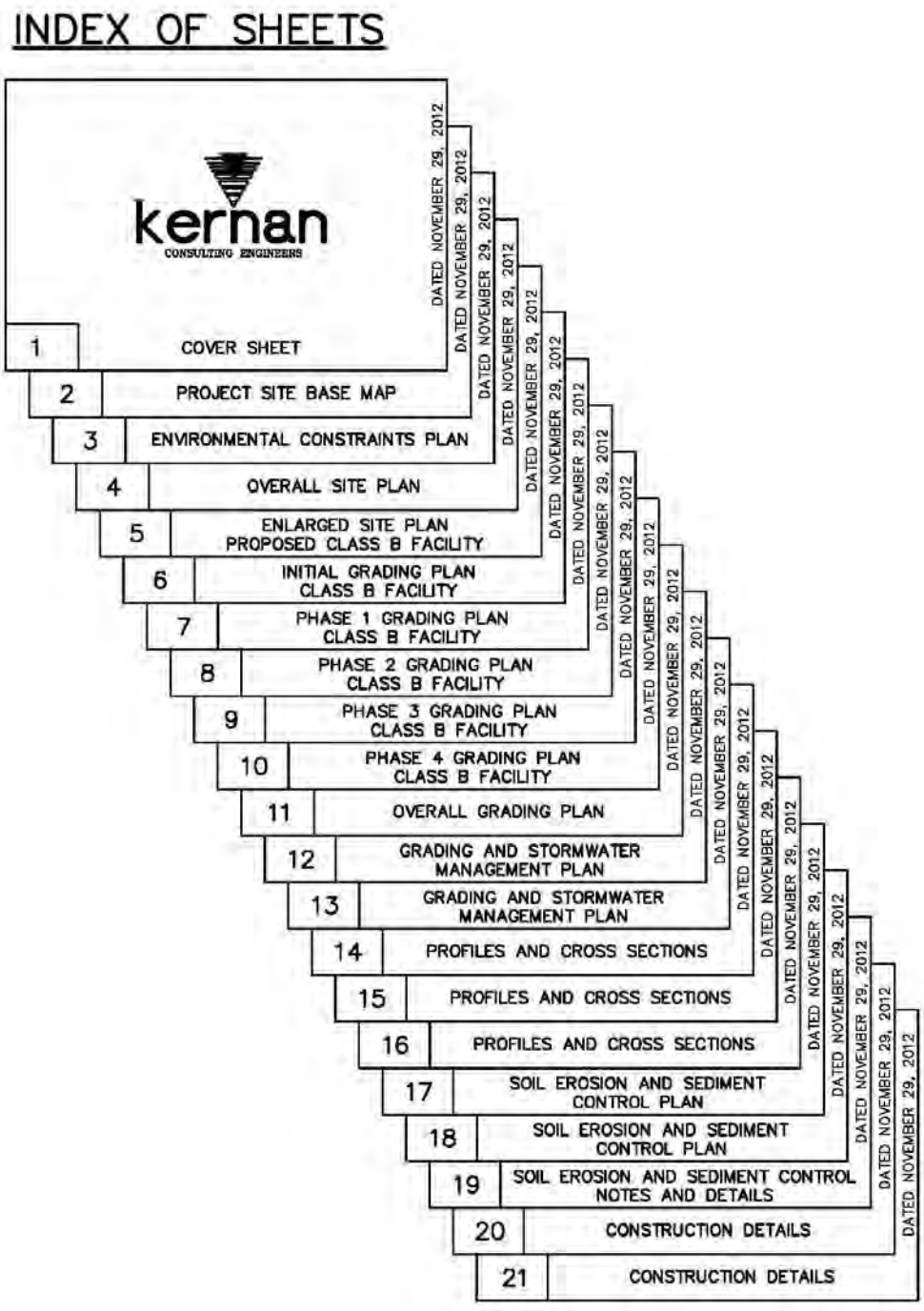
- An unconfined shallow aquifer of permeable fill materials and tidal marsh deposits
- The confined Brunswick Formation shallow bedrock aquifer

A continuous layer of red-brown clay separates these two aquifers and acts as a confining layer for the underlying Brunswick Formation. This clay layer restricts the vertical flow of water between the shallow and bedrock aquifers.

The shallow groundwater aquifer is brackish and tidally influenced. As a result, the groundwater was classified as IIIB. As part of the remedial action from 1995-1999, Cytec developed a limited list of alternative Class IIIB groundwater quality criteria for the specific contaminants of concern.

Not all of the contaminants detected above Class IIB groundwater criteria in the RI were included in the alternative Class IIIB criteria developed by Cytec. As part of this remedial action, EastStar will re-evaluate the Cytec criteria and will develop a full list of alternate groundwater criteria. In accordance with the Tech Rule, these alternate criteria will be reviewed with NJDEP.

Figure 6.3 – List of Sheets for the Design Drawings



6.3.2 Groundwater Flow

Groundwater in the surface aquifer flows outward from the impoundments and discharges into surrounding surface water. This water is also tidally influenced so the groundwater flow direction and gradient will vary with the tides. A groundwater flow map, based upon the depth to groundwater data collected during the RI in August 2012, is shown in Figure 6.4.

In 1987 Hydrosystems reported that groundwater mounded beneath the impoundments and flowed radially outward. This assumption is reasonable give that the impoundments contain standing water that is infiltrating into the surface aquifer. However, since the existing monitoring wells are outside the impoundments, this could not be verified during the RI.

Groundwater flow in the Brunswick formation from the site is towards the north or northeast where it also discharges to the surrounding surface water, the Rahway River and the Arthur Kill.

6.3.3 Monitoring Sampling and Analysis

The 16 groundwater monitoring wells on the site will be sampled and analyzed semi-annually during the remedial action. These wells are located outside the impoundment berms and are outside the limits of remediation. The locations of the monitoring wells are shown in Figure 6.5.

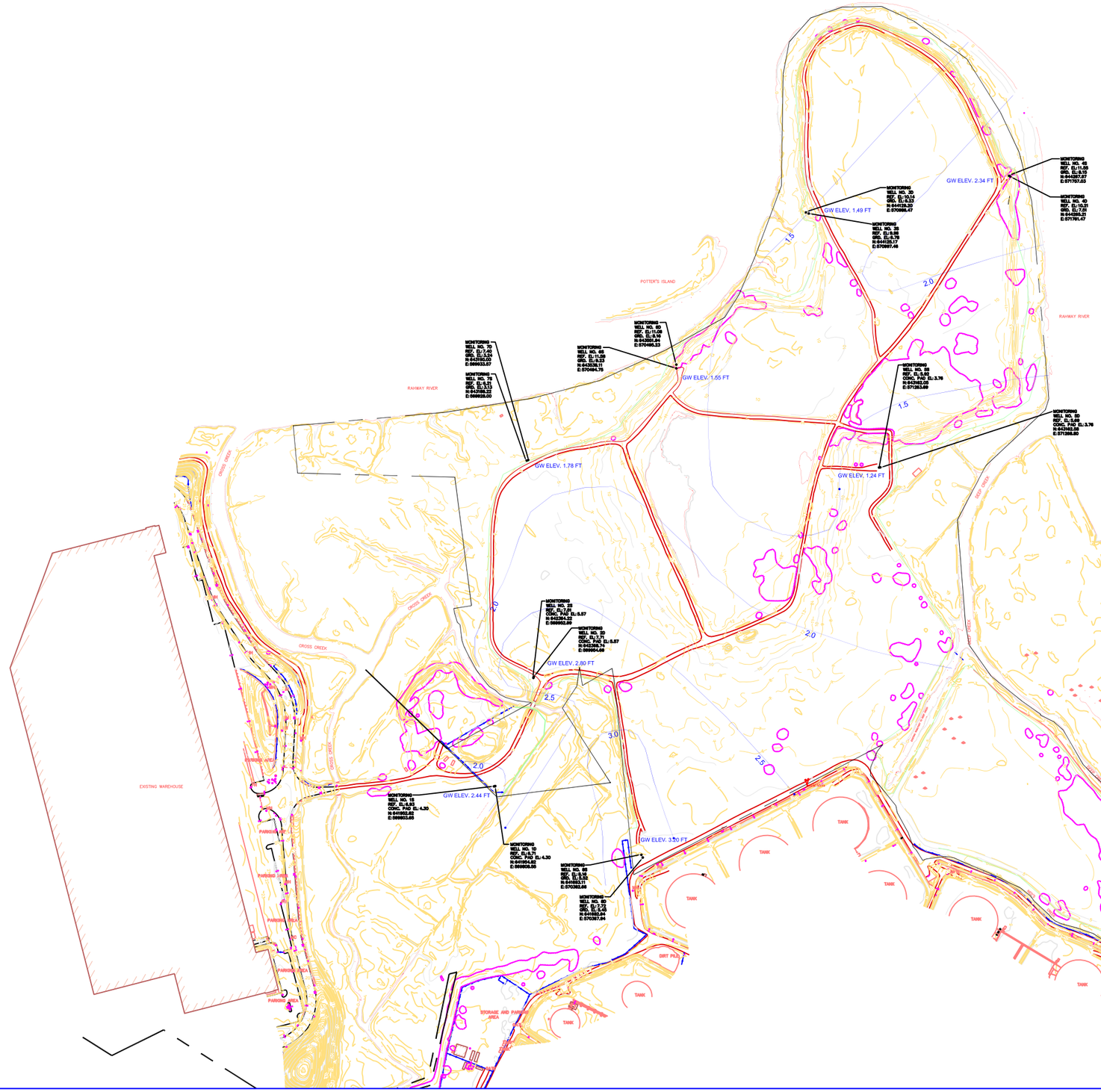
The analytical results from the groundwater samples will be compared to the approved site specific Class IIIB groundwater criteria. Based upon the results, EastStar will determine if a classification exception area (CEA) is necessary for the groundwater. Based upon the results from the RI, a CEA is likely not necessary. However, this determination will be made based upon the longer term results. This evaluation will be performed in accordance with the NJDEP *Groundwater Technical Guidance*.

6.3.4 Additional Groundwater Monitoring

Placement of the engineered fill cap will result in consolidation of the saturated alum-YPS sludge and underlying peat and clay layers. Calculations of the consolidation rates and the extent of consolidation were made by Baker as part of the geotechnical evaluation. As described above, monitoring the consolidation and dissipation of the pore water pressure are critical to ensuring the stability of the cap during construction.

At the present time, an estimated 25.5 million gallons per year of water percolate through the contaminated materials on the site and discharge into the surrounding surface water features and the shallow aquifer. This percolation will be eliminated by the engineered fill cap.

During construction of the cap, pore water will be released from the alum-YPS sludge as the material consolidates. EastStar has calculated that 70,000 gallons of excess pore water will be discharged during the first year of remediation. This volume will decrease as the remediation progresses and the consolidation rate slows. While the volume of excess pore water is significantly less than the volume of water currently percolating through the contaminated materials on the site.



Graphic Scale for Plan View

400 200 0 400

1 inch = 400 feet

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BOROUGH OF CARTERET
MIDDLESEX COUNTY, NJ

General Notes and Legend

1. BASE MAP, PROPERTY LINES AND TOPOGRAPHY INFORMATION OBTAINED FROM KERNAN ENGINEERING, INC. PLAN ENTITLED "EXISTING CONDITIONS PLAN", DATED 9/11/12.
2. GROUNDWATER ELEVATION DATA COLLECTED AUGUST 19-20, 2012

Engineer

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FIGURE 6.4 GROUNDWATER GRADIENT DATA

File Name: Site Blocks and Lots.dwg	Scale: 1 Inch = 400 feet
Date: September 12, 2012	Project Number: 1027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

Graphic Scale for Plan View

400 200 0 400

1 inch = 400 feet

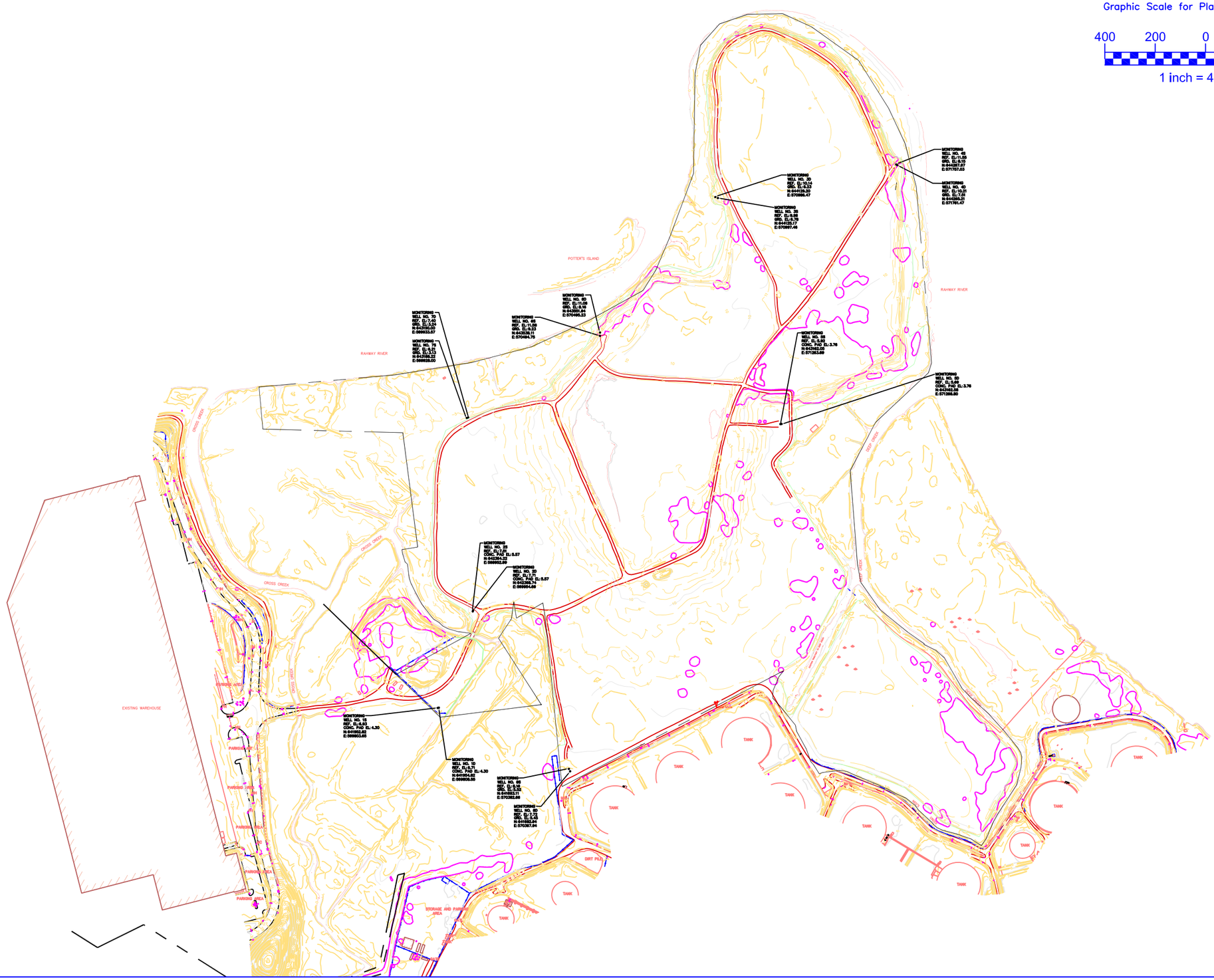

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FIGURE 6.5 MONITORING WELL LOCATIONS

File Name: Site Blocks and Lots.dwg	Scale: 1 Inch = 400 feet
Date: Septemeber 12, 2012	Project Number: I027
Drawn by: MAY	
Checked by: APF	

Sheet 1 of 1 Sheets

The potential for contamination from this pore water will be addressed during the remediation. Prior to the start of the cap construction, EastStar will develop a monitoring plan to sample and analyze this water discharge and ensure that is it not creating a release of contaminants to the aquifer and the river. This plan will be implemented prior to placement of cap material near the river and will be continued until the results demonstrate that no contaminant release is occurring.

6.4 Ecological Impacts

SRP indicated that additional investigation of the surrounding wetlands for impact due to the alum-YPS sludge and the undocumented fill may be necessary. These impacts are addressed as AOCs 2, 7 and 9.

No impacts were identified in the RI or previous investigations. Additional investigation of these areas, including sampling and analysis in accordance with Section 4.8(b) and 4.8(c) of the Tech Rule and the Ecological Evaluation Technical Guidance document, will be performed during the remedial action to ensure there has been no impact. Sampling will be performed in both the wetland areas and the adjacent surface water features. A RAO will not be issued for the entire site until this investigation has been completed and any impacts identified in this additional investigation have been addressed.

6.5 Administrative Controls

6.5.1 Existing Declaration of Environmental Restrictions

A Declaration of Environmental Restrictions was recorded for the site by Cytec on May 4, 1995 in the Middlesex County land records. The DER is analogous to a Deed Notice, as currently described in the Tech Rule.

The DER covers all of the Cytec parcels on the project site and establishes that non-residential soil remediation standards would be the basis for site remediation. The DER established institutional controls for the site, references the approved Cytec remedial action plan and amendment and requires that any engineering controls implemented as part of the site remediation of the site be maintained.

The institutional controls established by the DER consist of:

- Restricted use of the site
- In the event of any emergency disturbance of the site, DEP must be notified immediately, the area and time of disturbance is limited to the minimums necessary to respond to the emergency, all measured necessary to limit exposures to human health and the environment must be implemented, the affected areas must be restored and a report must be provided to NJDEP.
- No alterations, improvements or disturbances of the site are allowed without prior written approval by NJDEP

- Signage along the Rahway River and Arthur Kill to prevent trespassing, as described in the approved remedial action plan and amendment

The DER is enforceable on the property owner, any lessees and NJDEP. The DER conveys with the property and is enforceable upon all future owners or operators of the property, including Rahway Arch Properties.

6.5.2 Proposed Deed Notice

As part of the current site remediation, the existing declaration of environmental restrictions will be rescinded and replace with a new Deed Notice. This deed notice will identify the engineering controls that will be implemented as part of this remedial action. Use of the site will be restricted to non-residential purposes. The non-residential remediation standards, identified in the declaration of environmental restrictions, will be continued.

The deed notice will be prepared in accordance with the model deed notice contained in Appendix B of ARRCS. A draft copy of the deed notice is contained in Appendix E to this RAW.

7. FILL USE PLAN

7.1 Source of Cap Material

The cap will be constructed using engineered fill material manufactured by a Class B recycling facility to be temporarily located on the Impoundment 2 area of the site. The Class B facility will be the donor site for characterization of the engineered fill material to ensure compliance with this fill use plan.

This Class B facility, the proposed Metro12 Facility, will be owned and operated by Soil Safe Incorporated (Soil Safe). Once the remediation is complete, the Class B facility will be dismantled and removed from the site.

The operation of the Class B facility is fully described in Soil Safe's Class B permit application. As an overview, the facility will accept source separated ID-27 petroleum contaminated soil.

All soil delivered to the site will be fully characterized prior to acceptance. Generator sites will be required to:

- Sample and analyzed the soil in accordance with Soil Safe's Metro12 Sampling and Analysis Plan
- Provide a signed material characterization report
- Certify that the soil is non-hazardous and does not contain any prohibited or non-conforming materials
- Provide all analytical data.

Processing will begin with the soil being blended to achieve consistent geotechnical properties. The blended soil will then be screened to remove oversize, typically rocks and incidental amounts of asphalt concrete brick and block. Pickers will remove incidental non-recyclable waste materials such as plastic and wood and recyclable metals. The screened soil will be processed in a pugmill where it will be blended with pozzlonic additives. Oversized removed in the screening process will be crushed and either returned to the raw material stockpile for re-processing or will be used on site as crushed aggregate. Recyclable metals and non-recyclable waste will be removed from the site and disposed of in accordance with the Class B permit.

The processed material will be placed in the post process stockpile and sampled. Because all soil will have been fully characterized prior to acceptance at the Metro12 facility, the reduced sampling frequency guidelines in the *Alternative and Clean Fill Guidance for SRP Sites* (Guidance) document will be used. The volume of engineered fill required for the cap will exceed 10,000 yd3. Therefore, following Table 1 of the Guidance, one sample will be collected from every 1,000 cubic yards of engineered fill material produced.

The samples will be analyzed to ensure that the soil meets the environmental criteria contained in this fill use plan. The analytical methods will be determined based upon the pre-acceptance characterization results, but at a minimum will consist of TAL metals and PAHs.

All product sample analyses will be reviewed and approved by the LSRP prior to placing the engineered fill material in the cap.

Permit approvals are currently underway for the Class B facility. Approvals have been obtained from the Borough of Carteret and Middlesex County. NJDEP permit applications have been submitted and are being reviewed. A list of all of the permits required for the site remediation, including the Class B facility is provided in the next section of this RAW.

7.2 Requirement for Engineered Fill

The engineered fill used for capping the Rahway Arch Site must meet a specific geotechnical specification to achieve the required remediation goals. Specifically, the capping materials must:

- Have sufficient strength that when placed and compacted, it can provide a stable surface, despite placement over the softer, low strength alum-YPS sludge
- Have sufficient strength to stabilize the perimeter berms to eliminate future berm failures
- Have low permeability to minimize percolation and generate a high percentage of run-off
- Achieve the required properties on a consistent basis over the entire 85 acres of capped area.

Simply importing fill material that is placed over the impoundments cannot meet these requirements. The Soil Safe engineered fill product is the only available material that can reliably and economically meet these requirements for the quantities required at a reasonable timeframe to remediate the site.

Experience with the engineered fill product on other capping sites in New Jersey has shown that the Soil Safe product achieve the consistent geotechnical properties necessary for this project. The product has consistently met an A-2-4 soil classification, can be readily compacted to 92-95% of modified Proctor and when properly placed and compacted achieves permeability in the order of $1x10^{-6}$ cm/s. Product manufactured with slightly plastic soil (PI>7) generally achieves a permeability of $1x10^{-7}$ cm/s.

These consistent properties are achieved by processing the soil through the Class B facility. Incoming soil from various sources is blended, achieving the consistent classification and moisture content, resulting in a consistent grain size distribution and elimination of deleterious and oversized materials allowing proper spreading and compaction. The homogeneous soil is then processed through a pugmill where it is blended with pozzlonic additives. These additives increase the strength and result in lower permeability in the compacted fill.

The engineered fill material is placed in 8-12 inch loose lifts by a bulldozer and compacted with a vibratory roller. The material is placed at a moisture content 0-2% above optimum to further aid in compaction and permeability reduction.

The engineered fill material can be handled and placed as a granular material, and it exhibits the geotechnical properties of the blended feed stock. However, after the material has been placed and compacted, the additives will hydrate and form a solid soil-cement matrix. The ultimate strength of the matrix will depend primarily on the percent of additive used, use of

sufficient water to ensure hydration, the underlying geotechnical properties of the soil and the degree of compaction.

7.3 Other Fill Material

In addition to the engineered fill required for the cap, other fill material will be required for the site remediation, including:

- Initial fill to raise the grade of Impound 2 above the Advisory Base Flood Elevation (ABFE) of 15 feet prior to construction of the Class B facility
- Fair drainage material used for the first three feet of capping material in Impounds 1, 4, 5 and 6 as described in the geotechnical recommendations
- Top soil to be used as the final surface material for planting native grasses

Options for the initial fill material include clean fill, alternative fill and processed dredge material (PDM). Options for the fair drainage material include engineered fill from the Class B, modified to achieve higher permeability; alternative fill and PDM. Any fill materials imported to the site for these purposes, including any alternative fill, must meet the requirements and environmental standards contained in this fill use plan and the requirements of the *Alternative and Clean Fill Guidance for SRP Sites* guidance document. The fill must be approved by the LSRP.

If PDM is planned as one of these fill materials, the LSRP will obtain an acceptable use determination (AUD) from the NJDEP Office of Dredging and Sediment Technology for the donor source.

All fill materials must meet the environmental quality criteria described in the following section of this RAW.

7.4 Environmental Criteria

7.4.1 General Guidelines

The engineered fill used to construct the cap and the additional fill materials required to grade the Class B facility and construct the layer of fair drainage material must comply with the requirements of the NJDEP *Alternative and Clean Fill Guidance for SRP Sites* guidance document.

The existing DER sets non-residential remediation standards as the applicable remediation standard for the project site. This standard will be continued with the new proposed deed notice.

In addition, the engineered fill must comply with the like-on-like requirement in the Tech Rule and Guidance. Under this requirement, any analytical parameters that do not presently exist on the site above residential remediation standards, must be at or below residential remediation standards in the engineered fill from the Class B facility and the other fill materials. Any exceedence of these standards would be considered a variance that must be justified and approved by the LSRP. The requirements for justification are outlined in the Tech Rule. The variance would be reported to SRP in the first document submittal following the variance.

Because of these requirements, the concentrations of all of the analytes in the engineered fill, with the exception of specific analytes that currently exist on site that are discussed in the following section, are anticipated to be below the residential remediation standards.

7.4.2 Existing Site Contaminants

The RIR and Section 3 of this RAW describe the current environmental conditions on the site. The existing surface materials, comprised of the undocumented surface fill over the roads, berms and impoundments (AOCs 5 and 10) and the alum-YPS sludge (AOC 1), contain metals, cyanide and PAHs above the residential remediation standards. These contaminants are disbursed over the entire 85 acre remediation area outlined by the Limit of Remediation shown in Figure 6.1. Following the "like-on-like" criteria in the guidance document, the engineered fill materials used in the cap could contain these contaminants at concentrations above the residential standards, based upon the existing on-site concentrations described below.

Specific analytes on site that exceed the residential standards are:

Inorganics
- Arsenic
- Lead
- Mercury
- Vanadium
- Cyanide

PAH Compounds
- Benzo(a) anthracene
- Benzo[a] pyrene
- Benzo[b] fluoranthene
- Benzo[k] fluoranthene
- Chrysene
- Dibenz[a,h] anthracene
- Indeno[1,2,3-cd] pyrene

7.4.3 Existing Concentrations On-site

Accompanying the like-on-like requirement in the Tech Rule is the requirement that the concentrations in the engineered fill may not exceed the existing concentrations on the site. The default method in the Guidance for calculating the maximum concentration that would be acceptable in the engineered fill is to use the 75th percentile of the concentrations from the existing condition data.

The Guidance allows for alternate methods to quantify the existing on-site concentration such as calculation of the Mean or the 95% upper confidence level (95% UCL) of the mean using ProUCL software published by U.S. EPA. Use of these alternate methods is a variance that must be justified by the LSRP, but the variance does not require Department pre-approval.

The criteria in the Guidance to use the Mean or the 95% UCL calculation as the determination for the existing concentration are:

- The database must be sufficiently large
- All of the data must be from discreet samples.
- Outliers may not be excluded
- All other statistical requirements for the evaluation must be met.

As is described in detail in the variance justification section below, the analytical data from this site for these parameters meet these requirements.

The sources of the inorganic contaminants on the site are the undocumented fill and the alum-YPS sludge (AOCs 1, 5 and 10). The existing site concentrations for the inorganics were determined using all of the available surface fill samples and alum-YPS sludge samples from the previous investigations as well as the RIR.

The source of PAH contaminants on the site is the undocumented fill (AOCs 5 and 10). The alum-YPS sludge was likely not a source of PAHs, although the near surface alum-YPS sludge may be contaminated with PAHs from contact and mixing with the undocumented fill. The existing site concentrations for PAHs were determined using all of the available surface analytical data for the undocumented fill and the alum-YPS sludge from the previous investigations as well as the RIR.

The samples used to calculate the existing conditions are listed in Table 7.1.

Table 7.1 – Samples Used to Evaluate Existing Contamination in AOCs 1, 5 and 10

Data Source	Inorganic Contaminants		PAH Contaminants	
	Samples	Summary Table	Samples	Summary Table
NJDEP Site Investigation, 1991	S-1 thru S-12 (11 samples)	Appendix C Table C-1	S-1 thru S-12 (11 samples)	Appendix C Table C-1
NJTA Tremley Point Investigation	E-1 thru E-3 (3 samples)	Appendix C Table C-2	E-1 thru E-3 (3 samples)	Appendix C Table C-2
EastStar Fill Investigation, 2011	Samples 1 thru 22 (21 samples)	Appendix C Table C-5	Samples 1 thru 22 (20 samples)	Appendix C Table C-4
Remedial Investigation	Surface Fill Samples inside the Limit of Remediation (7 samples)	Appendix A Table A-1 (except Sample 039)	Surface Fill Samples inside the Limit of Remediation (5 samples)	Appendix A Table A-2 (except Sample 039)
Remedial Investigation	Alum-YPS Sludge Samples (13 samples)	Appendix A Table A-5	Alum-YPS Sludge Samples (1 sample)	Appendix A Table A-6
Total Number of Samples	55 samples		40 samples	

The two samples from the EastStar Fill Investigation with the highest PAH concentrations, samples from TP15 and TP13, have been questioned if they are outliers and are not representative of the site conditions. EastStar has re-reviewed the representativeness of these samples and the analytical data from these two samples following New Jersey, EPA and

USACE data validation guidelines and is confident that the results are correct and the samples are representative of the conditions on the site. Justification for this conclusion includes:

- The samples were collected by the LSRP who ensured that these samples, as well as all of the other samples from the Fill Investigation, were representative of the soil at the sample locations. Extraneous waste, including wood waste or obvious contaminants, was not placed in the sample containers.

- The 20 sample locations for the fill investigation were selected based upon the areas on the site known or suspected to contain undocumented fill. The results, with 14 of the 20 samples containing PAHs above non-residential standards, is consistent with previous investigation data and the fact that historic fill is generally assumed to contain PAHs above remediation standards.

- All of the samples, including the two most contaminated samples were collected properly into the correct containers for the analytical methods, were properly labeled and were properly preserved immediately after sample collection.

- The two most contaminated samples were not taken from adjoining locations. In fact, the two sample locations are more than 900 feet apart.

- The PAH concentrations are not the result of cross contamination between the two samples. The LSRP adhered to proper sampling and decontamination procedures when collecting all of the samples. Additionally, the sample from TP16 was collected at 9:35AM, while the sample from TP13 was collected at 2:51PM. Sixteen other samples were collected between these samples. No indication of cross contamination was detected in the results from any of those samples.

- These samples, along with all of the other samples from the investigation, were analyzed by a laboratory certified to perform these analyses in accordance with the requirements of the Tech Rule.

- The correct analytical methods were used for the analyses of these samples as well as all of the other samples.

- These samples, along with all of the other samples from the investigation, were analyzed within the prescribed holding times for the analytical methods

- All of the laboratory quality control requirements were met for both samples, as well as all of the other samples from the Fill Investigation.

- All 20 Fill Investigation samples were collected and delivered to the laboratory within one day. All holding times were met and strict chain of custody procedures were followed throughout sample handling and delivery. The samples were properly preserved and were received by the laboratory in the sealed cooler. Any cross contamination or outside contamination of the samples during handling would have been observed in all of the samples.

- The PAH analyses for the sample from TP16 were performed at 7:38PM on April 6, 2011. The PAH analyses for the sample from TP13 were performed at 8:38PM on April 7, 2011. Thirteen other samples were analyzed in the time between the analyses of these two samples. Any laboratory or GC/MS contamination would have been reflected in all of the PAH analyses performed between these two samples, not just these two.

7.4.4 Results of Existing Conditions Analysis

The analytical data from the samples listed in Table 7.1 were assembled in the ProUCL input files. The input files were assembled in accordance with NJDEP Guidance Document *Directions to Determine 95 Percent Upper Confidence Limits of the Mean Using USEPA ProUCL Version 4.0 Software Package*, June 2008. Two columns were used for each variable. For samples with a numerical result, the result was placed in the first column and a 1 was placed in the second column (D_variable column). For samples that were reported as non-detects, the laboratory reporting limit was placed in the first column and a 0 was placed in the second column.

The Mean and 95% UCL concentrations were calculated using all the samples, including the non-detects. The ProUCL software calculates the 95% UCL using various methods and then recommends a value identified as "Potential UCL to Use". These values were reviewed to ensure the results were reasonable and met the criteria contained in the guidance. The results summarized are in Table 7.2.

The ProUCL input and output files for the inorganics and PAHs are contained in Appendix F to this RAW.

Table 7.2 Summary of ProUCL Results for Analytes that Exceed Residential Standards

Analyte	Residential Remediation Standard	Non-Residential Remediation Standard	Existing Conditions	
			Mean	95% UCL
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Inorganics				
Arsenic	19	19	6.01	30.0
Lead	400	800	83.1	185
Mercury	23	65	0.403	3.55
Vanadium	78	1,100	26.9	35.1
Cyanide	1,600	23,000	638	1,165
PAH Compounds				
Benzo(a) anthracene	0.6	2.0	3.99	12.6
Benzo[b] fluoranthene	0.6	2.0	3.73	11.0
Benzo[k] fluoranthene	6	23	3.58	10.8
Benzo[a] pyrene	0.2	0.2	3.38	12.0
Chrysene	62	230	3.93	12.2
Dibenz[a,h] anthracene	0.2	0.2	1.05	1.62
Indeno[1,2,3-cd] pyrene	0.6	2.0	1.71	4.92

The results in Table 7.2 show that the Mean and 95% UCL concentrations are below the residential remediation standards for all of the metals. The Mean and 95% UCL concentrations

exceed the residential remediation standards for six of the seven PAH compounds. The results of the statistical analyses are provided in Appendix F to this RAW.

7.4.5 Environmental Characterization of Engineered Fill

With the exception of the six like-on-like analytes discussed below, the concentrations of all other analytical parameters in the engineered fill material will be below the residential remediation standards.

The six analytes that are currently above the residential remediation standard for both the Mean and the 95% UCL are:

- Benzo(a) anthracene
- Benzo[b] fluoranthene
- Benzo[k] fluoranthene
- Benzo[a] pyrene
- Dibenz[a,h] anthracene
- Indeno[1,2,3-cd] pyrene

In accordance with the Guidance, the concentrations of these analytes, may exceed the residential remediation standard, but may not exceed the existing conditions concentrations.

The LSRP, following extensive discussions with SRP, has established limits on the engineered fill for these PAH compounds. The PAH concentrations in the engineered fill will not exceed the Mean concentrations based upon the existing site conditions. As can be seen in Table 7.2, these Mean concentrations are significantly below the 95% UCL concentrations and therefore will result in concentrations in the cap that are significantly below the existing conditions, complying with the intent of the Guidance.

The concentration limits in the engineered fill for of all analytes are summarized in Table 7.3.

7.4.6 Petroleum Hydrocarbons

The soil imported to manufacture the engineered fill for the cap will be source separated ID-27 petroleum contaminated soil that will be treated and processed through the Class B facility. Although the incoming soil will be considered petroleum contaminated, the petroleum hydrocarbon concentration in the engineered fill product will not exceed residential remediation standards. This criteria is shown in Table 7.3.

Sampling and analysis for petroleum hydrocarbons in the engineered fill product is discussed below.

7.4.7 Surface Layer

The top one foot layer on the surface of the engineered fill cap will consist of topsoil that will be planted with native grasses to form the proposed habitat. The seeding and planting schedule has been approved by the Freehold Soil Conservation District as part of the Soil Erosion and Sediment Control (SESC) permit approval.

Table 7.3 - Summary of Fill Protocol

Analyte	Residential Remediation Standard (mg/kg)	Existing Site Data				Maximum Concentration in Cap [4] (mg/kg)	Determining Factor
		Maximum (mg/kg)	Mean (mg/kg)	Median (mg/kg)	95% UCL (mg/kg)		
Analytes that Exceed Residential Standard Onsite in One or More Samples							
Inorganics							
Arsenic	19	49	6.0	4.69	7.79		Residential Standard
Lead	400	792	83.1	44.7	155		Residential Standard
Mercury	23	7.6	0.403	0.190	1.03		Residential Standard
Vanadium	78	87.6	26.9	28.1	32.3		Residential Standard
Cyanide	1,600	2,850	638	336	1,223		Residential Standard
Organics							
Benzo(a) anthracene	0.6	60.2	3.99	0.633	12.6	3.99	Existing Mean (see Note 7)
Benzo[a] pyrene	0.2	59.3	3.77	0.630	12.0	3.77	Existing Mean (see Note 7)
Benzo[b] fluoranthene	0.6	51.6	3.58	0.660	11.0	3.58	Existing Mean (see Note 7)
Benzo[k] fluoranthene	6	52.3	3.38	0.625	10.8	3.38	Existing Mean (see Note 7)
Chrysene	62	57.0	3.93	0.660	12.2		Residential Standard
Dibenz[a,h] anthracene	0.2	13.5	1.05	0.295	2.93	1.05	Existing Mean (see Note 7)
Indeno[1,2,3-cd] pyrene	0.6	23.2	1.71	0.595	4.99	1.71	Existing Mean (see Note 7)
Analytes that Do Not Exceed Residential Standard Onsite							
Inorganics							
Antimony	31	9.90	2.85	1.81	3.90		Residential Standard
Barium	16,000	495	105	75.6	128		Residential Standard
Beryllium	16	1.20	0.561	0.504	0.652		Residential Standard
Cadmium	78	5.91	0.486	0.039	0.977		Residential Standard
Cobalt	1,600	75.3	8.29	4.90	11.3		Residential Standard
Copper	3,100	677	44.1	14.1	130		Residential Standard
Manganese	11,000	415	170	149	260		Residential Standard
Nickel	1,600	118	15.3	9.16	19.5		Residential Standard
Selenium	390	11.0	2.85	1.00	2.20		Residential Standard
Silver	390	2.10	0.358	0.136	none		Residential Standard
Thallium	5	3.45	1.50	1.21	none		Residential Standard
Zinc	23,000	1,820	160	36.9	263		Residential Standard
inorganics without standards							See Note 1
All other PAHs							Residential Standard

Table 7.3 - Summary of Fill Protocol

Analyte	Residential Remediation Standard (mg/kg)	Existing Site Data				Maximum Concentration in Cap [4] (mg/kg)	Determining Factor
		Maximum (mg/kg)	Mean (mg/kg)	Median (mg/kg)	95% UCL (mg/kg)		
All Other SVOC Compounds						Residential Standard	
All Volatile Organic Compounds						Residential Standard	
All Pesticides						Residential Standard	
All PCBs						Residential Standard	
Extractable Petroleum Hydrocarbons							
Category 1	5,100					Residential Standard	
Category 2	calculated					Residential Standard	

NOTES

1. Analytes without residential remediation standards will be addressed by the LSRP in accordance with the Tech Rule.
2. All engineered fill material will be sampled and analyzed before placement in the cap.
3. One sample will be collected from every 1,000 cubic yards of engineered fill.
4. If a sample fails to meet the criteria for any of the parameters listed above, the 1,000 cubic yards of engineered fill represented by the sample will be isolated. One of the following options will be implemented:

   a. The analytical report and the laboratory QC data will be reviewed to ensure that the result meets the criteria for accuracy, representativeness, completeness and repeatability. If the review demonstrates an error in the analysis, the engineered fill will be re-sampled and re-analyzed.

   b. The 1,000 cubic yards of engineered fill will be re-processed. The re-processed fill will then be resampled and re-analyzed to verify that it meets the criteria.

   c. The 1,000 cubic yards of engineered fill will be removed from the site for use at a site permitted to accept the soil.

   d. The LSRP may consider a variance to use the engineered fill in the cap. The variance must be justified and documented by the LSRP in accordance with the Tech Rule and ARRCS.

5. The maximum concentrations for PAHs are based upon the mean of the existing conditions on the surface of the site. The PAHs are contained in the Undocumented Fill (AOCs 5 and 10) that has been placed on the site and may have contaminated the surface of the alum-YPS sludge (AOC 1). The undocumented fill and PAH contaminated materials are ubiquitous throughout the site. The aerial extent of AOCs 1, 5 and 10 is the 85 acre limit of remediation shown in Figure 6.1 of the RAW.

The final surface material will meet residential standards for all analytes, including arsenic and PAHs. This soil will have a higher organic content to meet the topsoil specification and will be less tightly compacted to promote vegetative growth.

7.4.9 Engineered Fill Sampling Plan

The engineered fill material will be sampled and analyzed to ensure that it meets the environmental criteria listed in Table 7.3 before it is placed in the cap. The product, following processing in the Class B facility, will be placed in a post-process stockpile until the LSRP verifies that the fill meets the limits. Following the Guidance, the engineered fill product will be sampled at a rate of one sample per 1,000 yd^3 of product. The samples will be analyzed by a New Jersey certified laboratory to ensure that the soil meets the environmental criteria.

The analytical methods will initially consist of the target compound list/target analyte list (TCL/TAL plus 30), cyanide and extractable petroleum hydrocarbons. The sampling frequency and analytical methods may be re-evaluated as the project proceeds based upon the pre-acceptance characterization results of the ID-27 soil and analysis of the ongoing results.

Petroleum hydrocarbons will be evaluated by Extractable Petroleum Hydrocarbons (EPH). Sampling and analysis for EPH will follow the requirements outlined in Table 2.1 of the Tech Rule. Evaluation of the residential remediation criteria, needed to determine the allowable concentration in the engineered fill will be evaluated in accordance with the Protocol for Addressing Extractable Petroleum Hydrocarbons. For Category 2 hydrocarbons, the residential standard will be calculated using the EPH Calculator.

If a sample fails to meet the criteria for any of the parameters listed above, the 1,000 cubic yards of engineered fill represented by the sample will be isolated. One of the following options will be implemented:

- The analytical report and the laboratory QC data will be reviewed to ensure that the result meets the criteria for accuracy, representativeness, completeness and repeatability. If the review demonstrates an error in the analysis, the engineered fill will be re-sampled and re-analyzed.
- The 1,000 cubic yards of engineered fill will be re-processed. The re-processed fill will then be resampled and re-analyzed to verify that it meets the criteria
- The 1,000 cubic yards of engineered fill will be removed from the site for use at a site permitted to accept the soil.
- The LSRP may consider a variance to use the engineered fill in the cap. The variance must be justified and documented by the LSRP in accordance with the Tech Rule and ARRCS.

As described in Section 6 of this RAW, the engineered fill cap will be constructed in approximately three foot thick layers constructed from three to four placed and compacted lifts. This method was developed to ensure the geotechnical stability of the site will allow the underlying materials time to consolidate while the site is being capped.

Each three foot thick layer of engineered fill will contain 4,840 yd^3 of engineered fill per acre. At a product sampling frequency of one sample per 1,000 yd^3, this will result in nearly five samples per acre per layer to characterize the cap material. The cap on this site will be extremely well characterized.

7.4.10 Reporting Requirements

The LSRP will review and approve all analytical results on the engineered fill product. Under the requirements of the Tech Rule and Guidance, all of these results will be compiled by the LSRP and will be included in the Remedial Action Report (RAR). The RAR will be submitted to SRP upon completion of the remedial action.

To provide assurances to SRP that the remediation is being performed in accordance with the RAW, EastStar will provide quarterly reports to SRP, upon request, as the project is ongoing. Similar reports will be provided to other Department bureaus to demonstrate compliance with the Class B facility's permits. These reports will include summaries of all of the analytical results from the product testing and updated calculations of the results as they compare to the non-residential and residential remediation standards. Statistical analyses will be performed to show the actual concentrations of each of the analytes. The quarterly reports will be reviewed and approved by the LSRP prior to submission.

7.5 Guidance Variance for Use of an Alternate Standard

7.5.1 Variance Requirements

The Guidance requires that the maximum concentrations of any contaminants that exceed the residential remediation standards are less than the concentrations that currently exist on the site. The default requirement from the Guidance is that the maximum concentrations should be equal to the 75th percentile of existing concentrations, taking into account all of the sample analysis results ("75th percentile" rule).

The Guidance provides other compliance options besides the "75th percentile" rule using statistical evaluations of the available data. Requirements for using another option include:

- Data must be from discrete samples
- Outliers cannot be excluded
- A large sample set (generally more than 20 samples) is available for analysis
- All other statistical requirements for evaluation are met

Use of alternate criteria by the LSRP is a variance from the Tech Rule. In accordance with the Tech Rule requirements, the LSRP must identify and describe this variance and provide supporting documentation that the variance achieves the objectives of the Tech Rule and furthers the attainment of the remedial action.

As described in the previous section, EastStar used statistical methods to calculate the Mean and the 95% UCL of the existing site conditions for inorganics and PAH compounds. The Mean concentrations of six PAH compounds exceed the residential remediation standards. As shown in Table 7.3, the maximum concentrations of these six PAH compounds in the engineered fill will be less than the calculated Mean concentrations from the existing site data.

7.5.2 Variance Justification

The inorganics and PAH concentration datasets meet the guidelines described in the Guidance document for varying from the "75th Percentile" requirement. Specific to the Guidance:

- Data must be from discrete samples – All sample results are discrete grab samples for various locations over the entire project site. None of the analyses were based upon composite samples.
- Outliers cannot be excluded – All of the available historic and current inorganic and PAH data for the site was used in the analyses. No data sets or individual data points were excluded
- A large sample set (generally more than 20 samples) is available for analysis – As shown in Table 7.1, the inorganics dataset consists of 56 discrete samples and the PAH dataset consists of 41 discrete samples. Both datasets contain more than twice the minimum number of samples indicated in the Guidance.
- All other statistical requirements for evaluation are met – all requirements were met

In addition to meeting the guidance criteria, EastStar used a conservative approach by selecting the Mean as the maximum value for the concentration in the engineered fill. The Mean concentrations are approximately 25% of the concentrations that were calculated using the 95% UCL.

Note that the product limit concentrations will be the upper limits for these analytes from the product approval testing. Experience at Soil Safe's other New Jersey facilities has shown that the actual concentrations in the engineered fill material will be less than residential remediation standards.

Use of the Mean for these analytes that exist on-site above the residential remediation standards assists in achieving the remediation goals of this project because it allows a larger number of sources of supply for the soil used to make the engineered fill cap to be considered, expediting, within the geotechnical constraints, the construction of the cap.

8. REQUIRED PERMITS FOR REMEDIAL ACTION

The permitting process for this remedial action is currently on-going. The permits required include permits for the RI, the Class B recycling facility and the remedial action. Table 8.1 provides a list of the required permits, the responsible parties and the current status of each permit.

Table 8.1 – Rahway Arch Site Remediation Permit Requirements

Permit Name	Approving Agency/Division	Permit Holder	Status
Remedial Investigation			
1. CAFRA GP 27 and FWW GP 12	NJDEP / Land Use Regulation Program	Rahway Arch	complete
Class B Recycling Center			
2. Class B - Carteret Planning Board	Borough of Carteret	Soil Safe	approved
3. Class B - Carteret Borough Council	Borough of Carteret	Soil Safe	approved
4. Middlesex County Planning Board	Middlesex County	Soil Safe	approved
5. Middlesex County SWM Plan Inclusion	Middlesex County SWAC	Soil Safe	approved
6. Middlesex County SWM Plan Inclusion	Middlesex County Freeholders	Soil Safe	approved
7. Middlesex County SWM Plan Approval	NJDEP / Commissioner	Soil Safe	approved
8. Class B Recycling General Approval	NJDEP / Bureau of Solid Waste	Soil Safe	pending
9. Air Quality Permit	NJDEP / Bureau of New Source Review	Soil Safe	pending
10. NJPDES General Construction Permit	NJDEP / Division of Water Quality	Soil Safe	approved
11. DGW Permits (Class B – impoundment)	NJDEP / Division of Water Quality	Soil Safe	approved
12. Water Allocation Permit	NJDEP / Division of Water Quality	Soil Safe	in preparation
13. Flood Hazard Area Waiver	NJDEP / Land Use Regulation Program	Soil Safe	Pending SRP review
Site Remediation			
14. FWW General Permits No. 4 & 11	NJDEP / Land Use Regulation Program	Rahway Arch	approved
15. CAFRA General Permit No. 15	NJDEP / Land Use Regulation Program	Rahway Arch	approved
16. Flood Hazard Area Verification	NJDEP / Land Use Regulation Program	Rahway Arch	approved
17. Flood Hazard Area Individual Permit	NJDEP / Land Use Regulation Program	Rahway Arch	approved
18. SESC Plan Cert. and Authorization to Discharge Stormwater	Freehold Soil Conservation District	Soil Safe and Rahway Arch	approved
19. USACE Letter of Non-Jurisdiction	USACE / NY Region II	Rahway Arch	approved
20. DGW/DSW Permits (Site-wide – Emergency outfalls)	NJDEP / Division of Water Quality	Rahway Arch	in preparation
21. Alternative Use Determination	NJDEP / ODST	Soil Safe	if ADM is used
22. Remedial Action Permit - Soil	NJDEP/SRP	Rahway Arch and Borough of Carteret	upon completion of engineering controls
23. Remedial Action Permit - Groundwater	NJDEP/SRP	Rahway Arch and Carteret	if needed
24. Deed Notice	LSRP	Rahway Arch and Carteret	upon completion of engineering controls
25. Response Action Outcome	LSRP	Rahway Arch and Carteret	upon completion of project

9. TIME FRAMES AND REMEDIATION SCHEDULE

The date for initiation of remediation for this site is November 23, 2011. On this date, Rahway Arch Properties submitted a report to NJDEP-SRP identifying previously undocumented contamination and de-certifying the March 2011 biennial report required by the previously issued NFA.

The applicable regulatory time frames and the actual submission dates that these time frames have been met are summarized in Table 9.1. Note that this site is not subject to ISRA, there are no USTs (regulated or unregulated) on the site and there have been no UST discharges.

Table 9.1 – Summary of Regulatory Time Frames

Requirement	Regulatory Time Frame	Required Date	Completed Date
Initiation of remediation	n/a	n/a	11/23/2011
Notification of LSRP Retention	45 days	1/7/2012	12/5/2012
Post Public Notification Signage	14 days prior to RI field investigation	6/25/2012	6/16/2012
Pay initial annual remediation fee	270 days	8/22/2012	8/22/2012
Prepare Preliminary Assessment	none	n/a	August 7, 2012
Submit Initial Receptor Evaluation Form	1 year	11/23/2012	10/31/2012
RI completed and RIR submitted	6 years	11/23/2017	11/23/2012
Submit RAW	60 days prior to start of remedial action	TBD	11/27/2012
Submit Revised RAW	60 days prior to start of remedial action		6/11/2013
Submit Remedial Action Report	5 years after RIR	11/23/2017	TBD

The schedule for commencing the remediation is dependent upon the timing of the permit approvals. The schedule for performing the remediation is dependent upon the rate at which the Metro12 facility can receive and process soil and the results of the geotechnical monitoring as described previously. The overall remediation schedule is provided in Table 9.2.

Metro12 will be permitted to accept and process up to 840,000 tons of soil per year, but the actual volume of soil received and processed is variable and is dependent upon market conditions that are not within the control of Soil Safe or Rahway Arch and these maximum rates are not likely. Therefore, ranges have been estimated for the duration of the remediation activities. The longest duration for the capping activities has been used in calculating the completion dates in Table 9.2.

Table 9.2 – Estimated Remediation Schedule

Task	Time Frame	Start Date	Completion Date
Complete Remedial Action Workplan			11/27/2012
Submit LURP Permit Applications			11/30/2012
Submit Revised RAW			6/11/2013
SRP Component Review of RAW	90 days	11/28/2012	ongoing
Obtain LURP Permits for Remediation	120 days	11/30/2012	5/24/2013
Obtain permits for Class B Facility			
Class B Approval	TBD	6/25/2012	6/28/2013
Air Permit to Construct	TBD	7/1/2012	6/28/2013
DGW Permit	TBD	9/15/2012	1/25/2013
Flood Hazard Waiver	90 days	12/1/2012	6/28/2013
LURP Permits	90 days	12/1/2012	5/24/2013
Construct Class B Facility	6 months	3/1/2013	10/31/2013
Construct Engineered Fill Cap	3-5 years	9/1/2013	10/31/2018
Monitor Groundwater	3-5 years	9/1/2013	10/31/2018
Obtain Remedial Action Permit for Soil	Upon completion of cap construction	9/1/2018	11/30/2018
Obtain Remedial Action Permit for Groundwater	Upon completion of groundwater monitoring	9/1/2018	11/30/2018
File Deed Notice	Upon issuance of RAPs	10/1/2018	12/31/2018
Issue Response Action Outcome	Upon recording of deed notice and payment of all fees	11/1/2018	1/31/2019

10. SUMMARY OF REMEDIAL ACTIONS

This section of the RAW summarizes the remediation activities for the Rahway Arch site that are described in detail throughout this document.

Engineering Controls:

- A reduced permeability cap will be installed over the berms and impoundments to prevent direct contact and manage stormwater above the cap
- Stormwater will be fully managed to minimize infiltration through the cap and into the contaminated materials
- Groundwater monitoring will be performed semi-annually to evaluate the ongoing groundwater conditions and expanded monitoring will be performed during cap construction to ensure contaminants are not being discharged as a result of the remediation
- Additional investigations into potential impacts to the surrounding wetlands and surface waters will be performed during the cap construction.

Administrative Controls:

- The existing DER will be rescinded and replaced with a Deed Notice that complies with the ARRCS requirements
- Site use will be restricted to non-residential use, consistent with the property zoning
- Remedial Action Permits for soil, and potentially groundwater, will be issued following the completion of the engineering controls
- The need for a CEA and a groundwater remedial action permit will be evaluated based upon the results of the groundwater modeling
- Biennial certification of the effectiveness of the engineering controls will be required.

11. REFERENCES

1. *Technical Requirements for Site Remediation (Tech Rule)*, NJAC 7:26E, last amended May 7, 2012.

2. *Administrative Requirements for Remediation of Contaminated Sites (ARRCS)*, NJAC 7:26C, last amended May 7, 2012.

3. EastStar Environmental Group, Inc., *Preliminary Assessment of the Rahway Arch Properties Site*, August 7, 2012.

4. SESI Consulting Engineers, *Preliminary Assessment Report for American-Cyanamid/Cytec Impoundments, Block 9.03, Lot 21; Block 10, Lots 8-10 & 12-21; Block 11.01, Lots 8, 10-14 & 28, 55 Salt Meadow Road, Carteret, NJ 07008,* draft, October 26, 2006.

5. EastStar Environmental Group, Inc., *Environmental Investigation of Fill Material at the Rahway Arch (Old Cytec Landfill) Site*, October 17, 2011.

6. EastStar Environmental Group, Inc., *Remedial Investigation Report for the Rahway Arch Properties Site*, November 15, 2012.

7. Michael Baker, Jr., Inc., *Geotechnical Engineering Report – Rahway Arch Property, Carteret, New Jersey*, November 2012.

8. NJDEP, *Alternative and Clean Fill Guidance for SRP Sites*, Version 2.0, Updated December 29, 2011.

9. NJDEP, *Directions to Determine 95 Percent Upper Confidence Level of the Mean Using USEPA ProUCL Version 4.0 Software Package*, June 2008.

10. Hydrosystems, Inc., *Groundwater and Surface Water Assessment Carteret Impoundments, American Cyanamid Company, Linden, New Jersey*, February 9, 1987.

11. NJDEP, *Groundwater Technical Guidance: Site Investigation, Remedial Investigation, Remedial Action Performance Monitoring*, April 3, 2012.

12. Cytec Industries, *Remedial Action Plan Addendum for Carteret Impoundments, Borough of Carteret, New Jersey*, Revised February 1995.

13. Cytec Industries, Inc., *Declaration of Environmental Restrictions*, May 4, 1995.

14. Blasland, Bouck & Lee, Inc., *Annual Monitoring Report for 1999*, September 1999.

15. NJDEP, *Carteret Impoundments Site, Carteret Borough, Middlesex County, Restricted Use – No Further Action Letter and Covenant Not to Sue, Entire Site*, September 24, 2002.

16. NJDEP-Site Remediation Program, *Notice of Intent to Rescind No Further Action Covenant Not to Sue (NFA/CNS)*, March 15, 2013

17. Cytec Industries Inc., *Response to Notice of Intent to Rescind No Further Action Covenant Not to Sue (NFA/CNS)*, April 15, 2013.

18. NJDEP, *Ecological Evaluation Technical Guidance*, Version 1.1, August 30, 2011.

19. EastStar Environmental Group, Inc., *Rahway Arch Site Remediation – Detailed Alternatives Analysis*, January 17, 2013.

20. NJDEP, *Protocol for Addressing Extractable Petroleum Hydrocarbons"*, August 2010.

APPENDICES

APPENDIX A

SUMMARIES OF ANALYTICAL DATA FROM THE SOIL AND SLUDGE SAMPLES COLLECTED IN THE REMEDIAL INVESTIGATION

Table A1 - Surface Fill Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	IS-02-02-04-008	BS-07R-02-04-009	ID-01-04-06-021	BS-05-0-2-023	BD-05-02-04-027	ID-04-02-04-030	W-02-00-04-036	W-08-00-04-039
Aluminum	mg/kg	na	3,900	8,350	7,140	8,860	10,700	10,900	10,100	20,500	9,380
Antimony	mg/kg	450	6	1.67 j	<0.988	<1.43	0.956 j	4.90 j	<1.08	7.64	1.16
Arsenic	mg/kg	19	19	8.60	2.82	<1.38	**48.5**	18.0	4.34	**248**	7.50
Barium	mg/kg	59,000	1,300	90.3	97.2	48.0	63.0	176	75.8	495	63.9
Beryllium	mg/kg	140	0.5	**0.687**	0.329	0.156 j	0.382	**0.929**	**0.504**	**1.13**	0.410
Calcium	mg/kg	none	none	4,180	14,200	280,000	13,300	214,000	26,100	4,190	59,300
Cadmium	mg/kg	78	1	<0.0246	<0.0255	<0.0363	<0.0240	**1.95**	<0.0274	<0.0725	<0.00541
Chromium	mg/kg	none	none	28.6	16.5	13.5	19.9	38.3	34.7	314	20.7
Cobalt	mg/kg	590	59	9.00	7.91	2.57	7.89	5.17	9.15	21.4	4.23
Copper	mg/kg	45,000	7,300	61.3	42.2	1.85	28.4	186	31.7	677	41.2
Iron	mg/kg	none	none	20,100	14,100	2,150	18,100	11,900	22,900	35,200	10,700
Lead	mg/kg	800	59	**112**	**148**	11.0	45.8	**236**	**112**	**757**	36.3
Magnesium	mg/kg	none	none	2,560	4,270	1,040	4,930	2,250	7,230	7,120	2,840
Manganese	mg/kg	5,900	42	**231**	**264**	37.4	**294**	**194**	**415**	**270**	**142**
Mercury	mg/kg	65	0.1	**0.317**	**0.469**	<0.0169	0.0605 j	**0.226** j	0.0785 j	**31.6**	1.03
Nickel	mg/kg	23,000	31	21.2	14.2	3.74	15.6	**50.2**	20.0	**118**	13.1
Potassium	mg/kg	none	none	970	1,860	166	1,380	1,160	1,560	4,220	2,300
Selenium	mg/kg	5,700	7	<0.399	<0.413	2.18	<0.389	<0.978	<0.444	5.55 j	<0.0869
Silver	mg/kg	5,700	1	<0.0935	<0.0967	<0.138	<0.0911	0.311 j	<0.104	<0.276	<0.0204
Sodium	mg/kg	none	none	207	433	1,330	534	5,280	1,130	15,900	7,710
Thallium	mg/kg	79	3	<1.17	<1.21	<1.73	<1.14	<2.87	<1.30	<3.45	<0.255
Vanadium	mg/kg	1,100	none	36.7	31.8	14.8	39.1	87.6	28.5	91.7	23.5
Zinc	mg/kg	110,000	600	231	124	4.21	68.4	389	168	**652**	75.3
Cyanide	mg/kg	23,000	13	<2.96	<3.06	**1,120**	N/A	**66.4**	N/A	**334**	**1,330**

Table A2 - Surface Fill Sample Analysis Results
Polynuclear Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Compound	Units	Non-Res Remed Std	Impact to GW Scr Lvl	IS-02-02-04-008	BS-07R-02-04-009	BS-05-0-2-023	BD-05-02-04-027	ID-04-02-04-030	W-02-00-04-036
Acenaphthene	ug/kg	3.70E+07	74,000	<492	<509	<480	<121	<54.9	<145
Acenaphthylene	ug/kg	3.00E+08	na	766 j	<414	<390	<98.1	<44.6	<118
Anthracene	ug/kg	3.00E+07	1,500,000	1,030 j	<550	<518	<130	138 j	<157
Benzo(a)anthracene	ug/kg	2,000	500	**4,170**	**771** j	**1,000** j	<93.7	**506**	<113
Benzo(b)fluoranthene	ug/kg	2,000	2,000	**4,690**	762 j	1,030 j	<77.8	413	<93.5
Benzo(k)fluoranthene	ug/kg	23,000	16,000	4,010	583 j	800 j	<99.8	398	<120
Benzo(a)pyrene	ug/kg	200	200	**4,870**	**724** j	**1,030** j	<92.3	**482**	<111
Benzo(g,h,i)perylene	ug/kg	3.00E+07	na	3,110	503 j	<673	<84.7	295 j	<102
Chrysene	ug/kg	230,000	52,000	4,620	893 j	967 j	<89.7	523	112 j
Dibenz(a,h)anthracene	ug/kg	200	500	1,340 j	<249	<553	<69.6	115 j	<83.7
Fluoranthene	ug/kg	2.40E+07	840,000	9,400	1,520 j	1,950 j	<84.4	915	142 j
Fluorene	ug/kg	2.40E+07	110,000	679 j	<364	<342	<86.2	50.8 j	<104
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	**2,920** j	397 j	<715	<90.0	270 j	<108
2-Methylnaphthalene	ug/kg	2.40E+06	5,000	<452	<468	<440	<111	<50.4	<133
Naphthalene	ug/kg	17,000	16,000	<555	<574	<541	<136	<61.9	<164
Phenanthrene	ug/kg	3.00E+08	n/a	6,710	1,210 j	1,110 j	<92.9	523	132 j
Pyrene	ug/kg	1.80E+07	550,000	8,670	1,630 j	2,080 j	<104	1,040	144 j

Tabl A3 - Surface Fill Sample Analysis Results
Semi-Volatile Organic Compounds (SVOC) - EPA Method 8270C
(excludes PAHs)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-07R-02-04-009
Aniline	ug/kg	none	none	<447
Benzidine	ug/kg	700	700	<4,580
Benzoic acid	ug/kg	none	none	<8,020
Benzyl alcohol	ug/kg	none	none	<400
Bis(2-chloroethyl)ether	ug/kg	2,000	200	<604
Bis(2-chloroethoxy)methane	ug/kg	none	none	<435
Bis(2-chloroisopropyl)ether	ug/kg	67,000	3,000	<632
Bis(2-ethylhexyl) phthalate	ug/kg	140,000	790,000	408 j
4-Bromophenyl-phenyl ether	ug/kg	none	none	<370
Butylbenzyl phthalate	ug/kg	14,000,000	150,000	<405
Carbazole	ug/kg	96,000	none	<431
4-Chloroaniline	ug/kg	none	none	<370
4-Chloro-3-methylphenol	ug/kg	none	none	<351
4-Chlorophenyl-phenylether	ug/kg	none	none	<432
2-Chloronaphthalene	ug/kg	none	none	<387
2-Chlorophenol	ug/kg	2,200,000	500	<427
Dibenzofuran	ug/kg	none	none	<487
1,2-Dichlorobenzene	ug/kg	59,000,000	11,000	<645
1,3-Dichlorobenzene	ug/kg	59,000,000	12,000	<634
1,4-Dichlorobenzene	ug/kg	13,000	1,000	<666
3,3'-Dichlorobenzidine	ug/kg	4,000	200	<466
2,4-Dichlorophenol	ug/kg	2,100	200	<739
Diethyl phthalate	ug/kg	550,000,000	57,000	<409
2,4-Dimethylphenol	ug/kg	14,000,000	700	<349
Dimethyl phthalate	ug/kg	none	none	<1,050
Di-n-butyl phthalate	ug/kg	68,000,000	620,000	<376
4,6-Dinitro-2-methyl phenol	ug/kg	68,000	300	<340
2,4-Dinitrophenol	ug/kg	1,400,000	300	<1,680
2,4-Dinitrotoluene	ug/kg	3,000	none	<484
2,6-Dinitrotoluene	ug/kg	3,000	none	<469
Di-n-octylphthalate	ug/kg	270,000,000	3,300,000	<322
1,2-Diphenylhydrazine	ug/kg	2,000	700	<373
Hexachlorobenzene	ug/kg	1,000	200	<453
Hexachlorobutadiene	ug/kg	25,000	600	<622
Hexachlorocyclopentadiene	ug/kg	110,000	210,000	<346
Hexachloroethane	ug/kg	140,000	200	<469
Isophorone	ug/kg	2,000,000	200	<335
2-Methylphenol	ug/kg	3,400,000	none	<427
3 & 4-Methylphenol	ug/kg	340,000	none	<649
2-Nitroaniline	ug/kg	23,000,000	none	<427
3-Nitroaniline	ug/kg	none	none	<480
4-Nitroaniline	ug/kg	none	none	<384

Tabl A3 - Surface Fill Sample Analysis Results
Semi-Volatile Organic Compounds (SVOC) - EPA Method 8270C
(excludes PAHs)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-07R-02-04-009
Nitrobenzene	ug/kg	340,000	200	<613
2-Nitrophenol	ug/kg	none	none	<426
4-Nitrophenol	ug/kg	none	none	<409
n-Nitrosodimethylamine	ug/kg	700	700	<601
n-Nitroso-di-n-propylamine	ug/kg	300	200	<342
n-Nitrosodiphenylamine	ug/kg	390,000	200	<692
Pentachlorophenol	ug/kg	10,000	300	<547
Phenol	ug/kg	210,000,000	5,000	<393
1,2,4-Trichlorobenzene	ug/kg	820,000	400	<600
2,4,5-Trichlorophenol	ug/kg	68,000,000	44,000	<378
2,4,6-Trichlorophenol	ug/kg	74,000	200	<371

Table A4 - Surface Fill Sample Analysis Results

Petroleum Hydrocarbons (NJDEP EPH) and Volatile Organic Compounds (EPA Method 8260B)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-07R-02-04-009
Petroleum Hydrocarbons (EPH)	mg/kg	none	none	19.5 j
Acetone	ug/kg	na	12,000	33.3 b
Benzene	ug/kg	5	5	<2.00
Bromochloromethane	ug/kg	none	none	<2.09
Bromodichloromethane	ug/kg	3	5	<2.05
Bromoform	ug/kg	280	20	<1.54
Bromomethane	ug/kg	59	30	<2.71
2-Butanone	ug/kg	44,000	600	5.55 j
Carbon disulfide	ug/kg	110,000	4,000	10.1 j
Carbon tetrachloride	ug/kg	2	5	<2.09
Chlorobenzene	ug/kg	7,400	400	27.3
Chloroethane	ug/kg	1,100	na	<1.68
Chloroform	ug/kg	2	200	<1.81
Chloromethane	ug/kg	12	na	<2.52
Cyclohexane	ug/kg	none	none	<2.03
Dibromochloromethane	ug/kg	8	5	<1.58
1,2-Dibromoethane	ug/kg	0.04	5	<1.88
1,2-Dibromo-3-chloropropane	ug/kg	0.2	5	<2.28
1,2-Dichlorobenzene	ug/kg	59,000	11,000	<2.09
1,3-Dichlorobenzene	ug/kg	29,000	12,000	4.59 j
1,4-Dichlorobenzene	ug/kg	13	1,000	<2.50
Dichlorodifluoromethane	ug/kg	230,000	25,000	<1.92
1,1-Dichloroethane	ug/kg	24	200	<2.24
1,2-Dichloroethane	ug/kg	3	5	<1.79
1,1-Dichloroethene	ug/kg	50	5	<2.39
cis-1,2-Dichloroethene	ug/kg	560	200	<1.62
trans-1,2-Dichloroethene	ug/kg	720	400	<2.13
1,2-Dichloropropane	ug/kg	5	5	<1.98
cis-1,3-Dichloropropene	ug/kg	7	5	<1.73
trans-1,3-Dichloropropene	ug/kg	7	5	<1.86
1,4-Dioxane	ug/kg	none	none	<91.5
Ethyl benzene	ug/kg	110,000	8,000	<2.43
2-Hexanone	ug/kg	none	none	<4.18
Isopropyl benzene	ug/kg	none	none	<2.32
Methyl acetate	ug/kg	na	14,000	<2.28
Methyl tertiary butyl ether	ug/kg	320	200	<1.83
Methylcyclohexane	ug/kg	none	none	<2.54
Methylene chloride	ug/kg	97	7	<3.22
4-Methyl-2-pentanone	ug/kg	none	none	<3.60
Styrene	ug/kg	260	2,000	<1.90

Table A4 - Surface Fill Sample Analysis Results

Petroleum Hydrocarbons (NJDEP EPH) and Volatile Organic Compounds (EPA Method 8260B)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-07R-02-04-009
1,1,2,2-Tetrachloroethane	ug/kg	3	5	<1.96
Tetrachloroethene	ug/kg	5	5	<2.32
Toluene	ug/kg	91,000	4,000	2.73 j
1,2,3-Trichlorobenzene	ug/kg	none	none	<3.67
1,2,4-Trichlorobenzene	ug/kg	820	400	<2.84
1,1,1-Trichloroethane	ug/kg	4,200	200	<2.15
1,1,2-Trichloroethane	ug/kg	6	10	<2.11
Trichloroethene	ug/kg	20	7	<2.67
Trichlorofluoromethane	ug/kg	340,000	22,000	<2.32
1,1,2-Trichloro-1,2,2- trifluoroethane	ug/kg	none	none	<2.45
Vinyl chloride	ug/kg	2	5	<2.47
m&p-Xylenes	ug/kg	170,000	12,000	<4.93
o-Xylene	ug/kg	170,000	12,000	3.33 j

Table A5 - Alum-YPS Sludge Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-02-03-05-001	BD-02-07-09-003	ID-05-08-10-006	BD-01R-03-05-011	BD-03-06-08-013	BD-04R-04-06-015	IS-01-6-8-017
Aluminum	mg/kg	na	3,900	**7,140**	**3,820**	**14,800**	**6,520**	**14,200**	**6,320**	**29,200**
Antimony	mg/kg	450	6	1.79 j	<1.66	<1.33	<1.50	<1.53	<1.48	<1.81
Arsenic	mg/kg	19	19	5.33	3.49	1.90	<1.47	<1.48	<1.44	4.51
Barium	mg/kg	59,000	1,300	479	30.0	107	23.3	36.6	84.8	48.2
Beryllium	mg/kg	140	0.5	**1.13**	0.347 j	0.376	0.240 j	0.246 j	0.203 j	<0.00597
Calcium	mg/kg	none	none	203,000	215,000	66,000	276,000	227,000	234,000	226,000
Cadmium	mg/kg	78	1	**4.33**	<0.0427	0.329	<0.0688	<0.0390	<0.0378	<0.0460
Chromium	mg/kg	none	none	3.69		5.01	14.6		2.14	38.0
Cobalt	mg/kg	590	59	**75.3**	1.77 j	19.5	2.63	3.99	12.5	7.14
Copper	mg/kg	45,000	7,300	24.4	2.48	32.0	1.70 j	1.60 j	0.837 j	15.0
Iron	mg/kg	none	none	13,300	3,160	18,700	2,960	6,050	1,830	9,690
Lead	mg/kg	800	59	**60.2**	43.1	56.1	11.3	17.1	11.5	20.7
Magnesium	mg/kg	none	none	4,400	3,820	1,740	882	1,240	773	20,700
Manganese	mg/kg	5,900	42	**156**	**55.8**	**123**	**56.1**	**96.2**	40.1	**356**
Mercury	mg/kg	65	0.1	<0.105	<0.0997	**0.262**	<0.0906	<0.0911	<0.0882	0.261
Nickel	mg/kg	23,000	31	**38.4**	7.86	13.3	4.77	8.10	4.92	8.51
Potassium	mg/kg	none	none	1,170	371	1,270	248	800	110	294
Selenium	mg/kg	5,700	7	2.46 j	2.79 j	<0.548	4.45	2.61 j	1.41	6.59
Silver	mg/kg	5,700	1	<0.170	<0.162	<0.129	<0.147	<0.148	<0.143	<0.175
Sodium	mg/kg	none	none	8,630	7,020	2,240	1,330	1,010	873	2,960
Thallium	mg/kg	79	3	<2.13	<2.03	<1.61	<1.84	<1.85	<1.79	<2.18
Vanadium	mg/kg	1,100	none	59.1	9.19	28.1	13.8	23.1	12.8	48.0
Zinc	mg/kg	110,000	600	185	20.9	147	7.98	16.0	6.48	36.9
Cyanide	mg/kg	23,000	13	**2,300**	**1,720**	**123**	**405**	**825**	**1,180**	**2,850**

Table A5 - Alum-YPS Sludge Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	ID-02-2-4-019	ID-01-18-20-022	ID-06-02-04-025	ID-04-06-08-031	ID-03R-00-02-033	BS-03R-02-04-037
Aluminum	mg/kg	na	3,900	**4,330**	**6,830**	3,430	**3,980**	**15,000**	2,990
Antimony	mg/kg	450	6	<1.37	<2.78	<1.91	1.13	<1.89	<1.21
Arsenic	mg/kg	19	19	<1.32	<2.69	7.44	4.10	4.53	<1.17
Barium	mg/kg	59,000	1,300	14.0	20.9	18.8	6.01	31.7	28.9
Beryllium	mg/kg	140	0.5	0.103 j	0.319 j	0.326 j	0.264	0.0534 j	0.232 j
Calcium	mg/kg	none	none	254,000	58,100	278,000	86,800	197,000	256,000
Cadmium	mg/kg	78	1	<0.0348	<0.0707	<0.0485	0.990	<0.0481	<0.0308
Cobalt	mg/kg	none	none	11.6	12.9	27.3	17.7	17.4	1.64
Chromium	mg/kg	590	59	3.56	4.99	2.19 j	1.68	5.96	7.51
Copper	mg/kg	45,000	7,300	0.636 j	7.57	14.1	17.3	14.3	1.54
Iron	mg/kg	none	none	2,440	5,880	6,860	14,500	9,820	1,900
Lead	mg/kg	800	59	10.5	12.7	28.7	22.2	2.91 j	<0.650
Magnesium	mg/kg	none	none	111	4,990	19,400	2,240	27,700	919
Manganese	mg/kg	5,900	42	**86.8**	**46.2**	**233**	**76.8**	**307**	39.7
Mercury	mg/kg	65	0.1	<0.0813	<0.165	**0.131** j	0.0937	**0.135** j	<0.0720
Nickel	mg/kg	23,000	31	4.55	10.9	16.4	9.16	10.4	4.49
Potassium	mg/kg	none	none	<19.4	1,780	306	1,070	102 j	82.3
Selenium	mg/kg	5,700	7	4.69	2.08 b	3.19 j	<0.0286	<0.779	<0.499
Silver	mg/kg	5,700	1	<0.132	<0.268	<0.184	<0.00677	<0.183	<0.117
Sodium	mg/kg	none	none	634	20,400	9,470	2,840	2,430	748
Thallium	mg/kg	79	3	<1.65	<3.36	<2.30	<0.0836	<2.28	<1.46
Vanadium	mg/kg	1,100	none	14.4	22.7	8.02	12.9	30.7	7.39
Zinc	mg/kg	110,000	600	43.0	14.1	141	85.5	24.7	3.44
Cyanide	mg/kg	23,000	13	**190**	**210**	**1,820**	**1,420**	**2,420**	N/A

Table A6 - Alum-YPS Sludge Sample Analysis Results
Polynuclear Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	ID-01-18-20-022
Acenaphthene	ug/kg	3.70E+07	74,000	<1,410
Acenaphthylene	ug/kg	3.00E+08	na	<1,150
Anthracene	ug/kg	3.00E+07	1,500,000	<1,530
Benzo(a)anthracene	ug/kg	2,000	500	<1,100
Benzo(b)fluoranthene	ug/kg	2,000	2,000	<910
Benzo(k)fluoranthene	ug/kg	23,000	16,000	<1,170
Benzo(a)pyrene	ug/kg	200	200	<1,080
Benzo(g,h,i)perylene	ug/kg	3.00E+07	na	<922
Chrysene	ug/kg	230,000	52,000	<1,050
Dibenz(a,h)anthracene	ug/kg	200	500	<815
Fluoranthene	ug/kg	2.40E+07	840,000	<988
Fluorene	ug/kg	2.40E+07	110,000	<1,010
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	<1,050
2-Methylnaphthalene	ug/kg	2.40E+06	5,000	<1,300
Naphthalene	ug/kg	17,000	16,000	<1,590
Phenanthrene	ug/kg	3.00E+08	n/a	<1,090
Pyrene	ug/kg	1.80E+07	550,000	<1,210

Table A7 - Peat Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-02-06-08-002	BD-02-13-14-004	ID-05-12-14-007	BS-07R-14-18-010	BD-01R-19-21-012	BD-03-19-20-014	BD-04R-17-19-016	IS-01-11-13-018
Aluminum	mg/kg	na	3,900	**17,800**	**16,900**	**12,400**	**10,400**	**11,900**	**16,300**	**17,800**	**20,700**
Antimony	mg/kg	450	6	<4.21	<3.27	<3.26	<3.94	<2.92	<1.59	<2.28	<1.71
Arsenic	mg/kg	19	19	12.4	14.4	7.38	<3.87	**28.3**	10.2	5.03	17.6
Barium	mg/kg	59,000	1,300	351	337	714	34.7	58.3	133	41.4	42.1
Beryllium	mg/kg	140	0.5	**0.856**	**0.961**	**0.550** j	**0.582** j	0.345 j	**0.734**	**0.777**	**0.956**
Calcium	mg/kg	none	none	75,700	167,000	61,800	10,400	13,700	37,000	5,790	6,270
Cadmium	mg/kg	78	1	0.190	0.333 j	<0.0829	0.151 j	**12.2**	<0.0405	<0.0581	<0.0436
Chromium	mg/kg	none	none	67.4	47.9	56.6	17.8	23.5		40.2	68.1
Cobalt	mg/kg	590	59	13.5	12.3	5.22	5.33	5.61	11.6	6.99	13.3
Copper	mg/kg	45,000	7,300	150	21.1	319	10.9	57.5	15.4	11.8	13.4
Iron	mg/kg	none	none	23,700	23,800	11,200	9,380	5,650	28,600	21,200	44,000
Lead	mg/kg	800	59	**105**	**59.2**	**303**	18.6	**90.8**	17.8	7.38	11.7
Magnesium	mg/kg	none	none	9,090	6,690	7,140	6,600	7,200	7,090	7,040	8,510
Manganese	mg/kg	5,900	42	**254**	**178**	**76.2**	**66.5**	**105**	**413**	**147**	**493**
Mercury	mg/kg	65	0.1	<0.254	**0.470**	<0.194	<0.238	<0.176	<0.0946	<0.136	<0.102
Nickel	mg/kg	23,000	31	**51.7**	**75.0**	**45.9**	13.7	**68.8**	25.7	16.7	28.5
Potassium	mg/kg	none	none	3,840	3,000	2,760	2,390	2,910	3,410	4,470	4,840
Selenium	mg/kg	5,700	7	2.55 j	<1.37	8.37	<1.65	6.23 j	<0.656	<0.942	<0.707
Silver	mg/kg	5,700	1	<0.413	<0.320	<0.315	<0.386	<0.286	<0.154	<0.221	<0.166
Sodium	mg/kg	none	none	15,900	17,800	14,900	22,400	26,300	7,490	13,300	8,110
Thallium	mg/kg	79	3	<5.16	<4.01	<3.94	<4.83	<3.58	<1.92	<2.76	<2.07
Vanadium	mg/kg	1,100	none	54.8	56.0	32.7	27.0	78.2	38.7	55.1	50.1
Zinc	mg/kg	110,000	600	194	260	103	53.8	**796**	109	48.1	137
Cyanide	mg/kg	23,000	13	**857**	**145**	**286**	**1,060**	**1,130**	**92.5**	**164**	**40.6**

Table A7 - Peat Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	ID-02-14-16-020	ID-06-06-08-026	BD-05-08-10-028	BS-06-06-08-029	ID-04-10-12-032	ID-03R-14-16-034	BS-03R-13-15-038
Aluminum	mg/kg	na	3,900	**25,200**	**10,500**	**21,300**	**22,300**	**10,000**	**20,100**	**19,200**
Antimony	mg/kg	450	6	<2.14	<3.93	3.04 j	6.04	<2.67	<2.64	<1.64
Arsenic	mg/kg	19	19	10.9	10.8	**20.3**	14.2	5.69	14.9	14.4
Barium	mg/kg	59,000	1,300	33.0	22.5	58.2	351	54.9	53.0	43.2
Beryllium	mg/kg	140	0.5	**0.571**	0.386 j	**0.973**	**1.39**	0.425 j	**0.798**	**0.911**
Calcium	mg/kg	none	none	30,600	25,000	5,690	29,800	21,600	72,700	14,200
Cadmium	mg/kg	78	1	<0.0544	<0.100	<0.0536	<0.0554	<0.0680	<0.0672	<0.0418
Chromium	mg/kg	none	none	29.8	16.6	42.0	103	36.9	39.4	32.4
Cobalt	mg/kg	590	59	10.7	3.64 j	12.0	16.5	5.43	9.07	11.5
Copper	mg/kg	45,000	7,300	5.71	5.43	28.8	254	16.8	22.4	12.9
Iron	mg/kg	none	none	24,400	15,700	39,100	43,400	17,300	20,700	35,000
Lead	mg/kg	800	59	15.8	5.43 j	43.5	**242**	7.13	26.5	9.49
Magnesium	mg/kg	none	none	7,140	3,330	7,050	11,100	5,300	8,620	8,200
Manganese	mg/kg	5,900	42	**142**	**44.9**	**324**	**255**	**78.5**	**257**	**354**
Mercury	mg/kg	65	0.1	<0.127	<0.234	**0.991**	**0.674**	<0.159	**0.195** j	<0.0977
Nickel	mg/kg	23,000	31	23.1	13.8	28.6	**52.4**	15.0	24.2	25.5
Potassium	mg/kg	none	none	4,290	2,230	5,070	5,670	2,500	2,860	4,280
Selenium	mg/kg	5,700	7	<0.882	<1.62	<0.868	1.80 j	<1.10	<1.09	<0.678
Silver	mg/kg	5,700	1	<0.207	<0.380	<0.203	<0.210	<0.258	<0.255	<0.159
Sodium	mg/kg	none	none	15,300	28,800	9,370	7,930	14,200	21,000	12,900
Thallium	mg/kg	79	3	<2.59	<4.75	<2.54	<2.63	<3.23	<3.19	<1.99
Vanadium	mg/kg	1,100	none	47.1	31.3	53.8	55.6	37.9	46.8	46.2
Zinc	mg/kg	110,000	600	55.2	36.5	81.9	152	39.6	69.7	68.0
Cyanide	mg/kg	23,000	13	**530**	**207**	**21.3**	**255**	**61.5**	**857**	**977**

Table A8 - Peat Sample Analysis Results
Polynuclear Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-02-06-08-002	BD-02-13-14-004	ID-05-12-14-007	BS-07R-14-18-010	BD-01R-19-21-012	BD-03-19-20-014	IS-01-11-13-018
Acenaphthene	ug/kg	3.70E+07	74	<1,300	<169	<166	<203	192 j	<81.0	<87.2
Acenaphthylene	ug/kg	3.00E+08	na	<1,060	<137	<135	<165	<122	<65.8	<70.9
Anthracene	ug/kg	3.00E+07	1,500,000	<1,410	<182	<179	<219	<163	<87.4	<94.1
Benzo(a)anthracene	ug/kg	2,000	500	<1,010	<131	<129	<158	<117	<62.9	<67.7
Benzo(b)fluoranthene	ug/kg	2,000	2,000	<840	<109	<107	<131	<97.0	<52.2	<56.2
Benzo(k)fluoranthene	ug/kg	23,000	16,000	<1,080	<139	<137	<168	<125	<67.0	<72.1
Benzo(a)pyrene	ug/kg	200	200	<996	<129	<127	<155	<115	<61.9	<66.7
Benzo(g,h,i)perylene	ug/kg	3.00E+07	na	<915	<118	<116	<143	<106	<56.8	<61.2
Chrysene	ug/kg	230,000	52,000	<968	<125	<123	<151	<112	<60.2	<64.8
Dibenz(a,h)anthracene	ug/kg	200	500	<752	<97.3	<95.7	<117	<86.9	<46.7	<50.3
Fluoranthene	ug/kg	2.40E+07	840,000	<912	<118	<116	144 j	227 j	<56.6	<61.0
Fluorene	ug/kg	2.40E+07	110,000	<931	<120	<118	<145	169 j	<57.8	<62.3
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	<971	<126	<124	<152	<112	<60.3	<65.0
2-Methylnaphthalene	ug/kg	2.40E+06	5,000	<1,200	<155	<152	<187	169 j	<74.4	<80.1
Naphthalene	ug/kg	17,000	16,000	<1,470	<190	<187	<229	537 j	<91.3	<98.3
Phenanthrene	ug/kg	3.00E+08	n/a	1,030 j	<130	<128	173 j	528 j	<62.3	<67.1
Pyrene	ug/kg	1.80E+07	550,000	<1,120	<145	<142	<174	202 j	<69.5	<74.9

Table A8 - Peat Sample Analysis Results
Polynuclear Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BD-04R-17-19-016	ID-02-14-16-020	ID-06-06-08-026	BD-05-08-10-028	BS-06-06-08-029	ID-04-10-12-032	BS-03R-13-15-038
Acenaphthene	ug/kg	3.70E+07	74,000	<116	<109	<200	<107	<111	<272	<64.9
Acenaphthylene	ug/kg	3.00E+08	na	<94.5	<88.5	<162	<87.0	<90.0	<221	<90.3
Anthracene	ug/kg	3.00E+07	1,500,000	<125	<118	<216	<116	<120	<294	<63.9
Benzo(a)anthracene	ug/kg	2,000	500	135	<84.5	<155	<83.2	<86.0	<211	<48.3
Benzo(b)fluoranthene	ug/kg	2,000	2,000	<74.9	<70.1	<129	<69.0	<71.4	<175	<59.7
Benzo(k)fluoranthene	ug/kg	23,000	16,000	169	<90.0	<165	<88.6	<91.6	<225	<62.3
Benzo(a)pyrene	ug/kg	200	200	172	<83.2	<153	<81.9	<84.7	<208	<76.8
Benzo(g,h,i)perylene	ug/kg	3.00E+07	na	101	<76.4	<140	<75.2	<77.7	<191	<71.8
Chrysene	ug/kg	230,000	52,000	144	<80.9	<149	<79.6	<82.3	<202	<58.5
Dibenz(a,h)anthracene	ug/kg	200	500	<67.1	<62.8	<115	<61.8	<63.9	<157	<64.3
Fluoranthene	ug/kg	2.40E+07	840,000	162	<76.2	<140	<74.9	<77.5	<190	<58.7
Fluorene	ug/kg	2.40E+07	110,000	<83.0	<77.7	<143	<76.5	<79.1	<194	<53.9
Indeno(1,2,3-cd)pyrene	ug/kg	2,000	5,000	<86.6	<81.1	<149	<79.8	<82.5	<203	<94.3
2-Methylnaphthalene	ug/kg	2.40E+06	5,000	<94.5	<100	<184	<98.4	<102	<250	<68.0
Naphthalene	ug/kg	17,000	16,000	<131	<123	<225	<121	<125	<307	<83.6
Phenanthrene	ug/kg	3.00E+08	n/a	<89.4	<83.7	<154	<82.4	<85.2	<209	<69.2
Pyrene	ug/kg	1.80E+07	550,000	206	<93.4	<172	<91.9	<95.0	<233	<62.1

Table A9 - Peat Sample Analysis Results
Semi-Volatile Organic Compounds (SVOC) - EPA Method 8270C
(excludes PAHs)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BD-04R-17-19-016	BS-03R-13-15-038
Aniline	ug/kg	none	none	<102	<73.4
Benzidine	ug/kg	700	700	<1,050	<752
Benzoic acid	ug/kg	none	none	<1,830	<1,320
Benzyl alcohol	ug/kg	none	none	<91.4	<65.7
Bis(2-chloroethyl)ether	ug/kg	2,000	200	<138	<99.1
Bis(2-chloroethoxy)methane	ug/kg	none	none	<99.2	<71.4
Bis(2-chloroisopropyl)ether	ug/kg	67,000	3,000	<144	<104
Bis(2-ethylhexyl) phthalate	ug/kg	140,000	790,000	111	<55.1
4-Bromophenyl-phenyl ether	ug/kg	none	none	<84.4	<60.7
Butylbenzyl phthalate	ug/kg	14,000,000	150,000	109	<66.5
Carbazole	ug/kg	96,000	none	<98.4	<70.8
4-Chloroaniline	ug/kg	none	none	<84.4	<60.7
4-Chloro-3-methylphenol	ug/kg	none	none	<80.2	<57.7
4-Chlorophenyl-phenylether	ug/kg	none	none	<98.7	<71.0
2-Chloronaphthalene	ug/kg	none	none	<88.3	<63.5
2-Chlorophenol	ug/kg	2,200,000	500	<97.5	<70.2
Dibenzofuran	ug/kg	none	none	<111	<80.0
1,2-Dichlorobenzene	ug/kg	59,000,000	11,000	<147	<106
1,3-Dichlorobenzene	ug/kg	59,000,000	12,000	<145	<104
1,4-Dichlorobenzene	ug/kg	13,000	1,000	<152	<109
3,3'-Dichlorobenzidine	ug/kg	4,000	200	<106	<76.6
2,4-Dichlorophenol	ug/kg	2,100	200	<169	<121
Diethyl phthalate	ug/kg	550,000,000	57,000	198	<61.7
2,4-Dimethylphenol	ug/kg	14,000,000	700	<93.3	<67.1
Dimethyl phthalate	ug/kg	none	none	<79.7	<57.3
Di-n-butyl phthalate	ug/kg	68,000,000	620,000	<383	<275
4,6-Dinitro-2-methyl phenol	ug/kg	68,000	300	<239	<172
2,4-Dinitrophenol	ug/kg	1,400,000	300	<77.7	<55.9
2,4-Dinitrotoluene	ug/kg	3,000	none	<110	<79.4
2,6-Dinitrotoluene	ug/kg	3,000	none	<107	<77.0
Di-n-octylphthalate	ug/kg	270,000,000	3,300,000	<73.5	<52.9
1,2-Diphenylhydrazine	ug/kg	2,000	700	<85.2	<61.3
Hexachlorobenzene	ug/kg	1,000	200	<103	<74.4
Hexachlorobutadiene	ug/kg	25,000	600	<142	<102
Hexachlorocyclopentadiene	ug/kg	110,000	210,000	<79.1	<56.9
Hexachloroethane	ug/kg	140,000	200	<107	<77.0
Isophorone	ug/kg	2,000,000	200	<76.6	<55.1
2-Methylphenol	ug/kg	3,400,000	none	<97.5	<70.2
3 & 4-Methylphenol	ug/kg	340,000	none	<148	<107
2-Nitroaniline	ug/kg	23,000,000	none	<97.5	<70.2
3-Nitroaniline	ug/kg	none	none	<110	<78.8
4-Nitroaniline	ug/kg	none	none	<87.8	<63.1

Table A9 - Peat Sample Analysis Results
Semi-Volatile Organic Compounds (SVOC) - EPA Method 8270C
(excludes PAHs)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BD-04R-17-19-016	BS-03R-13-15-038
Nitrobenzene	ug/kg	340,000	200	<140	<101
2-Nitrophenol	ug/kg	none	none	<97.3	<70.0
4-Nitrophenol	ug/kg	none	none	<93.3	<67.1
n-Nitrosodimethylamine	ug/kg	700	700	<137	<98.7
n-Nitroso-di-n-propylamine	ug/kg	300	200	<78.0	<56.1
n-Nitrosodiphenylamine	ug/kg	390,000	200	<158	<114
Pentachlorophenol	ug/kg	10,000	300	<125	<89.9
Phenol	ug/kg	210,000,000	5,000	<89.7	<64.5
1,2,4-Trichlorobenzene	ug/kg	820,000	400	<137	<98.5
2,4,5-Trichlorophenol	ug/kg	68,000,000	44,000	<86.4	<62.1
2,4,6-Trichlorophenol	ug/kg	74,000	200	<84.7	<60.9

Table A10 - Peat Sample Analysis Results
Petroleum Hydrocarbons (NJDEP EPH) and Volatile Organic Compounds (EPA Method 8260B)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BD-04R-17-19-016	BS-03R-13-15-038	BS-07R-14-18-010
Petroleum Hydrocarbons (EPH)	mg/kg	none	none		<72.4	107 j
Acetone	ug/kg	na	12,000	31.6	38.4 b	71.8 b
Benzene	ug/kg	5	5	2.73 j	<1.66	<6.09
Bromochloromethane	ug/kg	none	none	<2.78	<1.73	<6.35
Bromodichloromethane	ug/kg	3	5	<2.73	<1.70	<6.22
Bromoform	ug/kg	280	20	<2.05	<1.27	<4.67
Bromomethane	ug/kg	59	30	<3.61	<2.24	<8.23
2-Butanone	ug/kg	44,000	600	<5.34	<3.32	<12.2
Carbon disulfide	ug/kg	110,000	4,000	1,720 j	21.2	391
Carbon tetrachloride	ug/kg	2	5	<2.78	<1.73	<6.35
Chlorobenzene	ug/kg	7,400	400	<2.84	<1.77	<6.48
Chloroethane	ug/kg	1,100	na	<2.24	<1.40	5.12 j
Chloroform	ug/kg	2	200	<2.41	<1.50	<5.51
Chloromethane	ug/kg	12	na	<3.35	<2.08	<7.65
Cyclohexane	ug/kg	none	none	<2.70	<1.68	<6.16
Dibromochloromethane	ug/kg	8	5	<2.10	<1.31	<4.80
1,2-Dibromoethane	ug/kg	0.04	5	<2.50	<1.55	<5.70
1,2-Dibromo-3-chloropropane	ug/kg	0.2	5	<3.04	<1.89	<6.94
1,2-Dichlorobenzene	ug/kg	59,000	11,000	<2.78	<1.73	<6.35
1,3-Dichlorobenzene	ug/kg	29,000	12,000	<3.12	<1.94	<7.13
1,4-Dichlorobenzene	ug/kg	13	1,000	<3.32	<2.07	<7.58
Dichlorodifluoromethane	ug/kg	230,000	25,000	<2.56	<1.59	<5.83
1,1-Dichloroethane	ug/kg	24	200	<2.98	<1.85	<6.81
1,2-Dichloroethane	ug/kg	3	5	<2.39	<1.48	<5.45
1,1-Dichloroethene	ug/kg	50	5	<3.18	<1.98	<7.26
cis-1,2-Dichloroethene	ug/kg	560	200	<2.16	<1.34	<4.93
trans-1,2-Dichloroethene	ug/kg	720	400	<2.84	<1.77	<6.48
1,2-Dichloropropane	ug/kg	5	5	<2.64	<1.64	<6.03
cis-1,3-Dichloropropene	ug/kg	7	5	<2.30	<1.43	<5.25
trans-1,3-Dichloropropene	ug/kg	7	5	<2.47	<1.54	<5.64
1,4-Dioxane	ug/kg	none	none	<122	<75.8	<278
Ethyl benzene	ug/kg	110,000	8,000	<3.24	<2.01	<7.39
2-Hexanone	ug/kg	none	none	<5.57	<3.46	<12.7
Isopropyl benzene	ug/kg	none	none	<3.10	<1.93	<7.07
Methyl acetate	ug/kg	na	14,000	40.5	<1.89	23.0 j
Methyl tertiary butyl ether	ug/kg	320	200	<2.44	<1.52	<5.57
Methylcyclohexane	ug/kg	none	none	<3.38	<2.10	<7.71
Methylene chloride	ug/kg	97	7	<4.29	<2.67	<9.79
4-Methyl-2-pentanone	ug/kg	none	none	<4.80	<2.99	<11.0
Styrene	ug/kg	260	2,000	<2.53	<1.57	<5.77
1,1,2,2-Tetrachloroethane	ug/kg	3	5	<2.61	<1.63	<5.96
Tetrachloroethene	ug/kg	5	5	<3.10	<1.93	<7.07

Table A10 - Peat Sample Analysis Results
Petroleum Hydrocarbons (NJDEP EPH) and Volatile Organic Compounds (EPA Method 8260B)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BD-04R-17-19-016	BS-03R-13-15-038	BS-07R-14-18-010
Toluene	ug/kg	91,000	4,000	<3.27	<2.03	<7.45
1,2,3-Trichlorobenzene	ug/kg	none	none	<4.89	<3.04	<11.1
1,2,4-Trichlorobenzene	ug/kg	820	400	<3.78	<2.35	<8.62
1,1,1-Trichloroethane	ug/kg	4,200	200	<2.87	<1.78	<6.55
1,1,2-Trichloroethane	ug/kg	6	10	<2.81	<1.75	<6.42
Trichloroethene	ug/kg	20	7	<3.55	<2.21	<8.10
Trichlorofluoromethane	ug/kg	340,000	22,000	<3.10	<1.93	<7.07
1,1,2-Trichloro-1,2,2- trifluoroethane	ug/kg	none	none	<3.27	<2.03	<7.45
Vinyl chloride	ug/kg	2	5	<3.29	<2.05	<7.52
m&p-Xylenes	ug/kg	170,000	12,000	<6.56	<4.08	<15.0
o-Xylene	ug/kg	170,000	12,000	<2.64	<1.64	<6.03

Table A11 - Organic Clay Sample Analysis Results
Inorganics - EPA Methods 6010C, 7471B and 9010/9014

Parameter	Units	Non-Res Remed	Impact to GW Scr	BS-01-14-16-005	BS-05-8-10-024	ID-03R-22-24-035
Aluminum	mg/kg	na	3,900	**12,800**	**13,800**	**9,780**
Antimony	mg/kg	450	6	<1.00	<2.50	<1.12
Arsenic	mg/kg	19	19	3.87	12.7	1.28 j
Barium	mg/kg	59,000	1,300	141	74.9	20.5
Beryllium	mg/kg	140	0.5	**0.822**	**0.648**	0.332
Calcium	mg/kg	none	none	15,800	7,210	2,880
Cadmium	mg/kg	78	1	<0.0255	<0.0636	<0.0309
Chromium	mg/kg	none	none	23.4	30.4	13.0
Cobalt	mg/kg	590	59	13.2	9.48	4.91
Copper	mg/kg	45,000	7,300	15.7	70.9	3.99
Iron	mg/kg	none	none	27,200	27,800	12,900
Lead	mg/kg	800	59	11.4	40.7	5.80
Magnesium	mg/kg	none	none	7,760	5,530	2,890
Manganese	mg/kg	5,900	42	**775**	**260**	**97.8**
Mercury	mg/kg	65	0.1	0.0681	**0.495**	<0.0721
Nickel	mg/kg	23,000	31	26.7	**31.2**	7.82
Potassium	mg/kg	none	none	3,250	3,180	1,100
Selenium	mg/kg	5,700	7	<0.413	<1.03	<0.500
Silver	mg/kg	5,700	1	<0.0969	<0.242	<0.177
Sodium	mg/kg	none	none	302	11,000	4,070
Thallium	mg/kg	79	3	<1.21	<3.02	<1.47
Vanadium	mg/kg	1,100	none	33.1	41.9	24.9
Zinc	mg/kg	110,000	600	62.2	138	20.8
Cyanide	mg/kg	23,000	13	<6.13	**69.8**	N/A

Table A12 - Organic Clay Sample Analysis Results
Petroleum Hydrocarbons (NJDEP EPH)

Parameter	Units	Non-Res Remed Std	Impact to GW Scr Lvl	BS-05-8-10-024
Petroleum Hydrocarbons (EPH)	mg/kg	none	none	51.4 j

APPENDIX B

SUMMARIES OF ANALYTICAL DATA FROM THE GROUNDWATER SAMPLES COLLECTED IN THE REMEDIAL INVESTIGATION

Table B1 - Shallow Aquifer Groundwater Sample Analysis Results
Inorganics - EPA Methods 200.7, 245.1 and SN 4500CN C,E

Parameter	Units	GW Quality Criteria	1S I027-1S-004	2D I027-2D-016	3D I027-3D-014	3D dup I027-3D-015	4S I027-4S-008	5D I027-5D-005	6S I027-6S-012	7S I027-7S-011	8S I027-8S-001
Aluminum	mg/l	0.2	<0.175	<0.175	<0.175	<0.175	0.260 j	<0.175	<0.175	<0.175	<0.175
Antimony	mg/l	0.006	<0.0220	<0.0220	<0.0220	<0.0220	0.0239 j	<0.0220	<0.0220	<0.0220	<0.0220
Arsenic	mg/l	0.003	0.0669 j	0.267	<0.0283	0.0789 j	0.332	0.139	0.0522 j	0.0655 j	0.0981
Barium	mg/l	6	0.5880	0.0263 j	0.196	0.200	0.0319 j	0.141	0.359	0.510	0.472
Beryllium	mg/l	0.001	0.0013 j	0.001 j	0.0012 j	0.0012 j	0.0019 j	0.0012 j	0.0015 j	0.0013 j	0.0011 j
Calcium	mg/l	none	308	870	251	261	1,150	420	330	241	255
Cadmium	mg/l	0.004	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.0110
Chromium	mg/l	none	0.0118 j	0.0099 j	0.0101 j	0.0127 j	0.0027 j	0.0049 j	0.0093 j	0.0067 j	0.0104 j
Cobalt	mg/l	none	0.0055 j	0.0089 j	0.0049 j	0.0058 j	0.0375 j	<0.0040	<0.0040	0.0060 j	0.0175 j
Copper	mg/l	1.3	0.0149 j	0.0137 j	0.0224 j	0.0221 j	0.0757	0.0107 j	0.0182 j	0.0100 j	0.0125 j
Iron	mg/l	0.3	2.75	12.5	0.696	0.565	4.78	28.6	3.89	8.24	2.31
Lead	mg/l	0.005	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175
Magnesium	mg/l	none	797	890	686	704	159	733	725	641	786
Manganese	mg/l	0.05	2.40	0.636	0.0364 j	0.0368 j	0.0514 j	1.04	0.197	0.461	5.33
Mercury	mg/l	0.002	0.000022 j	0.000046 j	0.000033 j	0.000037 j	0.000042 j	0.000021 j	0.000021 j	0.000025 j	<0.0000130
Nickel	mg/l	0.1	<0.00340	<0.00340	<0.00340	<0.00340	0.0231 j	<0.00340	<0.00340	<0.00340	<0.00340
Potassium	mg/l	none	218	98.4	221	231	164	190	162	169	172
Selenium	mg/l	0.04	<0.0517	0.0636 j	0.0558 j	0.0558 j	0.169	0.119	<0.0517	<0.0517	<0.0517
Silver	mg/l	0.04	0.0069 j	0.0128 j	0.0060 j	<0.00510	0.0250	0.0074 j	0.0073 j	0.0128 j	0.0064 j
Sodium	mg/l	50	6,590	4,670	5,880	6,180	9,070	6,310	5,760	5,730	6,540
Thallium	mg/l	0.002	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324
Vanadium	mg/l	none	0.0106 j	<0.00260	0.0029 j	0.0032 j	<0.00260	<0.00260	0.0061 j	0.0093 j	<0.00260
Zinc	mg/l	2	0.101	0.0592	0.0442 j	0.0355 j	0.120	0.0345	0.0818	0.0245 j	0.0322 j
Cyanide	mg/l	0.1	<0.0200	1.70	<0.0200	<0.0200	12.4	<0.0200	<0.0400	<0.0250	0.0580

Table B2 - Shallow Aquifer Groundwater Sample Analysis Results
Polycyclic Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Parameter	Units	GW Quality Criteria	1S I027-1S-004	2D I027-2D-016	3D I027-3D-014	3D dup I027-3D-015	4S I027-4S-008	5D I027-5D-005	6S I027-6S-012	7S I027-7S-011	8S I027-8S-001
Acenaphthene	ug/l	none	<0.01	<0.01	0.05	0.04	0.04	<0.01	<0.01	0.02	<0.01
Acenaphthylene	ug/l	400	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	<0.01
Anthracene	ug/l	2,000	<0.01	<0.01	0.02	0.01 j	0.03	<0.01	0.02	<0.01	<0.01
Benzo(a)anthracene	ug/l	0.1	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	ug/l	0.2	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	ug/l	0.5	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	ug/l	0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Benzo(g,h,i)perylene	ug/l	none	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chrysene	ug/l	5	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	ug/l	0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	ug/l	300	<0.02	<0.02	0.03	0.03	0.05	<0.02	<0.02	<0.02	<0.02
Fluorene	ug/l	300	<0.02	<0.02	0.02	0.02	0.06	<0.02	<0.01	<0.02	<0.02
Indeno(1,2,3-cd)pyrene	ug/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylnaphthalene	ug/l	none	0.02	<0.01	0.01 j	0.01 j	0.81	<0.01	0.01 j	<0.01	<0.01
Naphthalene	ug/l	300	0.02	0.01 j	0.02	0.02	0.49	<0.01	0.02	<0.01	<0.01
Phenanthrene	ug/l	none	0.02	0.02	0.04	0.03	0.07	<0.01	<0.02	<0.01	<0.01
Pyrene	ug/l	200	<0.02	<0.02	0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.02

Table B3 - Shallow Aquifer Groundwater Sample Analysis Results
Petroleum Hydrocarbons (EPH) Method 1664 ASGT and Volatile Organic Compounds (VOCs) EPA Method 8260B

Parameter	Units	GW Quality Criteria	1S I027-1S-004	2D I027-2D-016	3D I027-3D-014	3D dup I027-3D-015	4S I027-4S-008	5D I027-5D-005	6S I027-6S-012	7S I027-7S-011	8S I027-8S-001
Petroleum Hydrocarbons	mg/l	none	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Acetone	ug/l	6,000	<16.3	<22.6	<3.26	<22.6	24.4	<3.26	<16.3	<3.26	<3.26
Benzene	ug/l	1	<1.10	<3.80	<0.220	<3.80	<1.10	<0.220	<1.10	<0.220	<0.220
Bromochloromethane	ug/l	none	<1.50	<4.60	<0.300	<4.60	<1.50	<0.300	<1.50	<0.300	<0.300
Bromodichloromethane	ug/l	1	<1.05	<3.50	<0.210	<3.50	<1.05	<0.210	<1.05	<0.210	<0.210
Bromoform	ug/l	4	<1.55	<2.80	<0.310	<2.80	<1.55	<0.310	<1.55	<0.310	<0.310
Bromomethane	ug/l	none	<2.30	<4.30	<0.460	<4.30	<2.30	<0.460	<2.30	<0.460	<0.460
2-Butanone	ug/l	300	<7.20	<20.1	<1.44	<20.1	<7.20	<1.44	<7.20	<1.44	<1.44
Carbon disulfide	ug/l	700	<3.20	<6.20	<0.640	<6.20	25.7	<0.640	<3.20	1.02 j	<0.640
Carbon tetrachloride	ug/l	1	<1.40	<4.50	<0.280	<4.50	<1.40	<0.280	<1.40	<0.280	<0.280
Chlorobenzene	ug/l	50	<1.15	<3.20	<0.230	<3.20	<1.15	<0.230	<1.15	<0.230	<0.230
Chloroethane	ug/l	none	<1.70	<5.90	<0.340	<5.90	<1.70	<0.340	<1.70	<0.340	<0.340
Chloroform	ug/l	70	<1.15	<3.40	<0.230	<3.40	<1.15	<0.230	<1.15	<0.230	<0.230
Chloromethane	ug/l	none	<1.60	<4.30	<0.320	<4.30	<1.60	<0.320	<1.60	<0.320	<0.320
Cyclohexane	ug/l	none	<2.20	<3.20	<0.440	<3.20	<2.20	<0.440	<2.20	<0.440	<0.440
Dibromochloromethane	ug/l	1	<0.700	<3.70	<0.140	<3.70	<0.700	<0.140	<0.700	<0.140	<0.140
1,2-Dibromoethane	ug/l	none	<1.05	<3.70	<0.210	<3.70	<1.05	<0.210	<1.05	<0.210	<0.210
1,2-Dibromo-3-chloropropane	ug/l	0.02	<2.35	<6.60	<0.470	<6.60	<2.35	<0.470	<2.35	<0.470	<0.470
1,2-Dichlorobenzene	ug/l	600	<1.00	<3.50	<0.200	<3.50	<1.00	<0.200	<1.00	<0.200	<0.200
1,3-Dichlorobenzene	ug/l	600	<1.05	<3.50	<0.210	<3.50	<1.05	<0.210	<1.05	<0.210	<0.210
1,4-Dichlorobenzene	ug/l	75	<0.850	<3.70	<0.170	<3.70	<0.850	<0.170	<0.850	<0.170	<0.170
Dichlorodifluoro methane	ug/l	1,000	<2.15	<3.60	<0.430	<3.60	<2.15	<0.430	<2.15	<0.430	<0.430
1,1-Dichloroethane	ug/l	50	<1.20	<4.00	<0.240	<4.00	<1.20	<0.240	<1.20	<0.240	<0.240
1,2-Dichloroethane	ug/l	2	<1.20	<4.40	<0.240	<4.40	<1.20	<0.240	<1.20	<0.240	<0.240
1,1-Dichloroethene	ug/l	1	<1.55	<3.20	<0.310	<3.20	<1.55	<0.310	<1.55	<0.310	<0.310
cis-1,2-Dichloroethene	ug/l	70	<1.40	<3.30	<0.280	<3.30	<1.40	<0.280	<1.40	<0.280	<0.280
trans-1,2-Dichloroethene	ug/l	100	<0.700	<4.10	<0.140	<4.10	<0.700	<0.140	<0.700	<0.140	<0.140

Table B3 - Shallow Aquifer Groundwater Sample Analysis Results
Petroleum Hydrocarbons (EPH) Method 1664 ASGT and Volatile Organic Compounds (VOCs) EPA Method 8260B

Parameter	Units	GW Quality Criteria	1S I027-1S-004	2D I027-2D-016	3D I027-3D-014	3D dup I027-3D-015	4S I027-4S-008	5D I027-5D-005	6S I027-6S-012	7S I027-7S-011	8S I027-8S-001
1,2-Dichloropropane	ug/l	1	<1.00	<5.70	<0.200	<5.70	<1.00	<0.200	<1.00	<0.200	<0.200
cis-1,3-Dichloropropene	ug/l	1	<1.10	<3.40	<0.220	<3.40	<1.10	<0.220	<1.10	<0.220	<0.220
trans-1,3-Dichloropropene	ug/l	1	<1.10	<2.70	<0.220	<2.70	<1.10	<0.220	<1.10	<0.220	<0.220
1,4-Dioxane	ug/l	none	<643	NA	NA	NA	<643	<129	<643	<129	<129
Ethyl benzene	ug/l	700	<1.15	<3.40	<0.230	<3.40	<1.15	<0.230	<1.15	<0.230	<0.230
2-Hexanone	ug/l	none	<4.15	<5.30	<0.830	<5.30	<4.15	<0.830	<4.15	<0.830	<0.830
Isopropyl benzene	ug/l	none	<1.35	<2.90	<0.270	<2.90	<1.35	<0.270	<1.35	<0.270	<0.270
Methyl acetate	ug/l	7,000	<1.80	<9.10	<0.360	<9.10	<1.80	<0.360	<1.80	<0.360	<0.360
Methyl tertiary butyl ether	ug/l	70	<1.00	<3.10	<0.200	<3.10	<1.00	<0.200	<1.00	<0.200	<0.200
Methylcyclohexane	ug/l	none	<1.80	<7.10	<0.360	<7.10	<1.80	<0.360	<1.80	<0.360	<0.360
Methylene chloride	ug/l	none	3.60 j	<4.00	<0.500	<4.00	3.00 j	<0.500	3.100 j	<0.500	<0.500
4-Methyl-2-pentanone	ug/l	none	<2.20	<5.80	<0.440	<5.80	<2.20	<0.440	<2.20	<0.440	<0.440
Styrene	ug/l	100	<1.00	<3.30	<0.200	<3.30	<1.00	<0.200	<1.00	<0.200	<0.200
1,1,2,2-Tetrachloroethane	ug/l	1	<1.60	<3.50	<0.320	<3.50	<1.60	<0.320	<1.60	<0.320	<0.320
Tetrachloroethene	ug/l	1	<1.85	<3.60	<0.370	<3.60	<1.85	<0.370	<1.85	<0.370	<0.370
Toluene	ug/l	600	<0.950	<3.70	<0.190	<3.70	<0.950	<0.190	<0.950	<0.190	<0.190
1,2,3-Trichlorobenzene	ug/l	none	<1.55	<3.80	<0.310	<3.80	<1.55	<0.310	<1.55	<0.310	<0.310
1,2,4-Trichlorobenzene	ug/l	9	<1.80	<1.60	<0.360	<1.60	<1.80	<0.360	<1.80	<0.360	<0.360
1,1,1-Trichloroethane	ug/l	30	<1.05	<3.40	<0.210	<3.40	<1.05	<0.210	<1.05	<0.210	<0.210
1,1,2-Trichloroethane	ug/l	3	<1.20	<3.80	<0.240	<3.80	<1.20	<0.240	<1.20	<0.240	<0.240
Trichloroethene	ug/l	1	<1.25	<2.60	<0.250	<2.60	<1.25	<0.250	<1.25	<0.250	<0.250
Trichlorofluoromethane	ug/l	2,000	<1.90	<4.30	<0.380	<4.30	<1.90	<0.380	<1.90	<0.380	<0.380
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/l	none	<2.35	<4.90	<0.470	<4.90	<2.35	<0.470	<2.35	<0.470	<0.470
Vinyl chloride	ug/l	1	<1.20	<3.90	<0.240	<3.90	<1.20	<0.240	<1.20	<0.240	<0.240
m&p-Xylenes	ug/l	1,000	<2.30	<6.20	<0.460	<6.20	<2.30	<0.460	<2.30	<0.460	<0.460
o-Xylene	ug/l	1,000	<1.20	<2.90	<0.240	<2.90	<1.20	<0.240	<1.20	<0.240	<0.240

Table B4 - Brunswick Formation Aquifer Groundwater Sample Analysis Results
Inorganics - EPA Methods 200.7, 245.1 and SN 4500CN C,E

Parameter	Units	GW Quality Criteria	1D I027-1D-003	2S I027-2S-017	3S I027-3S-013	4D I027-4D-007	5S I027-5S-006	6D I027-6D-013	7D I027-7D-009	7D dup I027-7D-010	8D I027-8D-002
Aluminum	mg/l	0.2	<0.175	<0.175	<0.175	0.207 j	<0.175	<0.175	<0.175	<0.175	<0.175
Antimony	mg/l	0.006	<0.0220	0.0280 j	0.0927 j	<0.0220	<0.0220	<0.0220	<0.0220	<0.0220	0.0529 j
Arsenic	mg/l	0.003	0.287	0.133	0.151	0.425	0.0655 j	0.180	0.208	0.145	0.138
Barium	mg/l	6	0.0612 j	0.0444 j	0.0938 j	0.0535 j	0.2480	0.0416 j	0.0728 j	0.0717 j	0.0660 j
Beryllium	mg/l	0.001	0.0014 j	0.0014 j	0.0014 j	0.0014 j	0.0014 j	0.0015 j	0.0015 j	0.0018 j	0.0018 j
Calcium	mg/l	none	2,040	866	726	1,810	298	897	1,490	1,460	396
Cadmium	mg/l	0.004	<0.001100	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110
Chromium	mg/l	none	<0.00220	<0.00220	0.0095 j	<0.00220	0.0191 j	0.0028 j	<0.00220	<0.00220	0.0029 j
Cobalt	mg/l	none	0.0067 j	0.0072 j	0.0057 j	0.0076 j	0.0067 j	0.0041 j	0.0060 j	0.0067 j	0.0041 j
Copper	mg/l	1.3	0.0058 j	0.0063 j	0.0187 j	0.0070 j	0.0390	0.0091 j	0.0093 j	0.0044 j	0.0113 j
Iron	mg/l	0.3	34.2	12.8	7.13	17.8	1.30	10.4	39.6	35.3	5.84
Lead	mg/l	0.005	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175
Magnesium	mg/l	none	535	593	648	576	777	677	569	559	640
Manganese	mg/l	0.05	4.60	1.19	0.708	0.835	0.0023 j	0.633	1.24	1.15	0.608
Mercury	mg/l	0.002	0.000023 j	0.000020 j	0.000033 j	0.000030 j	0.000033 j	0.000027 j	0.000021 j	0.000030 j	0.000021 j
Nickel	mg/l	0.1	<0.00340	<0.00340	<0.00340	<0.00340	<0.00340	<0.00340	<0.00340	<0.00340	<0.00340
Potassium	mg/l	none	29.1	56.6	143	47.8	233	67.0	33.2	32.8	104
Selenium	mg/l	0.04	0.148	<0.0517	0.101	0.183	0.0647 j	0.0642 j	0.112	<0.0517	0.0717 j
Silver	mg/l	0.04	0.0347	0.0189 j	0.0172 j	0.0295	0.0075 j	0.0195 j	0.0279	0.0246	0.0112 j
Sodium	mg/l	50	3,450	5,740	5,640	4,550	6,710	4,630	3,970	3,860	6,430
Thallium	mg/l	0.002	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324	<0.0324
Vanadium	mg/l	none	<0.00260	<0.00260	0.0043 j	<0.00260	0.0075 j	<0.00260	<0.00260	<0.00260	<0.00260
Zinc	mg/l	2	0.0758	0.0532	0.0784	0.0658	0.0472 j	<0.00260	0.0748	0.0664	0.0331 j
Cyanide, Total	mg/l	0.1	<0.0200	<0.0400	0.0960	0.391	0.0810	<0.0400	<0.0250	<0.0200	<0.0200

Table B5 - Brunswick Formation Aquifer Groundwater Sample Analysis Results
Polycyclic Aromatic Hydrocarbons (PAHs) - EPA Method 8270C

Parameter	Units	GW Quality Criteria	1D I027-1D-003	2S I027-2S-017	3S I027-3S-013	4D I027-4D-007	5S I027-5S-006	6D I027-6D-013	7D I027-7D-009	7D dup I027-7D-010	8D I027-8D-002
Acenaphthene	ug/l		0.03	<0.01	0.02	<0.01	0.02	<0.01	<0.01	<0.01	0.02
Acenaphthylene	ug/l	400	0.03	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.01	<0.01
Anthracene	ug/l	2,000	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Benzo(a)anthracene	ug/l	0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(b)fluoranthene	ug/l	0.2	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	ug/l	0.5	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	ug/l	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(g,h,i)perylene	ug/l	none	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Chrysene	ug/l	5	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dibenz(a,h)anthracene	ug/l	0.3	0.03	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	ug/l	300	0.03	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Fluorene	ug/l	300	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Indeno(1,2,3-cd)pyrene	ug/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylnaphthalene	ug/l	none	0.03	<0.01	0.03	<0.01	0.01 j	<0.01	<0.01	0.03	0.02
Naphthalene	ug/l	300	0.02	0.01 j	0.03	<0.01	0.02	<0.01	0.01 j	<0.01	0.02
Phenanthrene	ug/l	none	0.04	0.04	0.02	<0.01	0.02	0.02	0.02	0.03	0.03
Pyrene	ug/l	200	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Table B6 - Brunswick Formation Aquifer Groundwater Sample Analysis Results
Volatile Organic Compounds (VOCs) EPA Method 8260B

Parameter	Units	GW Quality Criteria	1D I027-1D-003	2S I027-2S-017	3S I027-3S-013	4D I027-4D-007	5S I027-5S-006	6D I027-6D-013	7D I027-7D-009	7D dup I027-7D-010	8D I027-8D-002
Acetone	ug/l	6,000	<3.26	<22.6	<22.6	<3.26	<3.26	<3.26	<3.26	<3.26	<3.26
Benzene	ug/l	1	<0.220	<3.80	<3.80	<0.220	<0.220	<0.220	<0.220	<0.220	<0.220
Bromochloromethane	ug/l	none	<0.300	<4.60	<4.60	<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
Bromodichloromethane	ug/l	1	<0.210	<3.50	<3.50	<0.210	<0.210	<0.210	<0.210	<0.210	<0.210
Bromoform	ug/l	4	<0.310	<2.80	<2.80	<0.310	<0.310	<0.310	<0.310	<0.310	<0.310
Bromomethane	ug/l	none	<0.460	<4.30	<4.30	<0.460	<0.460	<0.430	<0.460	<0.460	0.610 jb
2-Butanone	ug/l	300	<1.44	<20.1	<20.1	<1.44	<1.44	<1.44	<1.44	<1.44	<1.44
Carbon disulfide	ug/l	700	<0.640	<6.20	<6.20	<0.640	2.39	<0.640	<0.640	<0.640	<0.640
Carbon tetrachloride	ug/l	1	<0.280	<4.50	<4.50	<0.280	<0.280	<0.280	<0.280	<0.280	<0.280
Chlorobenzene	ug/l	50	<0.230	<3.20	<3.20	<0.230	<0.230	<0.230	<0.230	<0.230	<0.230
Chloroethane	ug/l	none	<0.340	<5.90	<5.90	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Chloroform	ug/l	70	<0.230	<3.40	<3.40	<0.230	<0.230	<0.230	<0.230	<0.230	<0.230
Chloromethane	ug/l	none	<0.320	<4.30	<4.30	<0.320	<0.320	<0.320	<0.320	<0.320	<0.320
Cyclohexane	ug/l	none	<0.440	<3.20	<3.20	<0.440	<0.440	<0.440	<0.440	<0.440	<0.440
Dibromochloromethane	ug/l	1	<0.140	<3.70	<3.70	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140
1,2-Dibromoethane	ug/l	none	<0.210	<3.70	<3.70	<0.210	<0.210	<0.210	<0.210	<0.210	<0.210
1,2-Dibromo-3-chloropropane	ug/l	0.02	<0.470	<6.60	<6.60	<0.470	<0.470	<0.470	<0.470	<0.470	<0.470
1,2-Dichlorobenzene	ug/l	600	<0.200	<3.50	<3.50	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
1,3-Dichlorobenzene	ug/l	600	<0.210	<3.50	<3.50	<0.210	<0.210	<0.210	<0.210	<0.210	<0.210
1,4-Dichlorobenzene	ug/l	75	<0.170	<3.70	<3.70	<0.170	<0.170	<0.170	<0.170	<0.170	<0.170
Dichlorodifluoro methane	ug/l	1,000	<0.430	<3.60	<3.60	<0.430	<0.430	<0.430	<0.430	<0.430	<0.430
1,1-Dichloroethane	ug/l	50	<0.240	<4.00	<4.00	<0.240	<0.240	<0.240	<0.240	<0.240	<0.240
1,2-Dichloroethane	ug/l	2	<0.240	<4.40	<4.40	<0.240	<0.240	<0.240	<0.240	<0.240	<0.240
1,1-Dichloroethene	ug/l	1	<0.310	<3.20	<3.20	<0.310	<0.310	<0.310	<0.310	<0.310	<0.310
cis-1,2-Dichloroethene	ug/l	70	<0.280	<3.30	<3.30	<0.280	<0.280	<0.280	<0.280	<0.280	<0.280
trans-1,2-Dichloroethene	ug/l	100	<0.140	<4.10	<4.10	<0.140	<0.140	<0.140	<0.140	<0.140	<0.140

Table B6 - Brunswick Formation Aquifer Groundwater Sample Analysis Results
Volatile Organic Compounds (VOCs) EPA Method 8260B

Parameter	Units	GW Quality Criteria	1D I027-1D-003	2S I027-2S-017	3S I027-3S-013	4D I027-4D-007	5S I027-5S-006	6D I027-6D-013	7D I027-7D-009	7D dup I027-7D-010	8D I027-8D-002
1,2-Dichloropropane	ug/l	1	<0.200	<5.70	<5.70	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
cis-1,3-Dichloropropene	ug/l	1	<0.220	<3.40	<3.40	<0.220	<0.220	<0.220	<0.220	<0.220	<0.220
trans-1,3-Dichloropropene	ug/l	1	<0.220	<2.70	<2.70	<0.220	<0.220	<0.270	<0.220	<0.220	<0.220
1,4-Dioxane	ug/l	none	<129	NA	NA	<129	<129	<129	<129	<129	<129
Ethyl benzene	ug/l	700	<0.230	<3.40	<3.40	<0.230	<0.230	<0.230	<0.230	<0.230	<0.230
2-Hexanone	ug/l	none	<0.830	<5.30	<5.30	<0.830	<0.830	<0.830	<0.830	<0.830	<0.830
Isopropyl benzene	ug/l	none	<0.270	<2.90	<2.90	<0.270	<0.270	<0.270	<0.270	<0.270	<0.270
Methyl acetate	ug/l	7,000	<0.360	<9.10	<9.10	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360
Methyl tertiary butyl ether	ug/l	70	<0.200	<3.10	<3.10	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Methylcyclohexane	ug/l	none	<0.360	<7.10	<7.10	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360
Methylene chloride	ug/l	none	<0.500	<4.00	<4.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
4-Methyl-2-pentanone	ug/l	none	<0.440	<5.80	<5.80	<0.440	<0.440	<0.440	<0.440	<0.440	<0.44
Styrene	ug/l	100	<0.200	<3.30	<3.30	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
1,1,2,2-Tetrachloroethane	ug/l	1	<0.320	<3.50	<3.50	<0.320	<0.320	<0.320	<0.320	<0.320	<0.320
Tetrachloroethene	ug/l	1	<0.370	<3.60	<3.60	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370
Toluene	ug/l	600	<0.190	<3.70	<3.70	<0.190	<0.190	<0.190	<0.190	<0.190	<0.190
1,2,3-Trichlorobenzene	ug/l	none	<0.310	<3.80	<3.80	<0.310	<0.310	<0.310	<0.310	<0.310	<0.310
1,2,4-Trichlorobenzene	ug/l	9	<0.360	<1.60	<1.60	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360
1,1,1-Trichloroethane	ug/l	30	<0.210	<3.40	<3.40	<0.210	<0.210	<0.210	<0.210	<0.210	<0.210
1,1,2-Trichloroethane	ug/l	3	<0.240	<3.80	<3.80	<0.240	<0.240	<0.240	<0.240	<0.240	<0.240
Trichloroethene	ug/l	1	<0.250	<2.60	<2.60	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
Trichlorofluoromethane	ug/l	2,000	<0.380	<4.30	<4.30	<0.380	<0.380	<0.380	<0.380	<0.380	<0.380
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/l	none	<0.470	<4.90	<4.90	<0.470	<0.470	<0.470	<0.470	<0.470	<0.470
Vinyl chloride	ug/l	1	<0.240	<3.90	<3.90	<0.240	<0.240	<0.240	<0.240	<0.240	<0.240
m&p-Xylenes	ug/l	1,000	<0.460	<6.20	<6.20	<0.460	<0.460	<0.460	<0.460	<0.460	<0.460
o-Xylene	ug/l	1,000	<0.240	<2.90	<2.90	<0.240	<0.240	<0.240	<0.240	<0.240	<0.240

APPENDIX C

SUMMARIES OF ANALYTICAL DATA FROM PRIOR INVESTIGATIONS

Table C1 - Analytical Data from the NJDEP 1991 Investigation

Parameter	Units	Boring Location						
		S-1	S-2	S-3	S-5	S-6	S-7	S-8
Metals/Inorganics (EPA Methods 6010, 6020 and 7471)								
Aluminum	mg/kg	16,400	27,700	25,800	27,200	21,400	10,400	4,450
Antimony	mg/kg	3.1	3.8	4.0	4.5	9.9	<4.1	2.9
Arsenic	mg/kg	8.0	8.9	3.0	3.5	3.5	<0.94	<0.98
Barium	mg/kg	113	61.4	49.4	59.2	41.1	78.1	45.0
Beryllium	mg/kg	1.2	0.94	0.56	1.0	0.81	0.6	0.4
Cadmium	mg/kg	<0.41	<0.60	<0.64	<0.71	<0.78	<0.66	<0.69
Calcium	mg/kg	8,690	167,000	195,000	208,000	219,000	247,000	194,000
Chromium (total)	mg/kg	24.7	27.1	26.1	25.0	18.8	12.9	6.7
Cobalt	mg/kg	13.1	4.4	2.4	6.3	4.8	<1.6	<1.6
Copper	mg/kg	127	3.2	10.7	15.5	<0.44	2.2	<0.39
Iron	mg/kg	18,200	10,700	9,060	10,400	8,850	742	1,360
Lead	mg/kg	174	44.6	32.3	40.9	28.9	18.3	10.7
Magnesium	mg/kg	4,320	13,900	15,700	12,300	31,500	752	1,650
Manganese	mg/kg	260	310	269	296	281	11.4	38.8
Mercury	mg/kg	0.19	0.69	0.36	<0..19	<0.22	<0.17	<0.20
Nickel	mg/kg	27.5	4.0	6.6	13.3	<4.9	7.2	<4.3
Potassium	mg/kg	2,920	474	<176	774	473	348	<189
Selenium	mg/kg	<0.59	<8.6	<9.1	<10.0	<11.0	<9.4	<9.8
Silver	mg/kg	<0.54	<0.79	<0.84	<0.94	<1.0	<0.86	<0.90
Sodium	mg/kg	1,980	2,340	3,600	2,750	11,300	2,110	5,210
Thallium	mg/kg	<0.59	<0.86	<0.91	<1.0	<1.1	<0.94	<0.98
Vanadium	mg/kg	30	38.3	30.0	30.2	31.5	12.3	9.9
Zinc	mg/kg	914	38.5	29.4	32.0	15.6	3.4	<0.75
Cyanide (EPA Method 9010/9014)								
Cyanide	mg/kg	3.9	337	472	768	153	9.7	403

Table C1 - Analytical Data from the NJDEP 1991 Investigation

Parameter	Units	Boring Location						
		S-1	S-2	S-3	S-5	S-6	S-7	S-8
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)								
Acenaphthylene	ug/kg	89	<570	<600	<670	<730	<620	<650
Acenaphthene	ug/kg	1,300	<570	<600	11	<730	<620	<650
Anthracene	ug/kg	1,400	7	<600	18	<730	<620	<650
Benzo(a) anthracene	ug/kg	2,100	19	25	38	<730	<620	<650
Benzo(a)pyrene	ug/kg	1,800	<570	<600	<670	<730	<620	<650
Benzo(b) fluoranthene	ug/kg	1,200	<570	<600	<670	<730	<620	<650
Benzo(k) fluoranthene	ug/kg	1,400	<570	<600	<670	<730	<620	<650
Benzo(g,h,i) perylene	ug/kg	1,100	<570	<600	<670	<730	<620	<650
Chrysene	ug/kg	2,600	21	30	45	<730	<620	<650
Dibenzo(a,h) anthracene	ug/kg	3,220	<570	<600	<670	<730	<620	<650
Fluoranthene	ug/kg	4,100	44	56	90	22	<620	<650
Fluorene	ug/kg	1,300	<570	<600	<670	<730	<620	<650
Ideno(1,2,3-cd) pyrene	ug/kg	590	<570	<600	<670	<730	<620	<650
2-Methylnaphthalene	ug/kg	1,500	5	13	12	11	<620	<650
Naphthalene	ug/kg	610	19	332	<670	<730	<620	<650
Phenanthrene	ug/kg	4,400	44	31	86	21	<620	<650
Pyrene	ug/kg	5,100	34	44	77	16	<620	<650
Semi-Volatile Organic Compounds (EPA Method 8270)								
Butyl benzyl phthalate	ug/kg	290	<570	41	<670	20	<620	<650
Bis(2-ethylhexyl) phthalate	ug/kg	390	200	150	190	200	110	100
Carbazole	ug/kg	470	<570	<600	<670	<730	<620	<650
Dibenzofuran	ug/kg	970	3	<600	5	<730	<620	<650
Di-n-butylphthalate	ug/kg	310	340	340	350	610	410	430
Hexachlorobenzene	ug/kg	<780	56	170	110	59	<620	<650
Pentachlorophenol	ug/kg	<780	<570	<600	<670	41	<620	<650
All other compounds	ug/kg	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Pesticides (EPA Method 8081)								
All compounds	ug/kg	<RL	<RL	<RL	<RL	<RL	<RL	<RL
PCBs (EPA Method 8082)								
All compounds	ug/kg	<RL	<RL	<RL	<RL	<RL	<RL	<RL

Table C1 - Analytical Data from the NJDEP 1991 Investigation

Parameter	Units	Boring Location			
		S-9	S-10	S-11	S-12
Metals/Inorganics (EPA Methods 6010, 6020 and 7471)					
Aluminum	mg/kg	3,260	15,900	11,700	8,870
Antimony	mg/kg	<4.2	8.8	<4.5	<4.3
Arsenic	mg/kg	<0.95	2.2	1.2	1.6
Barium	mg/kg	105	40.7	21.9	64.5
Beryllium	mg/kg	0.70	1.2	0.8	1.0
Cadmium	mg/kg	<0.67	<0.76	<0.72	<0.68
Calcium	mg/kg	233,000	264,000	218,000	264,000
Chromium (total)	mg/kg	12.0	25.1	16.4	16.7
Cobalt	mg/kg	4.0	5.5	2.3	3.3
Copper	mg/kg	4.9	11.1	1.5	11.7
Iron	mg/kg	3,070	5,880	2,780	3,930
Lead	mg/kg	21.4	25.9	12.6	30
Magnesium	mg/kg	3,270	12,600	2,570	4,390
Manganese	mg/kg	53.1	253	55.3	97.7
Mercury	mg/kg	<0.19	<0.22	<0.21	<0.19
Nickel	mg/kg	6.7	6.7	<4.5	6.5
Potassium	mg/kg	412	300	<198	469
Selenium	mg/kg	<9.5	<11.0	<1.0	<9.7
Silver	mg/kg	<0.88	<0.99	<0.95	<0.89
Sodium	mg/kg	12,100	1,740	1,200	11,800
Thallium	mg/kg	<0.95	<1.1	<1.0	<0.97
Vanadium	mg/kg	17.4	31.3	19.6	30.0
Zinc	mg/kg	10.5	22.4	2.5	25.9
Cyanide (EPA Method 9010/9014)					
Cyanide	mg/kg	972	1,020	68.7	103

Table C1 - Analytical Data from the NJDEP 1991 Investigation

Parameter	Units	Boring Location			
		S-9	S-10	S-11	S-12
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)					
Acenaphthylene	ug/kg	<630	<720	<670	<630
Acenaphthene	ug/kg	<630	<720	<670	<630
Anthracene	ug/kg	<630	<720	<670	<630
Benzo(a) anthracene	ug/kg	<630	<720	<670	<630
Benzo(a)pyrene	ug/kg	<630	<720	<670	<630
Benzo(b) fluoranthene	ug/kg	<630	<720	<670	<630
Benzo(k) fluoranthene	ug/kg	<630	<720	<670	<630
Benzo(g,h,i) perylene	ug/kg	<630	<720	<670	<630
Chrysene	ug/kg	<630	<720	<670	<630
Dibenzo(a,h) anthracene	ug/kg	<630	<720	<670	<630
Fluoranthene	ug/kg	<630	<720	<670	<630
Fluorene	ug/kg	<630	<720	<670	<630
Ideno(1,2,3-cd) pyrene	ug/kg	<630	<720	<670	<630
2-Methylnaphthalene	ug/kg	<630	7	<670	<630
Naphthalene	ug/kg	<630	<720	<670	<630
Phenanthrene	ug/kg	<630	<720	<670	15
Pyrene	ug/kg	<630	<720	<670	17
Semi-Volatile Organic Compounds (EPA Method 8270)					
Butyl benzyl phthalate	ug/kg	<630	<720	<670	16
Bis(2-ethylhexyl) phthalate	ug/kg	150	150	110	240
Carbazole	ug/kg	<630	<720	<670	<630
Dibenzofuran	ug/kg	<630	<720	<670	<630
Di-n-butylphthalate	ug/kg	620	1,000	640	680
Hexachlorobenzene	ug/kg	<630	<720	<670	<630
Pentachlorophenol	ug/kg	<630	<720	<670	<630
All other compounds	ug/kg	<RL	<RL	<RL	<RL
Pesticides (EPA Method 8081)					
All compounds	ug/kg	<RL	<RL	<RL	<RL
PCBs (EPA Method 8082)					
All compounds	ug/kg	<RL	<RL	<RL	<RL

Table C2 - Analytical Data from the New Jersey Turnpike
Tremley Point Connector Investigation

Parameter	Units	Boring Location		
		E-1	E-2	E-3
Petroleum Hydrocarbons (EPA Method 8015)				
Diesel Range Organics	mg/kg	119	<53	551
Metals/Inorganics (EPA Methods 6010, 6020 and 7471)				
Antimony	mg/kg	<1.2	<2.1	<1.1
Arsenic	mg/kg	10.4	6.5	1.3
Beryllium	mg/kg	<0.59	<1.0	<0.56
Cadmium	mg/kg	1.5	2.7	0.56
Chromium (total)	mg/kg	28.2	20.6	20.6
Copper	mg/kg	99.8	21.5	28.7
Lead	mg/kg	222	52.7	56.1
Mercury	mg/kg	0.26	0.13	0.24
Nickel	mg/kg	18.0	15.5	12.0
Selenium	mg/kg	<1.2	<2.1	<1.1
Silver	mg/kg	<1.2	<2.1	<1.1
Thallium	mg/kg	<1.2	<2.1	<1.1
Zinc	mg/kg	186	1,820	50.1
Cyanide (EPA Method 9010/9014)				
Cyanide	mg/kg	0.47	84.80	0.65
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)				
Acenaphthylene	ug/kg	30.2	<140	38.0
Acenaphthene	ug/kg	29.7	<140	427
Anthracene	ug/kg	101	<140	1,040
Benzo(a) anthracene	ug/kg	225	33.8	1,960
Benzo(a)pyrene	ug/kg	253	<140	1,700
Benzo(b) fluoranthene	ug/kg	199	<140	950
Benzo(k) fluoranthene	ug/kg	249	<140	2,560
Benzo(g,h,i) perylene	ug/kg	91.6	<140	728
Chrysene	ug/kg	246	55.9	1,820
Dibenzo(a,h) anthracene	ug/kg	<82	<140	129
Fluoranthene	ug/kg	447	87.4	3,650
Fluorene	ug/kg	23.4	<140	331
Ideno(1,2,3-cd) pyrene	ug/kg	82.9	<140	605
Naphthalene	ug/kg	<82	<140	88.5
Phenanthrene	ug/kg	288	52.3	2,540
Pyrene	ug/kg	515	83.9	7,940
Semi-Volatile Organic Compounds (EPA Method 8270)				
Butyl benzyl phthalate	ug/kg	<82	<140	2,260
Bis(2-ethylhexyl) phthalate	ug/kg	217	283	6,990
All other compounds	ug/kg	<RL	<RL	<RL

Table C2 - Analytical Data from the New Jersey Turnpike
Tremley Point Connector Investigation

Parameter	Units	Boring Location		
		E-1	E-2	E-3
Volatile Organic Compounds (EPA Method 8260)				
All compounds	ug/kg	<RL	<RL	<RL
Pesticides (EPA Method 8081)				
4,4'-DDT	ug/kg	2.1	<8.3	<1.5
Dieldrin	ug/kg	4.0	<8.3	<1.5
All other compounds	ug/kg	<RL	<RL	<RL
PCBs (EPA Method 8082)				
All compounds	ug/kg	<40	<210	<38

Table C3 - Summary of Fill Investigation Analytical Results for PAHs and S-VOCs

Parameter	Units	TP-01 TP01-16 8-10 ft	TP-02 TP02-17 2-3 ft	TP-02A TP02A-18 1-2 ft	TP-03 TP03-15 1-2 ft	TP-05 TP05-10 2-3 ft	TP-06 TP06-14 3-4 ft	TP-07 TP07-09 4-5 ft	TP-08 TP08-11 1-2 ft	TP-09 TP09-07 2-3 ft	TP-10 TP10-06 4-5 ft	TP-11 TP11-05 2-3 ft
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)												
Acenaphthylene	ug/kg	<32.8	<165	85.3	<95.1	171	<159	<34.4	782	<165	<65.6	195
Acenaphthene	ug/kg	<34.3	<173	<33.9	<99.7	318	<167	<36.0	709	<173	<68.8	379
Anthracene	ug/kg	34.1	161	67.4	<62.5	932	<105	<22.6	2,980	366	<43.1	850
Benzo(a) anthracene	ug/kg	90.8	608	411	303	2,090	<299	<64.4	9,840	674	<123	2,510
Benzo(a)pyrene	ug/kg	88.6	608	447	277	2,060	<254	<54.8	8,560	468	<105	2,530
Benzo(b) fluoranthene	ug/kg	93.1	700	496	350	1,600	<274	<59.1	10,000	514	<113	2,480
Benzo(k) fluoranthene	ug/kg	74.9	448	391	323	2,070	<307	<66.3	2,070	503	<126	2,490
Benzo(g,h,i) perylene	ug/kg	<40.2	241	247	<117	853	<196	<42.1	3,590	<202	<80.4	1,160
Chrysene	ug/kg	343	711	460	343	2,150	<334	<72.0	10,200	800	<137	2,660
Dibenzo(a,h) anthracene	ug/kg	<53.1	<269	71.8	<154	<266	<259	<55.8	1,640	<267	<106	402
Fluoranthene	ug/kg	191	1,180	788	482	3,950	<330	<71.0	22,300	1,720	<136	5,500
Fluorene	ug/kg	<38.5	<195	<38.1	<112	546	<188	<40.4	1,170	297	<77.1	482
Ideno(1,2,3-cd) pyrene	ug/kg	<45.0	287	220	<131	773	<219	<47.2	3,520	<226	<90.1	1,070
2-Methylnaphthalene	ug/kg	<40.2	<203	<39.7	<117	341	<196	<42.1	<216	<202	<80.4	310
Naphthalene	ug/kg	<41.2	<208	<40.7	<120	341	<200	<43.2	<221	<207	<82.4	471
Phenanthrene	ug/kg	120	746	344	178	3,530	<213	<22.6	12,100	1,770	<87.4	3,480
Pyrene	ug/kg	213	1,070	739	594	2,090	354	<63.4	19,800	1,520	<121	4,860
Semi-Volatile Organic Compounds (EPA Method 8270)												
Bis(2-ethylhexyl)phthalate	ug/kg											
Dimethyl phthalate	ug/kg											
All other compounds	ug/kg											

Samples collected March 29-30, 2011

Table C3 - Summary of Fill Investigation Analytical Results for PAHs and S-VOCs

Parameter	Units	TP-12 TP12-12 2-3 ft	TP-12A TP12A-13 0-1 ft	TP-13 TP13-20 2-3 ft	TP-14 TP14-19 0-1 ft	TP-15 TP15-04 4-5 ft	TP-16 TP16-03 4-5 ft	TP-17 TP17-02 3-4 ft	TP-18 TP18-01 4-5 ft	TP-19 TP19-08 2-3 ft	HA-22 HA22-21 0-1 ft
Polynuclear Aromatic Hydrocarbons (EPA Method 8270)											
Acenaphthylene	ug/kg	<35.2	219	921	<264	<70.4	2,240	66.9		80.8	<139
Acenaphthene	ug/kg	<36.9	323	8,480	<325	<73.8	8,070	298		71.8	<145
Anthracene	ug/kg	29.3	1,240	18,200	<350	83.0	24,500	762		269	144
Benzo(a) anthracene	ug/kg	112	6,880	54,200	<252	332	60,200	2,220		979	635
Benzo(a)pyrene	ug/kg	97.6	3,610	49,700	<248	332	59,300	1,970		916	615
Benzo(b) fluoranthene	ug/kg	142	7,040	46,700	222	464	51,600	1,740		696	952
Benzo(k) fluoranthene	ug/kg	115	6,580	46,200	<268	278	52,300	1,740		813	548
Benzo(g,h,i) perylene	ug/kg	<43.2	2,740	21,500	<228	137	23,100	914		314	288
Chrysene	ug/kg	127	6,860	52,600	<241	425	57,000	2,120		1,090	702
Dibenzo(a,h) anthracene	ug/kg	<57.1	1,420	11,800	<187	<114	13,500	533		<105	<225
Fluoranthene	ug/kg	181	12,900	118,000	308	644	127,000	4,390		1,680	1,230
Fluorene	ug/kg	<41.4	254	6,460	<232	<82.8	9,200	302		94.3	<163
Ideno(1,2,3-cd) pyrene	ug/kg	<48.3	2,760	20,600	<242	122	23,200	930		287	279
2-Methylnaphthalene	ug/kg	<43.2	<204	1,090	<298	<86.3	465	<40.8		<79.4	<170
Naphthalene	ug/kg	<44.2	<209	2,020	<366	<88.4	747	152		<81.4	<174
Phenanthrene	ug/kg	95.2	4,080	62,800	<250	376	66,100	2,580		1,050	567
Pyrene	ug/kg	200	12,900	117,000	<279	600	106,000	3,500		2,100	1,290
Semi-Volatile Organic Compounds (EPA Method 8270)											
Bis(2-ethylhexyl)phthalate	ug/kg				312						
Dimethyl phthalate	ug/kg				1,130						
All other compounds	ug/kg				<RL						

Samples collected March 29-30, 2011

Table C4 - Summary of Fill Investigation Analytical Results for Metals, Cyanide and TPH

Parameter	Units	TP-01 TP01-16 8-10 ft	TP-02 TP02-17 2-3 ft	TP-02A TP02A-18 1-2 ft	TP-03 TP03-15 1-2 ft	TP-05 TP05-10 2-3 ft	TP-06 TP06-14 3-4 ft	TP-07 TP07-09 4-5 ft	TP-08 TP08-11 1-2 ft	TP-09 TP09-07 2-3 ft	TP-10 TP10-06 4-5 ft	TP-11 TP11-05 2-3 ft
Petroleum Hydrocarbons (EPA Method 8015)												
Diesel Range	mg/kg				<264	<273					<273	<276
Metals/Inorganics (EPA Methods 6010, 6020 and 7471)												
Arsenic	mg/kg	5.33	8.76	4.68	5.94	6.94	5.52	6.22	4.05	10.1	6.01	10.2
Barium	mg/kg	105	101	258	75.4	140	51.3	122	63.3	75.3	114	261
Cadmium	mg/kg	<0.0159	<0.0161	<0.0157	<0.0154	<0.0159	<0.0155	<0.0167	<0.0171	<0.0160	<0.0256	<0.0161
Chromium (total)	mg/kg	22.6	20.3	26.0	22.5	23.1	13.0	23.2	15.3	13.4	20.6	21.0
Lead	mg/kg	18.5	172	102	45	190	66.0	21.5	44.7	792	17.5	296
Mercury	mg/kg	0.333	0.683	0.101	0.211	0.191	<0.0343	<0.0369	<0.0379	<0.0354	<0.0352	1.47
Selenium	mg/kg	<0.933	<0.943	<0.923	<0.904	<0.935	<0.909	<0.980	<1.00	<0.939	<0.684	<0.944
Silver	mg/kg	<0.126	<0.127	<0.125	<0.122	<0.126	<0.123	<0.132	<0.136	<0.127	<0.0973	<0.127
Cyanide (EPA Method 9010/9014)												
Cyanide	mg/kg											

Samples collected March 29-30, 2011

Table C4 - Summary of Fill Investigation Analytical Results for Metals, Cyanide and TPH

Parameter	Units	TP-12 TP12-12 2-3 ft	TP-12A TP12A-13 0-1 ft	TP-13 TP13-20 2-3 ft	TP-14 TP14-19 0-1 ft	TP-15 TP15-04 4-5 ft	TP-16 TP16-03 4-5 ft	TP-17 TP17-02 3-4 ft	TP-18 TP18-01 4-5 ft	TP-19 TP19-08 2-3 ft	HA-22 HA22-21 0-1 ft
Petroleum Hydrocarbons (EPA Method 8015)											
Diesel Range	mg/kg			1,360		<293	1,530	<277		<269	<1,150
Metals/Inorganics (EPA Methods 6010, 6020 and 7471)											
Arsenic	mg/kg	6.14	5.84	4.69	9.97	11.4	11.0	5.34	7.18	4.34	32.5
Barium	mg/kg	95.1	339.0	148	236	154	94.7	170	57.7	85.2	111
Cadmium	mg/kg	<0.0171	<0.0161	<0.0167	0.179	5.91	<0.0171	<0.0162	<0.0158	<0.0157	<0.0673
Chromium (total)	mg/kg	29.5	18.9	24.8	10.1	19.5	18.5	21.4	18.3	20.3	64.9
Lead	mg/kg	55.8	142	68.2	100	226	173	112	50.3	26.7	221
Mercury	mg/kg	0.0537	0.148	0.34	1.17	0.217	7.61	0.848	0.266	<0.0348	2.24
Selenium	mg/kg	<1.00	<0.948	<0.983	2.18	<1.00	<1.01	<0.949	<0.926	<0.923	<3.95
Silver	mg/kg	<0.135	<0.128	<0.133	<0.217	<0.135	<0.136	<0.128	<0.125	<0.125	<0.534
Cyanide (EPA Method 9010/9014)											
Cyanide	mg/kg			4.95							

Samples collected March 29-30, 2011

Table C6 - Sludge and Impoundment Water Sampling - February 21, 2012
Initial Sample Results - Inorganics

Location	Sludge Samples					Water Samples				
	Impound 3	Impound 4	Impound 5	Remediation Standards		Impound 3	Impound 3	Impound 4	Impound 6	Water Quality
Sample Number	M12-014	M12-008	M12-011	Direct Contact	Impact to GW	M12-020	M12-021	M12-004	M12-002	Criteria
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l	ug/l	ug/l	ug/l
Metals										
Aluminum	**25,000**	**42,400**	**21,400**		3,900	247	770	280	195	
Antimony	<1.16	<1.45	<1.29	450	6	<5.30	<5.30	<5.30	<5.30	640
Arsenic	9.07	4.54	9.92	19	19	<5.80	<5.80	**6.70**	<5.80	0.061
Barium	46.6	38.4	214	59,000	1,300	35.8	50.0	40.0	16.1	
Beryllium	0.234	0.0707	<0.145	140	0.5	<0.120	<0.120	<0.120	<0.120	42
Cadmium	<0.0554	<0.0692	0.422	78	1	<0.280	<0.280	<0.280	<0.280	8.8
Calcium	253,000	212,000	717			417,000	341,000	395,000	225,000	
Chromium	28.3	36.4	7.25			5.50	8.60	4.70	<0.310	750
Cobalt	6.59	8.23	6.62	590	59	7.10	5.70	7.60	1.90	
Copper	13	16.4	9.80	45,000	7,300	<0.580	<0.580	**3.10**	3.00	3.1
Iron	7,820	9,880	3,420			18,600	13,700	17,900	248	
Lead	17.0	14.1	**91.9**	800	59	21.2	**31.0**	**28.5**	21.4	24
Magnesium	17,000	17,200	69.1			310,000	388,000	312,000	41,600	
Manganese	**332**	**314**	**102**	5,900	42	76.5	92.7	74.0	45.6	100
Mercury	**0.229**	**0.116**	**0.110**	65	0.1	<0.0470	0.0500	<0.0470	<0.0470	0.051
Nickel	10.7	20.3	2.71	23,000	31	1.10	1.40	0.930	<0.770	22
Potassium	200	244	1,470			44,000	120,000	43,600	7,190	
Selenium	1.52	2.46	<1.46	5,700	7	29.9	<95.7	23.0	<9.60	71
Silver	<0.107	<0.134	<0.120	5,700	1	<0.780	<0.780	<0.780	<0.780	1.9
Sodium	1,830.0	1,300	1,330			1,180,000	2,450,000	1,170,000	49,500	
Thallium	<0.867	<1.08	<0.968	79	3	<6.20	**7.10**	**9.40**	**6.50**	0.47
Vanadium	39.6	48.3	30.0	1,100		<0.950	2.30	1.10	<0.950	
Zinc	42.7	39.3	12.9	110,000	600	3.60	10.5	11.4	8.50	81
Cyanide	**M12-015**	**M12-009**	**M12-012**			**M12-017**	**M12-016**	**M12-005**	**M12-003**	
Total Cyanide	**1,570**	**1,420**	**547**	23,000	13	**43,200**	**4,030**	**3,980**	29.0	140

Notes:

1. Sludge sample analysis results are reported on a dry weight basis.
2. Results with a less than sign indicate that the paramter was not detected at the laboratory reporting limit.
3. Remediation Standard for sludge samples is the Non-residential Direct Contact Soil Remediation Standard from NJAC 7:26D.
4. Impact to Groundwater standards are the Default Impact to Groundwater Soil Screening Levels from SRP Guidance Document "Development of Site Specific Impact to Groundwater Soil Remediation Standards Using the Soil Water Partitioing Equation", December 2008
5. Water Quality Criteria for water samples is Surface Water Quality Criteria for Toxic Substances for saline (SE) water from NJAC 7:9B.
6. Results shown in **bold** exceed one or more applicable standards.

Table C7 - Sludge and Lagoon Sampling - February 21, 2112

Initial Sample Results - PAHs

Location	Sludge Samples					Water Samples				
	Impound 3	Impound 4	Impound 5	Remediation Standard		Impound 3	Impound 3	Impound 4	Impound 6	Water Quality Criteria
Sample Number	M12-013	M12-007	M12-010	Direct Contact	Impact to GW	M12-018	M12-019	M12-006	M12-001	
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l	ug/l	ug/l	ug/l	ug/l
Acenaphthylene	<249	<280	<267	300,000,000		<0.700	<0.700	<0.700	<0.700	
Acenapthene	<306	<345	<345	37,000,000	74,000	<0.750	<0.750	<0.750	<0.750	990
Anthracene	<331	<372	<355	30,000,000	1,500,000	<0.770	<0.770	<0.770	<0.770	40,000
Benzo(a)anthracene	<238	<268	<255	2,000	500	<0.750	<0.750	<0.750	<0.750	0.18
Benzo(b)fluoranthene	<197	<222	<212	2,000	2,000	<0.970	<0.970	<0.970	<0.970	0.18
Benzo(k)fluoranthene	<253	<285	<272	23,000	16,000	<0.680	<0.680	<0.680	<0.680	1.8
Benzo(a)pyrene	<234	<264	<251	200	200	<0.630	<0.630	<0.630	<0.630	0.018
Benzo(g,h,i)perylene	<215	<242	<231	30,000,000		<0.790	<0.790	<0.790	<0.790	
Chrysene	<228	<256	<244	230,000	52,000	<0.620	<0.620	<0.620	<0.620	18
Dibenz(a,h)anthracene	<177	<199	<190	200	500	<0.520	<0.520	<0.520	<0.520	0.018
Fluoranthene	<214	<241	<230	24,000,000	840,000	<0.560	<0.560	<0.560	<0.560	140
Flourene	<219	<246	<235	24,000,000	110,000	<0.650	<0.650	<0.650	<0.650	5,300
Indeno(1,2,3-CD)pyrene	<228	<257	<245	2,000	5,000	<0.570	<0.570	<0.570	<0.570	0.18
Naphthalene	<345	<389	<371	17,000	16,000	<0.860	<0.860	<0.860	<0.860	
Phenanthrene	<236	<265	<253	300,000,000		<0.650	<0.650	<0.650	<0.650	
2-Methylnaphthalene	<281	<317	<302	2,400,000	5,000	<0.800	<0.800	<0.800	<0.800	
Pyrene	<263	<296	<282	18,000,000	550,000	<0.670	<0.670	<0.670	<0.670	4,000

Notes:

1. Sludge sample analysis results are reported on a dry weight basis.
2. Results with a less than sign indicate that the paramter was not detected at the laboratory reporting limit.
3. The laboratory reporting limits reported for these analyses are the method detection limits.
4. Remediation Standard for sludge samples is the Non-residential Direct Contact Soil Remediation Standard, NJAC 7:26D
5. Impact to Groundwater standards are the Default Impact to Groundwater Soil Screening Levels from SRP Guidance Document "Development of Site Specific Impact to Groundwater Soil
6. Water Quality Criteria for water samples is Surface Water Quality Criteria for Toxic Substances for saline (SE) water, NJAC 7:9B.

APPENDIX D

CAP DESIGN DRAWINGS

(see enclosed packet containing drawings)

APPENDIX E

DRAFT DEED NOTICE

DEED NOTICE

This shell document contains blanks and matter in brackets [ ]. These blanks shall be replaced with the required site information prior to recording.

Matter bracketed [ ] is not intended for deletion, but rather is intended to be descriptive of the variable information that may be contained in the final document.

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

____Albert P. Free, P.E., CSP, LSRP_____
[Print name below signature]

Recorded by: _____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE

This Deed Notice is made as of the _____ day of _____, ____, by Rahway Arch Properties, LLC, located at 7 Nottingham Drive, Florham Park, New Jersey 07932; and the Borough of Carteret, located at 61 Cooke Avenue, Carteret, New Jersey 07008 *[Insert the full legal name and address of each current property owner*] (together with his/her/its/their successors and assigns, collectively "Owner").

1. THE PROPERTY. Rahway Arch Properties, LLC, located at 7 Nottingham Drive, Florham Park, New Jersey 07932; and the Borough of Carteret, located at 61 Cooke Avenue, Carteret, New Jersey 07008 [*Insert the full legal name and address of each current property owner*] are [*Insert as appropriate: "is", or "are"*] the owner in fee simple of certain real property designated as Block(s) 602, Lot 1; Block 603, Lots 1 and 8 and Block 705, Lots 17 and 18 on the tax map of the Borough [*Insert, as appropriate: City/Borough/Township/Town*] of Carteret [*Insert the name of municipality*], Middlesex [*Insert the name of county*] County; the New Jersey Department of Environmental Protection Program Interest Number (Preferred ID) for the contaminated site which includes this property is G000007844 [*Insert the Program Interest Number (Preferred ID)*]; and the property is more particularly described in Exhibit A, which is attached hereto and made a part hereof (the "Property").

2. REMEDIATION.

i. Albert P. Free, LSRP License Number 575600 [*Insert name of the Licensed Site Remediation Professional and LSRP License No. of the LSRP that approved this Deed Notice*] has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26C-7 requires the Owner, among other persons, to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL CONTAMINATION. Rahway Arch Properties, LLC [*Insert the full legal name of the person that was responsible for conducting the remediation*] has remediated contaminated soil at the Property, such that soil contamination remains in certain areas of the Property that contains contaminants in concentrations that do not allow for the unrestricted use of the Property; this soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. As a result, there is a statutory requirement for this Deed Notice and engineering controls [*include if appropriate:* and engineering controls] in accordance with N.J.S.A. 58:10B-13.

4. CONSIDERATION. In accordance with the remedial action for the site which included the Property, and in consideration of the terms and conditions of that remedial action, and other good and valuable consideration, Owner has agreed to subject the Property to certain statutory and regulatory requirements that impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of contamination remaining at concentrations that do not allow for unrestricted use, the Owner has agreed, as part of the remedial action for the Property, to restrict the use of certain parts of the Property (the "Restricted Areas"); a narrative description of these restrictions is provided in Exhibit C, which is attached hereto and made a part hereof. The Owner has also agreed to maintain a list of these restrictions on site for inspection by governmental officials.

5B. RESTRICTED LAND USES. The following statutory land use restrictions apply to the Restricted Areas:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department’s prior written approval, unless a presumptive remedy is implemented; and

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single family residence or a child care facility without the Department's prior written approval.

[*Insert the following paragraph when engineering controls are also implemented at the site:*

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls on the Property; a narrative description of these engineering controls is provided in Exhibit C.]

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person, including, without limitation, tenants, employees of tenants, and contractors, intending to conduct invasive work or excavate within the Restricted Areas, of the nature and location of contamination in the Restricted Areas, and, of the precautions necessary to minimize potential human exposure to contaminants.

ii. Except as provided in Paragraph 7B, below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which

disturbs any engineering control at the Property without first obtaining a soil remedial action permit modification pursuant to N.J.A.C. 7:26C-7. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7Aii., above, a soil remedial action permit modification is not required for any alteration, improvement, or disturbance provided that the owner, lessee or operator:

(A) Notifies the Department of Environmental Protection of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance;

(B) Restores any disturbance of an engineering control to pre-disturbance conditions within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance;

(C) Ensures that all applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration;

(D) Ensures that human exposure to contamination in excess of the remediation standards does not occur; and

(E) Describes, in the next biennial certification the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that that person complies with each of the following:

i. Immediately notifies the Department of Environmental Protection of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337;

ii. Hires a Licensed Site Remediation Professional (unless the Restricted Areas includes an unregulated heating oil tank) to respond to the emergency;

iii. Limits both the actual disturbance and the time needed for the disturbance to the minimum reasonably necessary to adequately respond to the emergency;

iv. Implements all measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination;

v. Notifies the Department of Environmental Protection when the emergency or immediate environmental concern has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Restores the engineering control to the pre-emergency conditions as soon as possible, and provides notification to the Department of Environmental Protection within sixty (60) calendar days after completion of the restoration of the engineering control, including: (a) the nature and likely cause of the emergency; (b) the potential discharges of or exposures to contaminants, if any, that may have occurred; (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment; (d) the measures completed or implemented to restore the engineering control; and (e) the changes to the engineering control or site operation and maintenance plan to prevent reoccurrence of such conditions in the future.

8. TERMINATION OF DEED NOTICE.

i. This Deed Notice may be terminated only upon filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the County Clerk [*Insert as appropriate the County Clerk/Register of Deeds and Mortgages*] of Middlesex [*Insert the name of the County*] County, New Jersey, expressly terminating this Deed Notice.

ii. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the property shall apply to the Department for termination of the soil remedial action permit pursuant to N.J.A.C. 7:26C-7.

9. ACCESS. The Owner, and the subsequent owners, lessees and operators agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the subsequent owners, lessees and operators, during their ownership, tenancy, or operation, and the Owner fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this site.

ii. The restrictions provided herein may be enforceable solely by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the

Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

11. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as though the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

12A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property (for example, USGS Quad map, Hagstrom County Maps);

ii. Exhibit A-2: Metes and Bounds Description - A tax map of lots and blocks as wells as metes and bounds description of the Property, including reference to tax lot and block numbers for the Property;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; and the Property Map shall include diagrams of major surface topographical features such as buildings, roads, and parking lots.

12B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - A separate map for each restricted area that includes:

(A) As-built diagrams of each engineering control, including caps, fences, slurry walls, (and, if any) ground water monitoring wells, extent of the ground water classification exception area, pumping and treatment systems that may be required as part of a ground water engineering control in addition to the deed notice

(B) As-built diagrams of any buildings, roads, parking lots and other structures that function as engineering controls; and

(C) Designation of all soil and sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described in the following paragraph.

ii. Exhibit B-2: Restricted Area Data Table - A separate table for each restricted area that includes either (A) or (B) through (F):

(A) Only for historic fill extending over the entire site or a portion of the site and for which analytical data are limited or do not exist, a narrative that states that historic fill is present at the site, a description of the fill material (e.g., ash, cinders, brick, dredge material), and a statement that such material may include, but is not limited to, contaminants such as PAHs and metals;

(B) Sample location designation from Restricted Area map (Exhibit B-1);

(C) Sample elevation based upon mean sea level;

(D) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(E) The restricted and unrestricted use standards for each contaminant in the table; and

(F) The remaining concentration of each contaminant at each sample location at each elevation.

12C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls [*Insert as appropriate: and engineering controls*] as follows:

i. Exhibit C-1: Deed Notice as Institutional Control: Exhibit C-1 includes a narrative description of the restriction and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) Description and estimated size of the Restricted Areas as described above;

(B) Description of the restrictions on the Property by operation of this Deed Notice; and

(C) The objective of the restrictions.

[*Insert the following if engineering controls are part of the remedial action for the site*:

ii. Exhibit C-2: Engineered Fill Cap [*Insert the name of the first engineering control*]: Exhibit C-2 includes a narrative description of the Engineered Fill Cap [*Insert the name of the first engineering control*] as follows:

(A) Description of the engineering control;

(B) The objective of the engineering control; and

(C) How the engineering control is intended to function.

[*Repeat the contents of Exhibit C-2, renumbering accordingly, for each separate engineering control that is part of the remedial action for the site.*]

13. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

[If Owner is an individual]

WITNESS: _____
[Signature]

_____
[Print name below signature]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person [or if more than one person, each person]

(a) is named in and personally signed this document; and

(b) signed, sealed and delivered this document as his or her act and deed.

_____

_____, Notary Public
[Print Name and Title]

14. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

[If Owner is a corporation]

ATTEST: [Name of corporation]

_____ By_____

_____ _____
[Print name and title] [Signature]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the [secretary/assistant secretary] of [Owner], the corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the [president/vice president] of the corporation;

(c) this document was signed and delivered by the corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A

Exhibit A will be prepared upon completion of the remediation project and will consist of:

- Exhibit A-1: Vicinity Map
- Exhibit A-2: Metes and Bounds Description
- Exhibit A-3: Property Map

EXHIBIT B

Exhibit B will be prepared upon completion of the remediation project and will consist of:

- Exhibit B-1: Restricted Area Map
- Exhibit B-2: Restricted Area Data Table

EXHIBIT C

Exhibit C will be prepared upon completion of the remediation project and will consist of:

- Exhibit C-1: Deed Notice as Institutional Control
- Exhibit C-2: Narrative Description of Engineering Fill Cap

APPENDIX F

EXISTING CONDITIONS STATISTICAL ANALYSIS

Rahway Arch Property Site
Existing Surface PAH Data for Statistical Analysis

Sample Number	Benzo(a) anthracene (ug/kg)	d_	Benzo(a) pyrene (ug/kg)	d_	Benzo(b) flouranthene (ug/kg)	d_	Benzo(k) flouranthene (ug/kg)	d_	Chrysene (ug/kg)	d_	Dibenz(a,h) anthracene (ug/kg)	d_	Indeno(1,2,3-cd) pyrene (ug/kg)	d_
S1	2,100	1	1,800	1	1,200	1	1,400	1	2,600	1	320	1	590	1
S2	19	1	570	0	570	0	570	0	21	0	570	0	570	0
S3	25	1	600	0	600	0	600	0	30	1	600	0	600	0
S5	38	1	670	0	670	0	670	0	45	1	670	0	670	0
S6	730	0	730	0	730	0	730	0	730	0	730	0	730	0
S7	620	0	620	0	620	0	620	0	620	0	620	0	620	0
S8	650	0	650	0	650	0	650	0	650	0	650	0	650	0
S9	630	0	630	0	630	0	630	0	630	0	630	0	630	0
S10	720	0	720	0	720	0	720	0	720	0	720	0	720	0
S11	670	0	670	0	670	0	670	0	670	0	670	0	670	0
S12	630	0	630	0	630	0	630	0	630	0	630	0	630	0
TP-01	90.8	1	88.6	1	93.1	1	74.9	1	343	1	53.1	0	45.0	0
TP-02	608	1	608	1	700	1	448	1	711	1	269	0	287	1
TP-02A	411	1	447	1	496	1	391	1	460	1	71.8	1	220	1
TP-03	303	1	277	1	350	1	323	1	343	1	154	0	131	0
TP-05	2,090	1	2,060	1	1,600	1	2,070	1	2,150	1	266	0	773	1
TP-06	299	0	254	0	274	0	307	0	334	0	259	0	219	0
TP-07	64.4	0	54.8	0	59.1	0	66.3	0	72.0	0	55.8	0	47.2	0
TP-08	9,840	1	8,560	1	10,000	1	2,070	1	10,200	1	1,640	1	3,520	1
TP-09	674	1	468	1	514	1	503	1	800	1	267	0	226	0
TP-10	123	0	105	0	113	0	126	0	137	0	106	0	90	0
TP-11	2,510	1	2,530	1	2,480	1	2,490	1	2,660	1	402	1	1,070	1
TP-12	112	1	97.6	1	142	1	115	1	127	1	57.1	0	48.3	0
TP-12A	6,880	1	3,610	1	7,040	1	6,580	1	6,860	1	1,420	1	2,760	1
TP-13	54,200	1	49,700	1	46,700	1	46,200	1	52,600	1	11,800	1	20,600	1
TP-14	252	0	248	0	222	1	268	0	241	0	187	0	242	0
TP-15	332	1	332	1	464	1	278	1	425	1	114	0	122	1
TP-16	60,200	1	59,300	1	51,600	1	52,300	1	57,000	1	13,500	1	23,200	1
TP-17	2,220	1	1,970	1	1,740	1	1,740	1	2,120	1	533	1	930	1
TP-19	979	1	916	1	696	1	813	1	1,090	1	105	0	287	1
HA-22	635	1	615	1	952	1	548	1	702	1	225	0	279	1

Sample Number	Benzo(a) anthracene	d_	Benzo(a) pyrene	d_	Benzo(b) flouranthene	d_	Benzo(k) flouranthene	d_	Chrysene	d_	Dibenz(a,h) anthracene	d_	Indeno(1,2,3-cd) pyrene	d_
E-1	225	1	253	1	199	1	249	1	246	1	82.0	0	82.9	1
E-2	33.8	1	140	0	140	0	140	0	55.9	1	140	0	140	0
E-3	1,960	1	1,700	1	950	1	2,260	1	1,820	1	129	1	605	1
IS-02-S	4,170	1	4,870	1	4,690	1	4,010	1	4,620	1	1,340	1	2,920	1
BS-07R-S	771	1	724	1	762	1	583	1	893	1	249	0	397	1
BD-05-S	1,000	1	1,030	1	1,030	1	800	1	967	1	553	0	715	0
ID-04-S	506	1	482	1	413	1	398	1	523	1	115	1	270	1
ID-01-A	1,100	0	1,080	0	910	0	1,170	0	1,050	0	815	0	1,050	0
BD-05S2	93.7	0	92.3	0	77.8	0	99.8	0	89.7	0	69.6	0	90.0	0

Legend:

1. d_ denotes if sample result was a non-detect. A 1 indicates analyte was detected. A 0 indicatges analyte was not detected.
2. Analysis result accompanying d_ values of 0 is the reporting limit
3. S1 - S12: Samples collected by NJDEP 1991
4. E1 - E3: Samples collected by N.J. Turnpike Authority
5. TP1 - TP19 & HA22: Samples collected by EastStar March 2011
6. All other samples collected by EastStar in the RI, July 2012.

From File: C:\Users\Al\Desktop\071613 PAH Data.wst

Summary Statistics for Raw Full Data Sets

Variable	NumObs	Minimum	Maximum	Mean	Median	Variance	SD	MAD/0.675	Skewness	Kurtosis	CV
Benzo(a) anthracene	40	19	60200	3988	632.5	156900000	12527	648.6	4.161	16.61	3.141
Benzo(a) pyrene	40	54.8	59300	3773	630	142500000	11937	558.2	4.238	17.32	3.164
Benzo(b) flouranthene	40	59.1	51600	3577	660	116100000	10774	446.3	4.107	16.25	3.012
Benzo(k) flouranthene	40	66.3	52300	3383	625	115500000	10748	493	4.235	17.13	3.177
Chrysene	40	21	57000	3925	660	143800000	11992	617.5	4.129	16.36	3.056
Dibenz(a,h) anthracene	40	53.1	13500	1045	294.5	7452646	2730	352.8	4.193	16.93	2.613
Indeno(1,2,3-cd) pyrene	40	45	23200	1711	595	22665169	4761	510	4.149	16.59	2.782

Percentiles for Raw Full Data Sets

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Benzo(a) anthracene	40	25	38	112	225	630	1100	2090	4170	9840	57800
Benzo(a) pyrene	40	88.6	97.6	253	277	630	1080	1800	3610	8560	55460
Benzo(b) flouranthene	40	77.8	113	222	350	650	952	1200	4690	10000	49640
Benzo(k) flouranthene	40	74.9	115	268	307	620	1170	1740	2490	6580	49860
Chrysene	40	30	55.9	137	246	650	1090	2120	4620	10200	55240
Dibenz(a,h) anthracene	40	55.8	69.6	106	115	269	650	670	1340	1640	12820
Indeno(1,2,3-cd) pyrene	40	47.2	82.9	131	219	590	720	773	2760	3520	22160

	General UCL Statistics for Full Data Sets		
User Selected Options			
From File	C:\Users\Al\Desktop\071613 PAH Data.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Benzo(a) anthracene			
General Statistics			
Number of Valid Observations	40	Number of Distinct Observations	39
Raw Statistics		**Log-transformed Statistics**	
Minimum	19	Minimum of Log Data	2.944
Maximum	60200	Maximum of Log Data	11.01
Mean	3988	Mean of log Data	6.386
Median	632.5	SD of log Data	1.803
SD	12527		
Coefficient of Variation	3.141		
Skewness	4.161		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.33	Shapiro Wilk Test Statistic	0.954
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	7325	95% H-UCL	8248
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7415
95% Adjusted-CLT UCL	8638	97.5% Chebyshev (MVUE) UCL	9438
95% Modified-t UCL	7542	99% Chebyshev (MVUE) UCL	13412
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.343	Data appear Lognormal at 5% Significance Level	
Theta Star	11632		
MLE of Mean	3988		
MLE of Standard Deviation	6811		
nu star	27.43		
Approximate Chi Square Value (.05)	16.48	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	7246
Adjusted Chi Square Value	16.16	95% Jackknife UCL	7325
		95% Standard Bootstrap UCL	7188
Anderson-Darling Test Statistic	3.816	95% Bootstrap-t UCL	25098
Anderson-Darling 5% Critical Value	0.846	95% Hall's Bootstrap UCL	22938
Kolmogorov-Smirnov Test Statistic	0.269	95% Percentile Bootstrap UCL	7716
Kolmogorov-Smirnov 5% Critical Value	0.15	95% BCA Bootstrap UCL	8832
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12621

		97.5% Chebyshev(Mean, Sd) UCL	16357
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	23695
95% Approximate Gamma UCL	6636		
95% Adjusted Gamma UCL	6767		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	12621

Benzo(a) pyrene

General Statistics

Number of Valid Observations	40	Number of Distinct Observations	38

Raw Statistics		**Log-transformed Statistics**	
Minimum	54.8	Minimum of Log Data	4.004
Maximum	59300	Maximum of Log Data	10.99
Mean	3773	Mean of log Data	6.601
Median	630	SD of log Data	1.49
SD	11937		
Coefficient of Variation	3.164		
Skewness	4.238		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.32	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	6953	95% H-UCL	4611
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4938
95% Adjusted-CLT UCL	8228	97.5% Chebyshev (MVUE) UCL	6159
95% Modified-t UCL	7164	99% Chebyshev (MVUE) UCL	8558
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.389	Data do not follow a Discernable Distribution (0.05)	
Theta Star	9704		
MLE of Mean	3773		
MLE of Standard Deviation	6051		
nu star	31.1		
Approximate Chi Square Value (.05)	19.36	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	6877
Adjusted Chi Square Value	19.01	95% Jackknife UCL	6953
		95% Standard Bootstrap UCL	6866
Anderson-Darling Test Statistic	5.069	95% Bootstrap-t UCL	27864
Anderson-Darling 5% Critical Value	0.835	95% Hall's Bootstrap UCL	22864
Kolmogorov-Smirnov Test Statistic	0.293	95% Percentile Bootstrap UCL	6978
Kolmogorov-Smirnov 5% Critical Value	0.149	95% BCA Bootstrap UCL	8849
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12000
		97.5% Chebyshev(Mean, Sd) UCL	15560
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22553
95% Approximate Gamma UCL	6060		
95% Adjusted Gamma UCL	6171		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	22553

Benzo(b) flouranthene			
General Statistics			
Number of Valid Observations	40	Number of Distinct Observations	38
Raw Statistics		**Log-transformed Statistics**	
Minimum	59.1	Minimum of Log Data	4.079
Maximum	51600	Maximum of Log Data	10.85
Mean	3577	Mean of log Data	6.604
Median	660	SD of log Data	1.471
SD	10774		
Coefficient of Variation	3.012		
Skewness	4.107		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.336	Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	6448	95% H-UCL	4422
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4774
95% Adjusted-CLT UCL	7561	97.5% Chebyshev (MVUE) UCL	5947
95% Modified-t UCL	6632	99% Chebyshev (MVUE) UCL	8249
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.4	Data do not follow a Discernable Distribution (0.05)	
Theta Star	8940		
MLE of Mean	3577		
MLE of Standard Deviation	5655		
nu star	32.01		
Approximate Chi Square Value (.05)	20.08	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	6379
Adjusted Chi Square Value	19.73	95% Jackknife UCL	6448
		95% Standard Bootstrap UCL	6394
Anderson-Darling Test Statistic	5.275	95% Bootstrap-t UCL	19553
Anderson-Darling 5% Critical Value	0.832	95% Hall's Bootstrap UCL	18795
Kolmogorov-Smirnov Test Statistic	0.323	95% Percentile Bootstrap UCL	6742
Kolmogorov-Smirnov 5% Critical Value	0.149	95% BCA Bootstrap UCL	7543
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	11003
		97.5% Chebyshev(Mean, Sd) UCL	14216
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20527
95% Approximate Gamma UCL	5703		
95% Adjusted Gamma UCL	5805		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	20527

Benzo(k) flouranthene			
General Statistics			
Number of Valid Observations	40	Number of Distinct Observations	37
Raw Statistics		**Log-transformed Statistics**	
Minimum	66.3	Minimum of Log Data	4.194
Maximum	52300	Maximum of Log Data	10.86
Mean	3383	Mean of log Data	6.556
Median	625	SD of log Data	1.429
SD	10748		
Coefficient of Variation	3.177		
Skewness	4.235		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.312	Shapiro Wilk Test Statistic	0.904
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	6246	95% H-UCL	3833
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	4207
95% Adjusted-CLT UCL	7394	97.5% Chebyshev (MVUE) UCL	5223
95% Modified-t UCL	6436	99% Chebyshev (MVUE) UCL	7219
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.402	Data do not follow a Discernable Distribution (0.05)	
Theta Star	8422		
MLE of Mean	3383		
MLE of Standard Deviation	5337		
nu star	32.13		
Approximate Chi Square Value (.05)	20.18	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	6178
Adjusted Chi Square Value	19.82	95% Jackknife UCL	6246
		95% Standard Bootstrap UCL	6147
Anderson-Darling Test Statistic	5.272	95% Bootstrap-t UCL	28480
Anderson-Darling 5% Critical Value	0.832	95% Hall's Bootstrap UCL	21758
Kolmogorov-Smirnov Test Statistic	0.305	95% Percentile Bootstrap UCL	6417
Kolmogorov-Smirnov 5% Critical Value	0.149	95% BCA Bootstrap UCL	7771
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10790
		97.5% Chebyshev(Mean, Sd) UCL	13995
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20291
95% Approximate Gamma UCL	5387		
95% Adjusted Gamma UCL	5484		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	20291

Chrysene

General Statistics

Number of Valid Observations	40	Number of Distinct Observations	38

Raw Statistics		**Log-transformed Statistics**	
Minimum	21	Minimum of Log Data	3.045
Maximum	57000	Maximum of Log Data	10.95
Mean	3925	Mean of log Data	6.489
Median	660	SD of log Data	1.73
SD	11992		
Coefficient of Variation	3.056		
Skewness	4.129		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.336	Shapiro Wilk Test Statistic	0.954
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	7119	95% H-UCL	7481
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	7061
95% Adjusted-CLT UCL	8366	97.5% Chebyshev (MVUE) UCL	8949
95% Modified-t UCL	7326	99% Chebyshev (MVUE) UCL	12658
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.361	Data appear Lognormal at 5% Significance Level	
Theta Star	10861		
MLE of Mean	3925		
MLE of Standard Deviation	6529		
nu star	28.91		
Approximate Chi Square Value (.05)	17.64	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	7043
Adjusted Chi Square Value	17.3	95% Jackknife UCL	7119
		95% Standard Bootstrap UCL	7086
Anderson-Darling Test Statistic	3.851	95% Bootstrap-t UCL	24414
Anderson-Darling 5% Critical Value	0.842	95% Hall's Bootstrap UCL	20987
Kolmogorov-Smirnov Test Statistic	0.28	95% Percentile Bootstrap UCL	7198
Kolmogorov-Smirnov 5% Critical Value	0.15	95% BCA Bootstrap UCL	9238
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12189
		97.5% Chebyshev(Mean, Sd) UCL	15766
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	22790
95% Approximate Gamma UCL	6433		
95% Adjusted Gamma UCL	6556		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	12189

Dibenz(a,h) anthracene			
General Statistics			
Number of Valid Observations	40	Number of Distinct Observations	38
Raw Statistics		**Log-transformed Statistics**	
Minimum	53.1	Minimum of Log Data	3.972
Maximum	13500	Maximum of Log Data	9.51
Mean	1045	Mean of log Data	5.841
Median	294.5	SD of log Data	1.272
SD	2730		
Coefficient of Variation	2.613		
Skewness	4.193		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.35	Shapiro Wilk Test Statistic	0.918
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	1772	95% H-UCL	1352
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1559
95% Adjusted-CLT UCL	2060	97.5% Chebyshev (MVUE) UCL	1910
95% Modified-t UCL	1820	99% Chebyshev (MVUE) UCL	2600
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.536	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1948		
MLE of Mean	1045		
MLE of Standard Deviation	1427		
nu star	42.9		
Approximate Chi Square Value (.05)	28.88	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	1755
Adjusted Chi Square Value	28.45	95% Jackknife UCL	1772
		95% Standard Bootstrap UCL	1772
Anderson-Darling Test Statistic	3.539	95% Bootstrap-t UCL	5687
Anderson-Darling 5% Critical Value	0.807	95% Hall's Bootstrap UCL	5489
Kolmogorov-Smirnov Test Statistic	0.269	95% Percentile Bootstrap UCL	1851
Kolmogorov-Smirnov 5% Critical Value	0.147	95% BCA Bootstrap UCL	2094
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	2926
		97.5% Chebyshev(Mean, Sd) UCL	3740
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	5339
95% Approximate Gamma UCL	1552		
95% Adjusted Gamma UCL	1575		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	5339

Indeno(1,2,3-cd) pyrene			
General Statistics			
Number of Valid Observations	40	Number of Distinct Observations	37
Raw Statistics		**Log-transformed Statistics**	
Minimum	45	Minimum of Log Data	3.807
Maximum	23200	Maximum of Log Data	10.05
Mean	1711	Mean of log Data	6.134
Median	595	SD of log Data	1.396
SD	4761		
Coefficient of Variation	2.782		
Skewness	4.149		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.346	Shapiro Wilk Test Statistic	0.924
Shapiro Wilk Critical Value	0.94	Shapiro Wilk Critical Value	0.94
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	2979	95% H-UCL	2340
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	2599
95% Adjusted-CLT UCL	3477	97.5% Chebyshev (MVUE) UCL	3219
95% Modified-t UCL	3062	99% Chebyshev (MVUE) UCL	4436
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.467	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3666		
MLE of Mean	1711		
MLE of Standard Deviation	2505		
nu star	37.34		
Approximate Chi Square Value (.05)	24.35	**Nonparametric Statistics**	
Adjusted Level of Significance	0.044	95% CLT UCL	2949
Adjusted Chi Square Value	23.96	95% Jackknife UCL	2979
		95% Standard Bootstrap UCL	2957
Anderson-Darling Test Statistic	4.03	95% Bootstrap-t UCL	9202
Anderson-Darling 5% Critical Value	0.816	95% Hall's Bootstrap UCL	8619
Kolmogorov-Smirnov Test Statistic	0.3	95% Percentile Bootstrap UCL	3217
Kolmogorov-Smirnov 5% Critical Value	0.148	95% BCA Bootstrap UCL	3659
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4992
		97.5% Chebyshev(Mean, Sd) UCL	6412
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	9201
95% Approximate Gamma UCL	2624		
95% Adjusted Gamma UCL	2667		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	9201

Rahway Arch Property Site
Existing Surface Inorganc Data for Statistical Analysis

Aluminum	d_	Antimony	d_	Arsenic	d_	Barium	d_	Beryllium	d_	Cadmium	d_	Calcium	d_	Chromium	d_	Cobalt	d_	Copper	d_
(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)	
8,350	1	1.67	1	8.6	1	90.3	1	0.687	1	0.024	0	4,180	1	28.6	1	9	1	61.3	1
7,140	1	0.988	0	2.82	1	97.2	1	0.329	1	0.025	0	14,200	1	16.5	1	7.91	1	42.2	1
8,860	1	1.43	0	1.38	0	48	1	0.156	1	0.036	0	280,000	1	13.5	1	2.57	1	1.85	1
10,700	1	0.956	1	48.5	1	63	1	0.382	1	0.024	0	13,300	1	19.9	1	7.89	1	28.4	1
10,900	1	4.9	1	18	1	176	1	0.929	1	1.95	1	214,000	1	38.3	1	5.17	1	186	1
10,100	1	1.08	0	4.34	1	75.8	1	0.504	1	0.027	0	26,100	1	34.7	1	9.15	1	31.7	1
9,380	1	1.16	1	7.5	1	63.9	1	0.41	1	0.005	0	59,300	1	20.7	1	4.23	1	41.2	1
7,140	1	1.79	1	5.33	1	479	1	1.13	1	4.33	1	203,000	1	3.69	1	75.3	1	24.4	1
3,820	1	1.66	0	3.49	1	30	1	0.347	1	0.042	0	215,000	1	5.01	1	1.77	1	2.48	1
14,800	1	1.33	0	1.9	1	107	1	0.376	1	0.329	1	66,000	1	14.6	1	19.5	1	32	1
6,520	1	1.5	0	1.47	0	23.3	1	0.24	1	0.068	0	276,000	1	2.14	1	2.63	1	1.7	1
14,200	1	1.53	0	1.48	0	36.6	1	0.246	1	0.039	0	227,000	1	38	1	3.99	1	1.6	1
6,320	1	1.48	0	1.44	0	84.8	1	0.203	1	0.037	0	234,000	1	11.6	1	12.5	1	0.837	1
29,200	1	1.81	0	4.51	1	48.2	1	0.005	0	0.046	0	226,000	1	12.9	1	7.14	1	15	1
4,330	1	1.37	0	1.32	0	14	1	0.103	1	0.034	0	254,000	1	27.3	1	3.56	1	0.636	1
6,830	1	2.78	0	2.69	0	20.9	1	0.319	1	0.07	0	58,100	1	17.7	1	4.99	1	7.57	1
3,430	1	1.91	0	7.44	1	18.8	1	0.326	1	0.048	0	278,000	1	17.4	1	2.19	1	14.1	1
3,980	1	1.13	1	4.1	1	6.01	1	0.264	1	0.99	1	86,800	1	1.64	1	1.68	1	17.3	1
15,000	1	1.89	0	4.53	1	31.7	1	0.0534	1	0.048	0	197,000	1	24.7	1	5.96	1	14.3	1
2,990	1	1.21	0	1.17	0	28.9	1	0.232	1	0.03	0	256,000	1	27.1	1	7.51	1	1.54	1
16,400	1	3.1	1	8	1	113	1	1.2	1	0.41	0	8,690	1	26.1	1	13.1	1	127	1
27,700	1	3.8	1	8.9	1	61.4	1	0.94	1	0.6	0	167,000	1	25	1	4.4	1	3.2	1
25,800	1	4	1	3	1	49.4	1	0.56	1	0.64	0	195,000	1	18.8	1	2.4	1	10.7	1
27,200	1	4.5	1	3.5	1	59.2	1	1	1	0.71	0	208,000	1	12.9	1	6.3	1	15.5	1
21,400	1	9.9	1	3.5	1	41.1	1	0.81	1	0.78	0	219,000	1	6.7	1	4.8	1	0.44	0
10,400	1	4.1	0	0.94	0	78.1	1	0.57	1	0.66	0	247,000	1	12	1	1.6	0	2.2	1
4,450	1	2.9	1	0.98	0	45	1	0.36	1	0.69	0	194,000	1	25.1	1	1.6	0	0.39	0
3,260	1	4.2	0	0.95	0	105	1	0.7	1	0.67	0	233,000	1	16.4	1	4	1	4.9	1
15,900	1	8.8	1	2.2	1	40.7	1	1.2	1	0.76	0	264,000	1	16.7	1	5.5	1	11.1	1
11,700	1	4.5	0	1.2	1	21.9	1	0.79	1	0.72	0	218,000	1	28.2	1	2.3	1	1.5	1
8,870	1	4.3	0	1.6	1	64.5	1	0.99	1	0.68	0	264,000	1	20.6	1	3.3	1	11.7	1
		1.2	0	10.4	1	105	1	0.59	0	1.5	1			20.6	1			99.8	1
		2.1	0	6.5	1	101	1	1	0	2.7	1			22.6	1			21.5	1
		1.1	0	1.3	1	258	1	0.56	0	0.56	1			20.3	1			28.7	1
				5.33	1	75.4	1			0.015	0			26	1				
				8.76	1	140	1			0.016	0			22.5	1				
				4.68	1	51.3	1			0.015	0			23.1	1				
				5.94	1	122	1			0.015	0			13	1				
				6.94	1	63.3	1			0.015	0			23.2	1				
				5.52	1	75.3	1			0.015	0			15.3	1				
				6.22	1	114	1			0.016	0			13.4	1				
				4.05	1	261	1			0.017	0			20.6	1				
				10.1	1	95.1	1			0.016	0			21	1				
				6.01	1	339	1			0.025	0			29.5	1				
				10.2	1	148	1			0.016	0			18.9	1				
				6.14	1	236	1			0.017	0			24.8	1				
				5.84	1	154	1			0.016	0			10.1	1				
				4.69	1	94.7	1			0.016	0			19.5	1				
				9.97	1	170	1			0.179	1			18.5	1				
				11.4	1	57.7	1			5.91	1			21.4	1				
				11	1	85.2	1			0.017	0			18.3	1				
				5.34	1					0.016	0			20.3	1				
				7.18	1					0.015	0								
				4.34	1					0.015	0								

Rahway Arch Property Site
Existing Surface Inorganic Data for Statistical Analysis

Iron	d_	Lead	d_	Magnesium	d_	Manganese	d_	Mercury	d_	Nickel	d_	Potassium	d_	Selenium	d_	Silver	d_	Sodium	d_
(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)	
20,100	1	112	1	2,560	1	231	1	0.317	1	21.2	1	970	1	0.399	0	0.093	0	207	1
14,100	1	148	1	4,270	1	264	1	0.469	1	14.2	1	1860	1	0.413	0	0.096	0	433	1
2,150	1	11	1	1,040	1	37.4	1	0.016	0	3.74	1	166	1	2.18	1	0.138	0	1,330	1
18,100	1	45.8	1	4,930	1	294	1	0.0605	1	15.6	1	1380	1	0.389	0	0.091	0	534	1
11,900	1	236	1	2,250	1	194	1	0.226	1	50.2	1	1160	1	0.978	0	0.311	1	5,280	1
22,900	1	112	1	7,230	1	415	1	0.0785	1	20	1	1560	1	0.444	0	0.104	0	1,130	1
10,700	1	36.3	1	2,840	1	142	1	1.03	1	13.1	1	2300	1	0.086	0	0.02	0	7,710	1
13,300	1	60.2	1	4,400	1	156	1	0.105	0	38.4	1	1170	1	2.46	1	0.17	0	8,630	1
3,160	1	43.1	1	3,820	1	55.8	1	0.099	0	7.86	1	371	1	2.79	1	0.162	0	7,020	1
18,700	1	56.1	1	1,740	1	123	1	0.262	1	13.3	1	1270	1	0.548	0	0.129	0	2,240	1
2,960	1	11.3	1	882	1	56.1	1	0.09	0	4.77	1	248	1	4.45	1	0.147	0	1,330	1
6,050	1	17.1	1	1,240	1	96.2	1	0.091	0	8.1	1	800	1	2.61	1	0.148	0	1,010	1
1,830	1	11.5	1	773	1	40.1	1	0.088	0	4.92	1	110	1	1.41	1	0.143	0	873	1
9,690	1	20.7	1	20,700	1	356	1	0.261	1	8.51	1	294	1	6.59	1	0.175	0	2,960	1
2,440	1	10.5	1	111	1	86.8	1	0.081	0	4.55	1	19.4	0	4.69	1	0.132	0	634	1
5,880	1	12.7	1	4,990	1	46.2	1	0.165	0	10.9	1	1780	1	2.08	1	0.268	0	20,400	1
6,860	1	28.7	1	19,400	1	233	1	0.131	1	16.4	1	306	1	3.19	1	0.184	0	9,470	1
14,500	1	22.2	1	2,240	1	76.8	1	0.0937	1	9.16	1	1070	1	0.028	0	0.006	0	2,840	1
9,820	1	2.91	1	27,700	1	307	1	0.135	1	10.4	1	102	1	0.779	0	0.183	0	2,430	1
1,900	1	0.65	0	919	1	39.7	1	0.072	0	4.49	1	82.3	1	0.499	0	0.117	0	748	1
18,200	1	174	1	4,320	1	260	1	0.19	1	27.5	1	2920	1	0.59	0	0.54	0	1,980	1
10,700	1	44.6	1	13,900	1	310	1	0.69	1	4	1	474	1	8.6	0	0.79	0	2,340	1
9,060	1	32.3	1	15,700	1	269	1	0.36	1	6.6	1	176	0	9.1	0	0.84	0	3,600	1
10,400	1	40.9	1	12,300	1	296	1	#VALUE!	0	13.3	1	774	1	10	0	0.94	0	2,750	1
8,850	1	28.9	1	31,500	1	281	1	0.22	0	4.9	0	473	1	11	0	1	0	11,300	1
742	1	18.3	1	752	1	11.4	1	0.17	0	7.2	1	348	1	9.4	0	0.86	0	2,110	1
1,360	1	10.7	1	1,650	1	38.8	1	0.2	0	4.3	0	189	0	9.8	0	0.9	0	5,210	1
3,070	1	21.4	1	3,270	1	53.1	1	0.19	0	6.7	1	412	1	9.5	0	0.88	0	12,100	1
5,880	1	25.9	1	12,600	1	253	1	0.22	0	6.7	1	300	1	11	0	0.99	0	1,740	1
2,780	1	12.6	1	2,570	1	55.3	1	0.21	0	4.5	0	198	0	1	0	0.95	0	1,200	1
3,930	1	30.4	1	4,390	1	97.7	1	0.19	0	6.5	1	469	1	9.7	0	0.89	0	11,800	1
		222	1					0.26	1	18	1			1.2	0	1.2	0		
		52.7	1					0.13	1	15.5	1			2.1	0	2.1	0		
		56.1	1					0.24	1	12	1			1.1	0	1.1	0		
		18.5	1					0.333	1					0.933	0	0.126	0		
		172	1					0.683	1					0.943	0	0.127	0		
		102	1					0.101	1					0.923	0	0.125	0		
		45.1	1					0.211	1					0.904	0	0.122	0		
		190	1					0.191	1					0.935	0	0.126	0		
		66	1					0.034	0					0.909	0	0.123	0		
		21.5	1					0.036	0					0.98	0	0.132	0		
		44.7	1					0.037	0					1	0	0.136	0		
		792	1					0.035	0					0.939	0	0.127	0		
		17.5	1					0.035	0					0.684	0	0.097	0		
		296	1					1.47	1					0.944	0	0.127	0		
		55.8	1					0.0537	1					1	0	0.135	0		
		142	1					0.148	1					0.948	0	0.128	0		
		68.2	1					0.344	1					0.983	0	0.133	0		
		100	1					1.17	1					2.18	1	0.217	0		
		226	1					0.217	1					1	0	0.135	0		
		173	1					7.61	1					1.01	0	0.136	0		
		112	1					0.848	1					0.949	0	0.128	0		
		50.3	1					0.266	1					0.926	0	0.125	0		
		26.7	1					0.034	0					0.923	0	0.125	0		

Rahway Arch Property Site
xisting Surface Inorganic Data for Statistical Analys

Thallium	d_	Vanadium	d_	Zinc	d_	Cyanide	d_
(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)	
1.17	0	36.7	1	231	1	2.96	0
1.21	0	31.8	1	124	1	3.06	0
1.73	0	14.8	1	4.21	1	1120	1
1.14	0	39.1	1	68.4	1	66.4	1
2.87	0	87.6	1	389	1	334	1
1.3	0	28.5	1	168	1	1330	1
0.255	0	23.5	1	75.3	1	1720	1
2.13	0	59.1	1	185	1	123	1
2.03	0	9.19	1	20.9	1	405	1
1.61	0	28.1	1	147	1	825	1
1.84	0	13.8	1	7.98	1	1180	1
1.85	0	23.1	1	16	1	2850	1
1.79	0	12.8	1	6.48	1	190	1
2.18	0	48	1	36.9	1	210	1
1.65	0	14.4	1	43	1	1820	1
3.36	0	22.7	1	14.1	1	1420	1
2.3	0	8.02	1	141	1	2420	1
0.083	0	12.9	1	85.5	1	3.9	1
2.28	0	30.7	1	24.7	1	337	1
1.46	0	7.39	1	3.44	1	472	1
0.59	0	29.6	1	914	1	768	1
0.86	0	38.3	1	38.5	1	153	1
0.91	0	30	1	29.4	1	9.7	1
1	0	30.2	1	32	1	403	1
1.1	0	31.5	1	15.6	1	972	1
0.94	0	12.3	1	3.4	1	1020	1
0.98	0	9.9	1	0.75	0	68.7	1
0.95	0	17.4	1	10.5	1	103	1
1.1	0	31.3	1	22.4	1	0.47	1
1	0	19.6	1	2.5	1	84.8	1
0.97	0	30	1	25.9	1	0.65	1
1.2	0			186	1	4.95	1
2.1	0			1820	1		
1.1	0			50.1	1		

From File: \\SERVER\EastStar\Project Files\I-2011 Project Folders\I027 Rahway Arch Rahway LSRP Services\Remedial Action Workplan\UCL Analysis Existing Conditions\071613 Existing Rahway Inorganics Data for ProUCL.wst

Summary Statistics for Raw Full Data Sets

Variable	NumObs	Minimum	Maximum	Mean	Median	Variance	SD	MAD/0.675	Skewness	Kurtosis	CV
Aluminum	31	2990	29200	11518	9380	58819021	7669	7309	1.094	0.301	0.666
Antimony	34	0.956	9.9	2.708	1.8	4.414	2.101	1.016	2.024	4.524	0.776
Arsenic	54	0.94	48.5	6.012	4.685	46.78	6.839	3.892	4.745	28.59	1.138
Barium	51	6.01	479	97.43	75.4	7628	87.34	46.85	2.392	7.211	0.896
Beryllium	34	0.005	1.2	0.544	0.457	0.12	0.346	0.337	0.449	-0.928	0.635
Cadmium	54	0.005	5.91	0.494	0.038	1.138	1.067	0.0341	3.664	14.92	2.16
Calcium	31	4180	280000	174376	214000	8.854E+09	94095	62268	-0.803	-0.933	0.54
Chromium	52	1.64	38.3	19.37	20.1	64.63	8.039	7.191	-0.0357	0.418	0.415
Cobalt	31	1.6	75.3	7.869	4.8	172.3	13.13	3.558	4.824	25.08	1.668
Copper	34	0.39	186	25.43	12.9	1585	39.81	16.8	2.786	8.397	1.565
Iron	31	742	22900	8775	8850	39656494	6297	8377	0.611	-0.622	0.718
Lead	54	0.65	792	83.13	44.65	14588	120.8	39.66	4.134	22.31	1.453
Magnesium	31	111	31500	7000	3820	68002798	8246	3825	1.701	2.198	1.178
Manganese	31	11.4	415	166.9	142	13653	116.8	151.1	0.353	-1.229	0.7
Mercury	52	0.016	7.61	0.403	0.19	1.126	1.061	0.145	6.409	43.79	2.632
Nickel	34	3.74	50.2	12.28	8.835	101.2	10.06	6.39	2.275	6.069	0.819
Potassium	31	19.4	2920	766.2	469	527602	726.4	490.7	1.317	1.34	0.948
Selenium	54	0.028	11	2.798	1	11.41	3.377	0.706	1.507	0.699	1.207
Silver	54	0.006	2.1	0.36	0.136	0.178	0.422	0.0489	1.946	4.214	1.172
Sodium	31	207	20400	4301	2340	21951371	4685	2175	1.786	3.393	1.089
Thallium	34	0.083	3.36	1.442	1.205	0.489	0.699	0.556	0.625	0.679	0.485
Vanadium	31	7.39	87.6	26.85	28.1	275.7	16.6	15.12	1.804	5.039	0.618
Zinc	34	0.75	1820	145.4	34.45	115688	340.1	45.4	4.19	19.04	2.34
Cyanide	32	0.47	2850	638.1	335.5	575043	758.3	492.2	1.388	1.406	1.188

Percentiles for Raw Full Data Sets

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Aluminum	31	3139	3469	4354	5853	9125	14850	15720	25360	27425	28735
Antimony	34	0.978	1.088	1.192	1.27	1.79	3.9	4.12	4.5	6.07	9.526
Arsenic	54	0.971	1.24	1.478	2.05	4.68	7.31	8.12	10.16	11.12	32.03
Barium	51	16.64	22.04	37.42	44.03	75.35	108.5	120.4	175.4	259.4	407.6
Beryllium	34	0.0389	0.124	0.238	0.255	0.41	0.8	0.931	1	1.151	1.2
Cadmium	54	0.015	0.015	0.016	0.016	0.037	0.65	0.682	0.906	2.175	5.057
Calcium	31	6661	13390	58340	64325	211000	237250	252600	264000	276900	279380
Chromium	52	3.07	7.38	12.94	13.5	19.9	24.7	25.06	28.02	31.58	38.14
Cobalt	31	1.6	1.689	2.32	2.528	4.6	7.605	7.906	12.17	15.98	58
Copper	34	0.425	0.716	1.588	1.775	11.7	28.55	31.76	53.66	108	165.9
Iron	31	1082	1837	2508	2915	7855	12250	13940	18190	19330	22032
Lead	54	8.223	11.12	17.42	19.6	44.6	107	118	183.6	229	524.2
Magnesium	31	463.6	783.9	1080	1548	3545	8498	12540	19030	23850	30322
Manganese	31	25.7	38.89	47.58	54.75	132.5	265.3	278.6	305.9	330.7	396.7
Mercury	52	0.0346	0.0362	0.0795	0.09	0.19	0.262	0.327	0.689	1.086	4.417
Nickel	34	3.922	4.376	4.726	4.91	8.51	14.85	15.76	20.72	30.77	46.19
Potassium	31	54	102.8	178.6	195.8	440.5	1163	1250	1758	2058	2728
Selenium	54	0.298	0.425	0.76	0.916	1	2.7	4.498	9.46	9.86	11
Silver	54	0.0697	0.0964	0.125	0.126	0.136	0.426	0.844	0.946	1.03	1.614
Sodium	31	331.3	544	900.4	1100	2290	5715	7572	11117	11935	17827
Thallium	34	0.203	0.698	0.948	0.975	1.2	1.845	2.044	2.24	2.471	3.193
Vanadium	31	7.737	9.261	12.82	13.58	25.8	31.35	31.74	39.02	53	78.77
Zinc	34	1.975	3.416	7.68	12.3	32	132.5	151.2	213	546.5	1512
Cyanide	32	0.578	2.98	6.85	66.4	334	1020	1156	1660	2060	2712

	General UCL Statistics for Data Sets with Non-Detects
User Selected Options	
From File	\\SERVER\EastStar\Project Files\I-2011 Project Folders\I027 Rahway Arch Rahway LSRP Services\Rem
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Aluminum

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	30

Raw Statistics		**Log-transformed Statistics**	
Minimum	2990	Minimum of Log Data	8.003
Maximum	29200	Maximum of Log Data	10.28
Mean	11518	Mean of log Data	9.143
Median	9380	SD of log Data	0.665
SD	7669		
Coefficient of Variation	0.666		
Skewness	1.094		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	13856	95% H-UCL	14999
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	18045
95% Adjusted-CLT UCL	14073	97.5% Chebyshev (MVUE) UCL	20849
95% Modified-t UCL	13901	99% Chebyshev (MVUE) UCL	26357
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	2.324	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4956		
MLE of Mean	11518		
MLE of Standard Deviation	7555		
nu star	144.1		
Approximate Chi Square Value (.05)	117.4	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	13784
Adjusted Chi Square Value	116	95% Jackknife UCL	13856
		95% Standard Bootstrap UCL	13709
Anderson-Darling Test Statistic	0.428	95% Bootstrap-t UCL	14439
Anderson-Darling 5% Critical Value	0.755	95% Hall's Bootstrap UCL	14108
Kolmogorov-Smirnov Test Statistic	0.0958	95% Percentile Bootstrap UCL	13634
Kolmogorov-Smirnov 5% Critical Value	0.159	95% BCA Bootstrap UCL	14039
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17523

		97.5% Chebyshev(Mean, Sd) UCL	20121
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	25224
95% Approximate Gamma UCL	14143		
95% Adjusted Gamma UCL	14306		
Potential UCL to Use		Use 95% Approximate Gamma UCL	14143

Antimony

General Statistics

Number of Valid Data	34	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	21
		Percent Non-Detects	61.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.956	Minimum Detected	-0.045
Maximum Detected	9.9	Maximum Detected	2.293
Mean of Detected	3.739	Mean of Detected	1.061
SD of Detected	2.828	SD of Detected	0.757
Minimum Non-Detect	0.988	Minimum Non-Detect	-0.0121
Maximum Non-Detect	4.5	Maximum Non-Detect	1.504
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.848	Shapiro Wilk Test Statistic	0.948
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.069	Mean	0.35
SD	2.212	SD	0.821
95% DL/2 (t) UCL	2.711	95% H-Stat (DL/2) UCL	2.338
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	0.322
		SD in Log Scale	0.761
		Mean in Original Scale	1.977
		SD in Original Scale	2.214
		95% Percentile Bootstrap UCL	2.613
		95% BCA Bootstrap UCL	2.78
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.662	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.249		
nu star	43.22		
A-D Test Statistic	0.329	**Nonparametric Statistics**	
5% A-D Critical Value	0.743	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.743	Mean	2.118
5% K-S Critical Value	0.239	SD	2.138
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.387

		95% KM (t) UCL	2.774
Assuming Gamma Distribution		95% KM (z) UCL	2.755
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.715
Minimum	0.956	95% KM (bootstrap t) UCL	3.129
Maximum	9.9	95% KM (BCA) UCL	3.016
Mean	3.797	95% KM (Percentile Bootstrap) UCL	2.837
Median	3.766	95% KM (Chebyshev) UCL	3.806
SD	1.725	97.5% KM (Chebyshev) UCL	4.537
k star	4.691	99% KM (Chebyshev) UCL	5.972
Theta star	0.809		
Nu star	319	**Potential UCLs to Use**	
AppChi2	278.6	95% KM (t) UCL	2.774
95% Gamma Approximate UCL	4.347		
95% Adjusted Gamma UCL	4.376		
Note: DL/2 is not a recommended method.			

Arsenic

General Statistics

Number of Valid Data	54	Number of Detected Data	44
Number of Distinct Detected Data	41	Number of Non-Detect Data	10
		Percent Non-Detects	18.52%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.2	Minimum Detected	0.182
Maximum Detected	48.5	Maximum Detected	3.882
Mean of Detected	7.064	Mean of Detected	1.706
SD of Detected	7.175	SD of Detected	0.675
Minimum Non-Detect	0.94	Minimum Non-Detect	-0.0619
Maximum Non-Detect	2.69	Maximum Non-Detect	0.99
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	39
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	27.78%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.549	Shapiro Wilk Test Statistic	0.961
5% Shapiro Wilk Critical Value	0.944	5% Shapiro Wilk Critical Value	0.944
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.884	Mean	1.313
SD	6.93	SD	1.039
95% DL/2 (t) UCL	7.463	95% H-Stat (DL/2) UCL	7.868
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.714	Mean in Log Scale	1.447
SD	8.242	SD in Log Scale	0.82
95% MLE (t) UCL	6.592	Mean in Original Scale	6.009
95% MLE (Tiku) UCL	6.644	SD in Original Scale	6.838
		95% Percentile Bootstrap UCL	7.705
		95% BCA Bootstrap UCL	8.43
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.029	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	3.482		
nu star	178.5		
A-D Test Statistic	1.027	**Nonparametric Statistics**	
5% A-D Critical Value	0.759	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.759	Mean	5.983
5% K-S Critical Value	0.135	SD	6.793

Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.935
		95% KM (t) UCL	7.548
Assuming Gamma Distribution		95% KM (z) UCL	7.521
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.532
Minimum	0.0753	95% KM (bootstrap t) UCL	8.937
Maximum	48.5	95% KM (BCA) UCL	7.778
Mean	5.922	95% KM (Percentile Bootstrap) UCL	7.706
Median	4.685	95% KM (Chebyshev) UCL	10.06
SD	6.907	97.5% KM (Chebyshev) UCL	11.82
k star	1.013	99% KM (Chebyshev) UCL	15.29
Theta star	5.847		
Nu star	109.4	Potential UCLs to Use	
AppChi2	86.25	95% KM (BCA) UCL	7.778
95% Gamma Approximate UCL	7.511		
95% Adjusted Gamma UCL	7.56		
Note: DL/2 is not a recommended method.			

Barium

General Statistics

Number of Valid Observations	51	Number of Distinct Observations	50

Raw Statistics		**Log-transformed Statistics**	
Minimum	6.01	Minimum of Log Data	1.793
Maximum	479	Maximum of Log Data	6.172
Mean	97.43	Mean of log Data	4.26
Median	75.4	SD of log Data	0.832
SD	87.34		
Coefficient of Variation	0.896		
Skewness	2.392		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Lilliefors Test Statistic	0.209	Lilliefors Test Statistic	0.0693
Lilliefors Critical Value	0.124	Lilliefors Critical Value	0.124
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	117.9	95% H-UCL	128.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	156
95% Adjusted-CLT UCL	121.9	97.5% Chebyshev (MVUE) UCL	180.6
95% Modified-t UCL	118.6	99% Chebyshev (MVUE) UCL	228.9
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.628	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	59.85		
MLE of Mean	97.43		
MLE of Standard Deviation	76.36		
nu star	166		
Approximate Chi Square Value (.05)	137.2	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0453	95% CLT UCL	117.5
Adjusted Chi Square Value	136.5	95% Jackknife UCL	117.9
		95% Standard Bootstrap UCL	118.1
Anderson-Darling Test Statistic	0.474	95% Bootstrap-t UCL	127.2
Anderson-Darling 5% Critical Value	0.765	95% Hall's Bootstrap UCL	126.5
Kolmogorov-Smirnov Test Statistic	0.105	95% Percentile Bootstrap UCL	118.8
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	123.9
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	150.7
		97.5% Chebyshev(Mean, Sd) UCL	173.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	219.1
95% Approximate Gamma UCL	117.9		
95% Adjusted Gamma UCL	118.5		
Potential UCL to Use		Use 95% Approximate Gamma UCL	117.9

Beryllium

General Statistics

Number of Valid Data	34	Number of Detected Data	30
Number of Distinct Detected Data	29	Number of Non-Detect Data	4
		Percent Non-Detects	11.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0534	Minimum Detected	-2.93
Maximum Detected	1.2	Maximum Detected	0.182
Mean of Detected	0.545	Mean of Detected	-0.841
SD of Detected	0.345	SD of Detected	0.758
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	1	Maximum Non-Detect	0
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	30
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	4
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.24%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.942
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.513	Mean	-1.012
SD	0.341	SD	1.135
95% DL/2 (t) UCL	0.612	95% H-Stat (DL/2) UCL	0.95
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.704	Mean in Log Scale	-0.928
SD	0.252	SD in Log Scale	0.782
95% MLE (t) UCL	0.777	Mean in Original Scale	0.509
95% MLE (Tiku) UCL	0.973	SD in Original Scale	0.34
		95% Percentile Bootstrap UCL	0.604
		95% BCA Bootstrap UCL	0.613
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.079	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.262		
nu star	124.8		
A-D Test Statistic	0.385	**Nonparametric Statistics**	
5% A-D Critical Value	0.757	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.757	Mean	0.512
5% K-S Critical Value	0.162	SD	0.339

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.06
		95% KM (t) UCL	0.614
Assuming Gamma Distribution		95% KM (z) UCL	0.611
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.613
Minimum	1E-09	95% KM (bootstrap t) UCL	0.619
Maximum	1.2	95% KM (BCA) UCL	0.608
Mean	0.525	95% KM (Percentile Bootstrap) UCL	0.609
Median	0.42	95% KM (Chebyshev) UCL	0.773
SD	0.337	97.5% KM (Chebyshev) UCL	0.887
k star	0.726	99% KM (Chebyshev) UCL	1.109
Theta star	0.723		
Nu star	49.36	Potential UCLs to Use	
AppChi2	34.23	95% KM (BCA) UCL	0.608
95% Gamma Approximate UCL	0.757		
95% Adjusted Gamma UCL	0.771		
Note: DL/2 is not a recommended method.			

Cadmium

General Statistics

Number of Valid Data	54	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	45
		Percent Non-Detects	83.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.179	Minimum Detected	-1.72
Maximum Detected	5.91	Maximum Detected	1.777
Mean of Detected	2.05	Mean of Detected	0.21
SD of Detected	1.957	SD of Detected	1.175
Minimum Non-Detect	0.005	Minimum Non-Detect	-5.298
Maximum Non-Detect	0.78	Maximum Non-Detect	-0.248
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	48
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	88.89%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk Test Statistic	0.969
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.418	Mean	-3.012
SD	1.066	SD	2.073
95% DL/2 (t) UCL	0.661	95% H-Stat (DL/2) UCL	0.745
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-3.872
		SD in Log Scale	2.153
		Mean in Original Scale	0.355
		SD in Original Scale	1.079
		95% Percentile Bootstrap UCL	0.614
		95% BCA Bootstrap UCL	0.703
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.822	Data appear Normal at 5% Significance Level	

Theta Star	2.495		
nu star	14.79		
A-D Test Statistic	0.15	**Nonparametric Statistics**	
5% A-D Critical Value	0.741	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.741	Mean	0.493
5% K-S Critical Value	0.286	SD	1.026
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.148
		95% KM (t) UCL	0.742
Assuming Gamma Distribution		95% KM (z) UCL	0.737
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.69
Minimum	0.179	95% KM (bootstrap t) UCL	0.873
Maximum	5.91	95% KM (BCA) UCL	1.359
Mean	2.105	95% KM (Percentile Bootstrap) UCL	1.013
Median	2.09	95% KM (Chebyshev) UCL	1.139
SD	0.795	97.5% KM (Chebyshev) UCL	1.419
k star	5.372	99% KM (Chebyshev) UCL	1.968
Theta star	0.392		
Nu star	580.2	**Potential UCLs to Use**	
AppChi2	525.3	95% KM (t) UCL	0.742
95% Gamma Approximate UCL	2.325	95% KM (Percentile Bootstrap) UCL	1.013
95% Adjusted Gamma UCL	2.331		
Note: DL/2 is not a recommended method.			

Calcium

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	30

Raw Statistics		**Log-transformed Statistics**	
Minimum	4180	Minimum of Log Data	8.338
Maximum	280000	Maximum of Log Data	12.54
Mean	174376	Mean of log Data	11.69
Median	214000	SD of log Data	1.167
SD	94095		
Coefficient of Variation	0.54		
Skewness	-0.803		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.826	Shapiro Wilk Test Statistic	0.707
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	203060	95% H-UCL	414718
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	477734
95% Adjusted-CLT UCL	199571	97.5% Chebyshev (MVUE) UCL	585471
95% Modified-t UCL	202654	99% Chebyshev (MVUE) UCL	797097
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.357	Data do not follow a Discernable Distribution (0.05)	
Theta Star	128539		
MLE of Mean	174376		
MLE of Standard Deviation	149714		
nu star	84.11		
Approximate Chi Square Value (.05)	63.97	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	202174
Adjusted Chi Square Value	63	95% Jackknife UCL	203060
		95% Standard Bootstrap UCL	201739
Anderson-Darling Test Statistic	3.422	95% Bootstrap-t UCL	201138
Anderson-Darling 5% Critical Value	0.764	95% Hall's Bootstrap UCL	197732
Kolmogorov-Smirnov Test Statistic	0.335	95% Percentile Bootstrap UCL	201283
Kolmogorov-Smirnov 5% Critical Value	0.161	95% BCA Bootstrap UCL	198851
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	248041
		97.5% Chebyshev(Mean, Sd) UCL	279916
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	342528
95% Approximate Gamma UCL	229268		
95% Adjusted Gamma UCL	232821		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	342528

Chromium

General Statistics

Number of Valid Observations	52	Number of Distinct Observations	48

Raw Statistics		**Log-transformed Statistics**	
Minimum	1.64	Minimum of Log Data	0.495
Maximum	38.3	Maximum of Log Data	3.645
Mean	19.37	Mean of log Data	2.828
Median	20.1	SD of log Data	0.628
SD	8.039		
Coefficient of Variation	0.415		
Skewness	-0.0357		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Lilliefors Test Statistic	0.0673	Lilliefors Test Statistic	0.192
Lilliefors Critical Value	0.123	Lilliefors Critical Value	0.123
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	21.24	95% H-UCL	24.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	28.91
95% Adjusted-CLT UCL	21.2	97.5% Chebyshev (MVUE) UCL	32.54
95% Modified-t UCL	21.24	99% Chebyshev (MVUE) UCL	39.68
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	3.631	Data appear Normal at 5% Significance Level	
Theta Star	5.335		
MLE of Mean	19.37		
MLE of Standard Deviation	10.17		
nu star	377.6		
Approximate Chi Square Value (.05)	333.6	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0454	95% CLT UCL	21.21
Adjusted Chi Square Value	332.4	95% Jackknife UCL	21.24
		95% Standard Bootstrap UCL	21.22
Anderson-Darling Test Statistic	1.871	95% Bootstrap-t UCL	21.24
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	21.19
Kolmogorov-Smirnov Test Statistic	0.154	95% Percentile Bootstrap UCL	21.07
Kolmogorov-Smirnov 5% Critical Value	0.124	95% BCA Bootstrap UCL	21.23
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.23
		97.5% Chebyshev(Mean, Sd) UCL	26.33
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	30.46
95% Approximate Gamma UCL	21.93		
95% Adjusted Gamma UCL	22.01		
Potential UCL to Use		Use 95% Student's-t UCL	21.24

Cobalt

General Statistics			
Number of Valid Data	31	Number of Detected Data	29
Number of Distinct Detected Data	29	Number of Non-Detect Data	2
		Percent Non-Detects	6.45%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.68	Minimum Detected	0.519
Maximum Detected	75.3	Maximum Detected	4.321
Mean of Detected	8.301	Mean of Detected	1.68
SD of Detected	13.48	SD of Detected	0.796
Minimum Non-Detect	1.6	Minimum Non-Detect	0.47
Maximum Non-Detect	1.6	Maximum Non-Detect	0.47

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.421	Shapiro Wilk Test Statistic	0.921
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.817	Mean	1.557
SD	13.15	SD	0.904
95% DL/2 (t) UCL	11.83	95% H-Stat (DL/2) UCL	9.14
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	7.292	Mean in Log Scale	1.561
SD	13.49	SD in Log Scale	0.897
95% MLE (t) UCL	11.41	Mean in Original Scale	7.821
95% MLE (Tiku) UCL	11.05	SD in Original Scale	13.15
		95% Percentile Bootstrap UCL	12.25
		95% BCA Bootstrap UCL	14.89

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.176	Data do not follow a Discernable Distribution (0.05)	
Theta Star	7.057		
nu star	68.23		
A-D Test Statistic	1.779	**Nonparametric Statistics**	
5% A-D Critical Value	0.768	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.768	Mean	7.874
5% K-S Critical Value	0.166	SD	12.91
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2.36
		95% KM (t) UCL	11.88
Assuming Gamma Distribution		95% KM (z) UCL	11.76

Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.87
Minimum	1E-09	95% KM (bootstrap t) UCL	21.01
Maximum	75.3	95% KM (BCA) UCL	13.21
Mean	7.766	95% KM (Percentile Bootstrap) UCL	12.35
Median	4.8	95% KM (Chebyshev) UCL	18.16
SD	13.18	97.5% KM (Chebyshev) UCL	22.61
k star	0.353	99% KM (Chebyshev) UCL	31.35
Theta star	21.97		
Nu star	21.91	**Potential UCLs to Use**	
AppChi2	12.27	95% KM (Chebyshev) UCL	18.16
95% Gamma Approximate UCL	13.87		
95% Adjusted Gamma UCL	14.33		
Note: DL/2 is not a recommended method.			

Copper

General Statistics

Number of Valid Data	34	Number of Detected Data	32
Number of Distinct Detected Data	32	Number of Non-Detect Data	2
		Percent Non-Detects	5.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.636	Minimum Detected	-0.453
Maximum Detected	186	Maximum Detected	5.226
Mean of Detected	27	Mean of Detected	2.352
SD of Detected	40.55	SD of Detected	1.514
Minimum Non-Detect	0.39	Minimum Non-Detect	-0.942
Maximum Non-Detect	0.44	Maximum Non-Detect	-0.821
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	2
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	32
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	5.88%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.647	Shapiro Wilk Test Statistic	0.957
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	25.42	Mean	2.121
SD	39.82	SD	1.742
95% DL/2 (t) UCL	36.98	95% H-Stat (DL/2) UCL	81.66
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	23.94	Mean in Log Scale	2.142
SD	40.92	SD in Log Scale	1.698
95% MLE (t) UCL	35.81	Mean in Original Scale	25.43
95% MLE (Tiku) UCL	34.92	SD in Original Scale	39.82
		95% Percentile Bootstrap UCL	36.69
		95% BCA Bootstrap UCL	40.86
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.608	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	44.42		
nu star	38.9		
A-D Test Statistic	0.6	**Nonparametric Statistics**	
5% A-D Critical Value	0.797	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.797	Mean	25.45
5% K-S Critical Value	0.163	SD	39.21

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	6.833
		95% KM (t) UCL	37.01
Assuming Gamma Distribution		95% KM (z) UCL	36.69
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	36.99
Minimum	1E-09	95% KM (bootstrap t) UCL	44.9
Maximum	186	95% KM (BCA) UCL	38.32
Mean	25.41	95% KM (Percentile Bootstrap) UCL	37.61
Median	12.9	95% KM (Chebyshev) UCL	55.23
SD	39.83	97.5% KM (Chebyshev) UCL	68.12
k star	0.299	99% KM (Chebyshev) UCL	93.43
Theta star	84.91		
Nu star	20.35	Potential UCLs to Use	
AppChi2	11.11	95% KM (Chebyshev) UCL	55.23
95% Gamma Approximate UCL	46.54		
95% Adjusted Gamma UCL	48		
Note: DL/2 is not a recommended method.			

Iron

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	29

Raw Statistics		**Log-transformed Statistics**	
Minimum	742	Minimum of Log Data	6.609
Maximum	22900	Maximum of Log Data	10.04
Mean	8775	Mean of log Data	8.753
Median	8850	SD of log Data	0.906
SD	6297		
Coefficient of Variation	0.718		
Skewness	0.611		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.919	Shapiro Wilk Test Statistic	0.939
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	10694	95% H-UCL	13985
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16859
95% Adjusted-CLT UCL	10768	97.5% Chebyshev (MVUE) UCL	20102
95% Modified-t UCL	10715	99% Chebyshev (MVUE) UCL	26471
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.536	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5712		
MLE of Mean	8775		
MLE of Standard Deviation	7080		
nu star	95.24		
Approximate Chi Square Value (.05)	73.73	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	10635
Adjusted Chi Square Value	72.68	95% Jackknife UCL	10694
		95% Standard Bootstrap UCL	10573
Anderson-Darling Test Statistic	0.474	95% Bootstrap-t UCL	10857
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	10757
Kolmogorov-Smirnov Test Statistic	0.126	95% Percentile Bootstrap UCL	10585
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	10858
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13705
		97.5% Chebyshev(Mean, Sd) UCL	15838
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20028
95% Approximate Gamma UCL	11334		
95% Adjusted Gamma UCL	11498		
Potential UCL to Use		Use 95% Approximate Gamma UCL	11334

Lead

General Statistics

Number of Valid Data	54	Number of Detected Data	53
Number of Distinct Detected Data	50	Number of Non-Detect Data	1
		Percent Non-Detects	1.85%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.91	Minimum Detected	1.068
Maximum Detected	792	Maximum Detected	6.675
Mean of Detected	84.68	Mean of Detected	3.84
SD of Detected	121.4	SD of Detected	1.09
Minimum Non-Detect	0.65	Minimum Non-Detect	-0.431
Maximum Non-Detect	0.65	Maximum Non-Detect	-0.431

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Lilliefors Test Statistic	0.252	Lilliefors Test Statistic	0.0735
5% Lilliefors Critical Value	0.122	5% Lilliefors Critical Value	0.122
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	83.12	Mean	3.748
SD	120.8	SD	1.274
95% DL/2 (t) UCL	110.6	95% H-Stat (DL/2) UCL	142.5
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	81.78	Mean in Log Scale	3.788
SD	121.2	SD in Log Scale	1.147
95% MLE (t) UCL	109.4	Mean in Original Scale	83.17
95% MLE (Tiku) UCL	107	SD in Original Scale	120.8
		95% Percentile Bootstrap UCL	111.9
		95% BCA Bootstrap UCL	128.2
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.926	Data appear Lognormal at 5% Significance Level	
Theta Star	91.49		
nu star	98.11		
A-D Test Statistic	1.248	**Nonparametric Statistics**	
5% A-D Critical Value	0.781	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.781	Mean	83.17
5% K-S Critical Value	0.126	SD	119.6
Data not Gamma Distributed at 5% Significance Level		SE of Mean	16.44
		95% KM (t) UCL	110.7
Assuming Gamma Distribution		95% KM (z) UCL	110.2

Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	110.6
Minimum	1E-09	95% KM (bootstrap t) UCL	129.6
Maximum	792	95% KM (BCA) UCL	114.4
Mean	83.12	95% KM (Percentile Bootstrap) UCL	111.2
Median	44.65	95% KM (Chebyshev) UCL	154.8
SD	120.8	97.5% KM (Chebyshev) UCL	185.8
k star	0.577	99% KM (Chebyshev) UCL	246.7
Theta star	144.2		
Nu star	62.27	**Potential UCLs to Use**	
AppChi2	45.12	95% KM (Chebyshev) UCL	154.8
95% Gamma Approximate UCL	114.7		
95% Adjusted Gamma UCL	115.7		
Note: DL/2 is not a recommended method.			

Magnesium

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	31

Raw Statistics		**Log-transformed Statistics**	
Minimum	111	Minimum of Log Data	4.71
Maximum	31500	Maximum of Log Data	10.36
Mean	7000	Mean of log Data	8.188
Median	3820	SD of log Data	1.265
SD	8246		
Coefficient of Variation	1.178		
Skewness	1.701		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	9513	95% H-UCL	15128
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	16879
95% Adjusted-CLT UCL	9919	97.5% Chebyshev (MVUE) UCL	20866
95% Modified-t UCL	9589	99% Chebyshev (MVUE) UCL	28698
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.817	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	8570		
MLE of Mean	7000		
MLE of Standard Deviation	7745		
nu star	50.64		
Approximate Chi Square Value (.05)	35.3	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	9436
Adjusted Chi Square Value	34.58	95% Jackknife UCL	9513
		95% Standard Bootstrap UCL	9325
Anderson-Darling Test Statistic	0.733	95% Bootstrap-t UCL	9969
Anderson-Darling 5% Critical Value	0.781	95% Hall's Bootstrap UCL	9808
Kolmogorov-Smirnov Test Statistic	0.183	95% Percentile Bootstrap UCL	9579
Kolmogorov-Smirnov 5% Critical Value	0.163	95% BCA Bootstrap UCL	10027
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13456
		97.5% Chebyshev(Mean, Sd) UCL	16249
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21736
95% Approximate Gamma UCL	10042		
95% Adjusted Gamma UCL	10249		
Potential UCL to Use		Use 95% Approximate Gamma UCL	10042

Manganese

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	31

Raw Statistics		**Log-transformed Statistics**	
Minimum	11.4	Minimum of Log Data	2.434
Maximum	415	Maximum of Log Data	6.028
Mean	166.9	Mean of log Data	4.791
Median	142	SD of log Data	0.909
SD	116.8		
Coefficient of Variation	0.7		
Skewness	0.353		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk Test Statistic	0.911
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	202.6	95% H-UCL	267.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	322.7
95% Adjusted-CLT UCL	202.9	97.5% Chebyshev (MVUE) UCL	384.9
95% Modified-t UCL	202.8	99% Chebyshev (MVUE) UCL	507.1
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.538	Data do not follow a Discernable Distribution (0.05)	
Theta Star	108.5		
MLE of Mean	166.9		
MLE of Standard Deviation	134.6		
nu star	95.36		
Approximate Chi Square Value (.05)	73.84	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	201.5
Adjusted Chi Square Value	72.79	95% Jackknife UCL	202.6
		95% Standard Bootstrap UCL	201
Anderson-Darling Test Statistic	0.997	95% Bootstrap-t UCL	204.9
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	200.9
Kolmogorov-Smirnov Test Statistic	0.177	95% Percentile Bootstrap UCL	200.8
Kolmogorov-Smirnov 5% Critical Value	0.16	95% BCA Bootstrap UCL	202.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	258.4
		97.5% Chebyshev(Mean, Sd) UCL	298
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	375.8
95% Approximate Gamma UCL	215.6		
95% Adjusted Gamma UCL	218.7		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	258.4

Mercury

General Statistics

Number of Valid Data	52	Number of Detected Data	31
Number of Distinct Detected Data	31	Number of Non-Detect Data	21
Number of Missing Values	1	Percent Non-Detects	40.38%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0537	Minimum Detected	-2.924
Maximum Detected	7.61	Maximum Detected	2.029
Mean of Detected	0.599	Mean of Detected	-1.258
SD of Detected	1.346	SD of Detected	1.036
Minimum Non-Detect	0.016	Minimum Non-Detect	-4.135
Maximum Non-Detect	0.22	Maximum Non-Detect	-1.514
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	34
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	18
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	65.38%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.369	Shapiro Wilk Test Statistic	0.938
5% Shapiro Wilk Critical Value	0.929	5% Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.38	Mean	-2.008
SD	1.067	SD	1.311
95% DL/2 (t) UCL	0.628	95% H-Stat (DL/2) UCL	0.421
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-2.114
		SD in Log Scale	1.344
		Mean in Original Scale	0.372
		SD in Original Scale	1.069
		95% Percentile Bootstrap UCL	0.642
		95% BCA Bootstrap UCL	0.81
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.74	Data appear Lognormal at 5% Significance Level	
Theta Star	0.809		
nu star	45.91		
A-D Test Statistic	2.278	**Nonparametric Statistics**	
5% A-D Critical Value	0.786	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.786	Mean	0.384
5% K-S Critical Value	0.164	SD	1.056

Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.149
		95% KM (t) UCL	0.633
Assuming Gamma Distribution		95% KM (z) UCL	0.629
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.63
Minimum	1E-09	95% KM (bootstrap t) UCL	1.255
Maximum	7.61	95% KM (BCA) UCL	0.685
Mean	0.456	95% KM (Percentile Bootstrap) UCL	0.658
Median	0.214	95% KM (Chebyshev) UCL	1.033
SD	1.062	97.5% KM (Chebyshev) UCL	1.313
k star	0.285	99% KM (Chebyshev) UCL	1.865
Theta star	1.603		
Nu star	29.61	Potential UCLs to Use	
AppChi2	18.18	95% KM (Chebyshev) UCL	1.033
95% Gamma Approximate UCL	0.743		
95% Adjusted Gamma UCL	0.753		
Note: DL/2 is not a recommended method.			

Nickel

General Statistics

Number of Valid Data	34	Number of Detected Data	31
Number of Distinct Detected Data	29	Number of Non-Detect Data	3
		Percent Non-Detects	8.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.74	Minimum Detected	1.319
Maximum Detected	50.2	Maximum Detected	3.916
Mean of Detected	13.03	Mean of Detected	2.343
SD of Detected	10.24	SD of Detected	0.655
Minimum Non-Detect	4.3	Minimum Non-Detect	1.459
Maximum Non-Detect	4.9	Maximum Non-Detect	1.589
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	26
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	23.53%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.769	Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk Critical Value	0.929	5% Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	12.08	Mean	2.209
SD	10.24	SD	0.762
95% DL/2 (t) UCL	15.05	95% H-Stat (DL/2) UCL	14.19
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	10.56	Mean in Log Scale	2.245
SD	12	SD in Log Scale	0.703
95% MLE (t) UCL	14.05	Mean in Original Scale	12.18
95% MLE (Tiku) UCL	14.1	SD in Original Scale	10.14
		95% Percentile Bootstrap UCL	15.03
		95% BCA Bootstrap UCL	15.82
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	2.18	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.974		
nu star	135.2		
A-D Test Statistic	0.588	**Nonparametric Statistics**	
5% A-D Critical Value	0.756	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.756	Mean	12.23
5% K-S Critical Value	0.159	SD	9.949

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.735
		95% KM (t) UCL	15.17
Assuming Gamma Distribution		95% KM (z) UCL	15.09
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	15.16
Minimum	1E-09	95% KM (bootstrap t) UCL	16.77
Maximum	50.2	95% KM (BCA) UCL	15.36
Mean	11.97	95% KM (Percentile Bootstrap) UCL	15.4
Median	8.835	95% KM (Chebyshev) UCL	19.79
SD	10.36	97.5% KM (Chebyshev) UCL	23.06
k star	0.611	99% KM (Chebyshev) UCL	29.49
Theta star	19.58		
Nu star	41.58	Potential UCLs to Use	
AppChi2	27.8	95% KM (BCA) UCL	15.36
95% Gamma Approximate UCL	17.9		
95% Adjusted Gamma UCL	18.27		
Note: DL/2 is not a recommended method.			

Potassium

General Statistics

Number of Valid Data	31	Number of Detected Data	27
Number of Distinct Detected Data	27	Number of Non-Detect Data	4
		Percent Non-Detects	12.90%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	82.3	Minimum Detected	4.41
Maximum Detected	2920	Maximum Detected	7.979
Mean of Detected	858.1	Mean of Detected	6.352
SD of Detected	734.8	SD of Detected	0.984
Minimum Non-Detect	19.4	Minimum Non-Detect	2.965
Maximum Non-Detect	198	Maximum Non-Detect	5.288
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	8
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	23
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	25.81%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	756.8	Mean	6.045
SD	734.7	SD	1.275
95% DL/2 (t) UCL	980.7	95% H-Stat (DL/2) UCL	1262
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	638.2	Mean in Log Scale	6.115
SD	879.2	SD in Log Scale	1.119
95% MLE (t) UCL	906.2	Mean in Original Scale	760.1
95% MLE (Tiku) UCL	915.4	SD in Original Scale	731.4
		95% Percentile Bootstrap UCL	990.6
		95% BCA Bootstrap UCL	1004
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	1.255	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	683.6		
nu star	67.79		
A-D Test Statistic	0.334	**Nonparametric Statistics**	
5% A-D Critical Value	0.765	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.765	Mean	760.6
5% K-S Critical Value	0.172	SD	719.2

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	131.6
		95% KM (t) UCL	984
Assuming Gamma Distribution		95% KM (z) UCL	977.1
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	982.7
Minimum	1E-09	95% KM (bootstrap t) UCL	1023
Maximum	2920	95% KM (BCA) UCL	1014
Mean	750.6	95% KM (Percentile Bootstrap) UCL	993.2
Median	469	95% KM (Chebyshev) UCL	1334
SD	740.6	97.5% KM (Chebyshev) UCL	1583
k star	0.432	99% KM (Chebyshev) UCL	2070
Theta star	1736		
Nu star	26.8	Potential UCLs to Use	
AppChi2	16	95% KM (BCA) UCL	1014
95% Gamma Approximate UCL	1258		
95% Adjusted Gamma UCL	1295		
Note: DL/2 is not a recommended method.			

Selenium

General Statistics

Number of Valid Data	54	Number of Detected Data	11
Number of Distinct Detected Data	10	Number of Non-Detect Data	43
		Percent Non-Detects	79.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.41	Minimum Detected	0.344
Maximum Detected	6.59	Maximum Detected	1.886
Mean of Detected	3.148	Mean of Detected	1.055
SD of Detected	1.512	SD of Detected	0.439
Minimum Non-Detect	0.028	Minimum Non-Detect	-3.576
Maximum Non-Detect	11	Maximum Non-Detect	2.398
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	54
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.85	5% Shapiro Wilk Critical Value	0.85
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.72	Mean	-0.178
SD	1.923	SD	1.317
95% DL/2 (t) UCL	2.158	95% H-Stat (DL/2) UCL	2.59
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-0.188
		SD in Log Scale	0.696
		Mean in Original Scale	1.136
		SD in Original Scale	1.228
		95% Percentile Bootstrap UCL	1.419
		95% BCA Bootstrap UCL	1.477
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	4.134	Data appear Normal at 5% Significance Level	
Theta Star	0.761		
nu star	90.96		
A-D Test Statistic	0.43	**Nonparametric Statistics**	
5% A-D Critical Value	0.731	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.731	Mean	1.835
5% K-S Critical Value	0.256	SD	1.032

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.161
		95% KM (t) UCL	2.106
Assuming Gamma Distribution		95% KM (z) UCL	2.101
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	2.232
Minimum	1.41	95% KM (bootstrap t) UCL	2.193
Maximum	6.59	95% KM (BCA) UCL	2.637
Mean	3.139	95% KM (Percentile Bootstrap) UCL	2.551
Median	3.148	95% KM (Chebyshev) UCL	2.539
SD	0.658	97.5% KM (Chebyshev) UCL	2.843
k star	25.25	99% KM (Chebyshev) UCL	3.441
Theta star	0.124		
Nu star	2727	Potential UCLs to Use	
AppChi2	2607	95% KM (t) UCL	2.106
95% Gamma Approximate UCL	3.283	95% KM (Percentile Bootstrap) UCL	2.551
95% Adjusted Gamma UCL	3.288		
Note: DL/2 is not a recommended method.			

Silver

General Statistics

Number of Valid Data	54	Number of Detected Data	1
Number of Distinct Detected Data	1	Number of Non-Detect Data	53
		Percent Non-Detects	98.15%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

s suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BT

The data set for variable Silver was not processed!

Sodium

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	30

Raw Statistics		**Log-transformed Statistics**	
Minimum	207	Minimum of Log Data	5.333
Maximum	20400	Maximum of Log Data	9.923
Mean	4301	Mean of log Data	7.812
Median	2340	SD of log Data	1.12
SD	4685		
Coefficient of Variation	1.089		
Skewness	1.786		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.782	Shapiro Wilk Test Statistic	0.98
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	5729	95% H-UCL	7817
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9117
95% Adjusted-CLT UCL	5974	97.5% Chebyshev (MVUE) UCL	11123
95% Modified-t UCL	5774	99% Chebyshev (MVUE) UCL	15063
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.957	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4494		
MLE of Mean	4301		
MLE of Standard Deviation	4396		
nu star	59.35		
Approximate Chi Square Value (.05)	42.63	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	5685
Adjusted Chi Square Value	41.85	95% Jackknife UCL	5729
		95% Standard Bootstrap UCL	5647
Anderson-Darling Test Statistic	0.574	95% Bootstrap-t UCL	6204
Anderson-Darling 5% Critical Value	0.775	95% Hall's Bootstrap UCL	6134
Kolmogorov-Smirnov Test Statistic	0.153	95% Percentile Bootstrap UCL	5671
Kolmogorov-Smirnov 5% Critical Value	0.162	95% BCA Bootstrap UCL	5946
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	7969
		97.5% Chebyshev(Mean, Sd) UCL	9556
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12674
95% Approximate Gamma UCL	5987		
95% Adjusted Gamma UCL	6100		
Potential UCL to Use		Use 95% Approximate Gamma UCL	5987

Thallium

General Statistics

Number of Valid Data	34	Number of Detected Data	0
Number of Distinct Detected Data	0	Number of Non-Detect Data	34
		Percent Non-Detects	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Thallium was not processed!

Vanadium

General Statistics

Number of Valid Observations	31	Number of Distinct Observations	30

Raw Statistics		**Log-transformed Statistics**	
Minimum	7.39	Minimum of Log Data	2
Maximum	87.6	Maximum of Log Data	4.473
Mean	26.85	Mean of log Data	3.124
Median	28.1	SD of log Data	0.592
SD	16.6		
Coefficient of Variation	0.618		
Skewness	1.804		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.847	Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical Value	0.929	Shapiro Wilk Critical Value	0.929
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	31.91	95% H-UCL	33.65
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	40.16
95% Adjusted-CLT UCL	32.79	97.5% Chebyshev (MVUE) UCL	45.89
95% Modified-t UCL	32.07	99% Chebyshev (MVUE) UCL	57.15
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	2.881	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	9.319		
MLE of Mean	26.85		
MLE of Standard Deviation	15.82		
nu star	178.6		
Approximate Chi Square Value (.05)	148.7	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0413	95% CLT UCL	31.75
Adjusted Chi Square Value	147.2	95% Jackknife UCL	31.91
		95% Standard Bootstrap UCL	31.67
Anderson-Darling Test Statistic	0.491	95% Bootstrap-t UCL	33.38
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	35.8
Kolmogorov-Smirnov Test Statistic	0.122	95% Percentile Bootstrap UCL	32.11
Kolmogorov-Smirnov 5% Critical Value	0.159	95% BCA Bootstrap UCL	33.08
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	39.85
		97.5% Chebyshev(Mean, Sd) UCL	45.47
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	56.52
95% Approximate Gamma UCL	32.25		
95% Adjusted Gamma UCL	32.58		
Potential UCL to Use		Use 95% Approximate Gamma UCL	32.25

Zinc

General Statistics

Number of Valid Data	34	Number of Detected Data	33
Number of Distinct Detected Data	33	Number of Non-Detect Data	1
		Percent Non-Detects	2.94%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2.5	Minimum Detected	0.916
Maximum Detected	1820	Maximum Detected	7.507
Mean of Detected	149.8	Mean of Detected	3.719
SD of Detected	344.4	SD of Detected	1.6
Minimum Non-Detect	0.75	Minimum Non-Detect	-0.288
Maximum Non-Detect	0.75	Maximum Non-Detect	-0.288

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.445	Shapiro Wilk Test Statistic	0.978
5% Shapiro Wilk Critical Value	0.931	5% Shapiro Wilk Critical Value	0.931
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	145.4	Mean	3.581
SD	340.1	SD	1.77
95% DL/2 (t) UCL	244.1	95% H-Stat (DL/2) UCL	424.8
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	138.7	Mean in Log Scale	3.599
SD	341.6	SD in Log Scale	1.724
95% MLE (t) UCL	237.8	Mean in Original Scale	145.4
95% MLE (Tiku) UCL	227.5	SD in Original Scale	340.1
		95% Percentile Bootstrap UCL	249.7
		95% BCA Bootstrap UCL	316.6
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.469	Data appear Lognormal at 5% Significance Level	
Theta Star	319.5		
nu star	30.93		
A-D Test Statistic	1.436	**Nonparametric Statistics**	
5% A-D Critical Value	0.812	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.812	Mean	145.4
5% K-S Critical Value	0.162	SD	335.1
Data not Gamma Distributed at 5% Significance Level		SE of Mean	58.35
		95% KM (t) UCL	244.2
Assuming Gamma Distribution		95% KM (z) UCL	241.4

Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	244.1
Minimum	1E-09	95% KM (bootstrap t) UCL	501.2
Maximum	1820	95% KM (BCA) UCL	259.8
Mean	145.4	95% KM (Percentile Bootstrap) UCL	248.1
Median	34.45	95% KM (Chebyshev) UCL	399.8
SD	340.1	97.5% KM (Chebyshev) UCL	509.9
k star	0.331	99% KM (Chebyshev) UCL	726.1
Theta star	439.6		
Nu star	22.49	**Potential UCLs to Use**	
AppChi2	12.7	99% KM (Chebyshev) UCL	726.1
95% Gamma Approximate UCL	257.3		
95% Adjusted Gamma UCL	264.9		
Note: DL/2 is not a recommended method.			

Cyanide

General Statistics

Number of Valid Data	32	Number of Detected Data	30
Number of Distinct Detected Data	30	Number of Non-Detect Data	2
		Percent Non-Detects	6.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.47	Minimum Detected	-0.755
Maximum Detected	2850	Maximum Detected	7.955
Mean of Detected	680.5	Mean of Detected	5.273
SD of Detected	764.9	SD of Detected	2.343
Minimum Non-Detect	2.96	Minimum Non-Detect	1.085
Maximum Non-Detect	3.06	Maximum Non-Detect	1.118
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	4
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	28
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	12.50%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.831	Shapiro Wilk Test Statistic	0.859
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	638	Mean	4.969
SD	758.4	SD	2.563
95% DL/2 (t) UCL	865.4	95% H-Stat (DL/2) UCL	37939
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	577.3	Mean in Log Scale	5.017
SD	825	SD in Log Scale	2.48
95% MLE (t) UCL	824.6	Mean in Original Scale	638.2
95% MLE (Tiku) UCL	817.4	SD in Original Scale	758.3
		95% Percentile Bootstrap UCL	872.8
		95% BCA Bootstrap UCL	893.3
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.479	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1422		
nu star	28.72		
A-D Test Statistic	0.368	**Nonparametric Statistics**	
5% A-D Critical Value	0.809	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.809	Mean	638
5% K-S Critical Value	0.169	SD	746.5

Data appear Gamma Distributed at 5% Significance Level		SE of Mean	134.2
		95% KM (t) UCL	865.6
Assuming Gamma Distribution		95% KM (z) UCL	858.8
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	865.3
Minimum	1E-09	95% KM (bootstrap t) UCL	908.7
Maximum	2850	95% KM (BCA) UCL	857.9
Mean	638	95% KM (Percentile Bootstrap) UCL	859.4
Median	335.5	95% KM (Chebyshev) UCL	1223
SD	758.5	97.5% KM (Chebyshev) UCL	1476
k star	0.25	99% KM (Chebyshev) UCL	1973
Theta star	2556		
Nu star	15.97	Potential UCLs to Use	
AppChi2	7.942	95% KM (Chebyshev) UCL	1223
95% Gamma Approximate UCL	1283		
95% Adjusted Gamma UCL	1334		
Note: DL/2 is not a recommended method.			

Category A – Class B Recyclable

Puresoil

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
401 East State Street
P.O. Box 420, Mail Code 401-02C
Trenton, NJ 08625-0420
Tel (609) 984-3438 Fax (609) 777-1951/984-0565
www.nj.gov/dep/dshw/recycling

RECYCLING CENTER GENERAL APPROVAL FOR CLASS B RECYCLABLE MATERIALS FOR PETROLEUM CONTAMINATED SOIL, CONCRETE, BRICK & BLOCK

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* and N.J.S.A. 13:1E-99.11 *et seq.*, known as the Solid Waste Management Act and New Jersey Statewide Mandatory Source Separation and Recycling Act, respectively, and pursuant to N.J.A.C. 7:26A-1 *et seq.,* known as the Recycling Regulations, this approval is hereby issued to:

PURE SOIL TECHNOLOGIES, INC.

Facility Type:	Recycling Center for Class B Materials
Lot & Block Nos.:	Block 22902, Lot 7
Municipality:	Jackson Township
County:	Ocean County
Facility ID No.:	132544
Permit No.:	CBG140002

This General Approval Renewal is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection (Department.

This General Approval shall not prejudice any claim the State may have to riparian land nor does it allow the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be riparian, wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department.

July 1, 2015
Issuance Date

Guy J. Watson, Chief
Bureau of Recycling
& Hazardous Waste Management

October 3, 2019
Expiration Date

Scope of Approval

This General Approval Renewal, along with the referenced application documents herein specified, shall constitute the sole approval of Recycling Center operations for Class B Recyclable Material (petroleum contaminated soil, concrete, brick and block) storage and process center by PURE SOIL TECHNOLOGIES, INC. (Tenant) located in Jackson Township, Ocean County, New Jersey. Any registration, approval or permit previously issued by the Division of Solid and Hazardous Waste, or its predecessor agencies, for the specific activities as described below and as conditioned herein is hereby superseded.

Regulated Activities at the Facility

Items 1 to 39 of this approval contain the General Requirements applicable to all recycling centers. Items 40 to 90 of this approval contain Operating Requirements for the receipt, storage, processing, or transfer of Class B recyclable materials.

Facility Description

The recycling center is a Class B facility owned and operated by PURE SOIL TECHNOLOGIES, INC. (Formerly Walter R. Earle Corporation). The recycling center is located at Lakehurst-Whitesville Road on Block 22902, Lot 7, in Jackson Township, Ocean County. This regional recycling center receives non-hazardous petroleum contaminated soil, concrete, brick and block from remediation and demolition contractors. The recycling center is authorized to accept and process non-hazardous petroleum contaminated soil, concrete, brick and block Monday through Saturday. The recycling center is also utilized for finished product storage and equipment storage as shown on the site plan. The recycling center markets clean soil, aggregate material and reuse of non-hazardous petroleum contaminated soil not recycled in its hot mix asphalt (HMA) plant to produce various hot mix asphalt materials and soil aggregates for road construction and repaving projects. Unprocessed and processed asphalt millings (RAP) processed in the HMA plant are excluded from the Class B permit.

Approved General Approval Application and Associated Documents

The registrant shall construct and operate the facility in accordance with N.J.A.C. 7:26A-1 *et seq.*, the conditions of this Approval, and the following documents:

a) Certificate of Filing from the New Jersey Pinelands Commission, dated July 22, 2008 for Application No's 1992-0020.006, 1992-0020.009 and 1992-0020.010.

b) Submittal Request for General Approval Modification on behalf of PURE SOIL TECHNOLOGIES, INC (Formerly Walter R. Earle Corp.), prepared and signed by Gary R. Brown, P.E., RT Environmental Services, Inc., dated December 2008.

c) Lease Agreement made on 1/01/2008 between the Walter R. Earle Corporation (Owner) and PURE SOIL TECHNOLOGIES, INC (Tenant), a section of the property known as 665 South Hope Chapel Road, Jackson Township, Ocean County, New Jersey.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
401 E. State Street
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Tel: (609) 984-3438
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www.nj.gov/dep/dshw/recycling

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

February 11, 2020

Thomas J. Earle, President
Pure Soil Technologies, Inc.
P.O. Box 757
Farmingdale, NJ 07727

Re: Revised Notice of Administrative Completeness
Application for Renewal of Class B Recycling Center General Approval (with Mod.)
Pure Soil Technologies, Inc.
Block 22902; Lot 7
Jackson Township, Ocean County
FACILITY ID NO.: 132544; APPROVAL NO.: CBG190003

Dear Mr. Earle:

The Bureau of Recycling and Hazardous Waste Management is in receipt of an application electronically received on July 1, 2019 for Renewal (with Modifications) of the above referenced recycling facility's Class B Recycling Center General Approval.

The Bureau has completed a review of the application, pursuant to N.J.A.C. 7:26A-3.5(a), to determine if the submittal is administratively complete. Upon review, the Bureau has determined the application to be ADMINISTRATIVELY COMPLETE. This letter replaces the Notice of Administrative Completeness letter dated October 17, 2019 which incorrectly stated the site was a Class C instead of a Class B.

In addition, all conditions of the existing General Approval for the facility will remain effective, pursuant to N.J.S.A. 52:14B-11, until such time that the Bureau reaches a final decision with regards to the issuance of the General Approval Renewal.

If you have any questions concerning this matter, please contact Michael Trocchia by phone at (609) 984 - 6606, or by email at Michael.Trocchia@dep.nj.gov.

Sincerely,

Frank C. Piliere, P.E., Supervisor
Bureau of Recycling &
Hazardous Waste Management

Enclosure:
cc:

* Thomas Farrell, Chief, BSWC&E
  Frank Piliere, Supervisor, BR&HWM
* John Stavash, Supervisor, BSWC&E – Southern region
* Martin Sanchez, Supervisor, BHWC&E – Central region
* Michele Kropilak, BCLUC&E – Atlantic region
* Rai Belonzi, BCLUC&E – Central region
* Chris Odgers, BAC&E – Central region
* Aaron Elliot, Environmental Specialist, BSWC&E
* Daniel Murray, Environmental Engineer, BR&HWM
* Michael Trocchia, Environmental Engineer, BR&HWM
* Sean McLaughlin, Ocean County Recycling Coordinator: SMcLaughlin@co.ocean.nj.us
* Anthony Agliata, Ocean County Solid Waste Coordinator: tagliata@co.ocean.nj.us
* Daniel J. Krupinski , Ocean County CEHA Agent: dkrupinski@lbihealth.com
* Janice Kisty, Jackson Township Municipal Clerk: clerk@jacksontwpnj.net
* Charles M. Horner, P.P., Director, Pinelands Commission Regulatory Programs: Charles.horner@pinelands.state.nj.us
* George Farrand, Pure Soil Project Manager: GFarrand@puresoil.com

*Via email only

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Category A – Class B Recyclable

CEC

State of New Jersey

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Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
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P.O. Box 420, Mail Code 401-02C
Trenton, NJ 08625-0420
Tel (609) 984-3438 Fax (609) 777-1951/984-0565
www.nj.gov/dep/dshw/recycling

August 31, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

John Eshelman, Manager
Clean Earth of Carteret, LLC
24 Middlesex Avenue
Carteret, NJ 07008

Re: Renewal of Class B Recycling Center General Approval
Clean Earth of Carteret, LLC
Borough of Carteret, Middlesex County
Facility ID No: 132310
Permit No.: CBG160002

Dear Mr. Eshelman:

Please be advised that the New Jersey Department of Environmental Protection, Division of Solid and Hazardous Waste, Bureau of Recycling and Hazardous Waste Management (Bureau) has reached a final determination to renew the above Class B Recycling Center General Approval. Enclosed is a copy of the final document.

Should you wish to contest any of the conditions of the enclosed general approval, you must file a request for an adjudicatory hearing within twenty (20) days of the date you receive this decision notice in accordance with the procedures found in N.J.A.C. 7:26A-3.14. A copy of the request should also be mailed to this office.

If you have any questions concerning this matter, please contact Nick Nader at (609) 984-2067 or nicholas.nader@dep.nj.gov.

Sincerely,

Zafar Billah.

Zafar M. Billah, Acting Chief
Bureau of Recycling & Hazardous Waste Management

Enc.

C(w/enc.): *Tom Farrell, Chief, Bureau of Solid Waste Compliance and Enforcement
*Paul Smith, Supervisor, BSWC&E – Central Region
Les Jones, Middlesex County Health Officer
Christopher Sikorski, Middlesex County Solid Waste Coordinator
Kathleen M. Barney, Municipal Clerk, Borough of Carteret

*By e-mail only

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

Division of Solid & Hazardous Waste
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www.state.nj.gov/dep/dshw/recycling

RECYCLING CENTER GENERAL APPROVAL FOR CLASS B RECYCLABLE MATERIALS

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* and N.J.S.A. 13:1E-99.11 *et seq.*, known as the Solid Waste Management Act and New Jersey Statewide Mandatory Source Separation and Recycling Act, respectively, and pursuant to N.J.A.C. 7:26A-1 *et seq.*, known as the Recycling Regulations, this approval is hereby issued to:

Clean Earth of Carteret, LLC

Facility Type:	Recycling Center for Class B Materials
Lot & Block No.:	3.02/1
Municipality:	Borough of Carteret
County:	Middlesex
Facility ID No.:	132310
Permit No.:	CBG160002

This General Approval is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection (Department).

This General Approval shall not prejudice any claim the State may have to riparian land nor does it allow the registrant to fill or alter, or allow to be filled or altered, in any way, lands that are deemed to be riparian, wetlands, stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection.

August 31, 2017
Issuance Date

March 7, 2022
Expiration Date

Zafar M. Billah, Acting Chief
Bureau of Recycling & Hazardous Waste Management

Scope of Approval

This General Approval (approval), along with the referenced application documents herein specified, shall constitute the sole approval of Recycling Center operations for Class B Recyclable Material (petroleum contaminated soil, street sweepings, brick, block, concrete, stone, rock, and asphalt) by Clean Earth of Carteret, LLC, located in the Borough of Carteret, Middlesex County, New Jersey. Any registration, approval or permit previously issued by the Division of Solid and Hazardous Waste, or its predecessor agencies, for the specific activities as described below and as conditioned herein, is hereby superseded.

Regulated Activities at the Facility

Items 1 through 39 of this approval contain the general conditions applicable to all recycling centers. Items 40 through 87 of this approval contain the operating requirements specific to the recycling center for receipt, storage, processing, or transfer of Class B recyclable materials including non-hazardous petroleum contaminated soils. Items 88 through 91 of this approval are the sampling requirements for testing the street sweepings. Items 92 through 101 of this approval contain the conditions for the aggregate crushing operations.

Facility Description

The recycling center is a Class B facility owned and operated by Clean Earth of Carteret, LLC. The recycling center is located at 24 Middlesex Avenue on Block 1, Lot 3.02, in Borough of Carteret, Middlesex County. This regional recycling center receives petroleum contaminated soil from soil remediation contractors and street sweepings from municipalities. The recycling center is authorized to receive, process and transfer brick, block, concrete, stone, rock, and asphalt from construction and demolition contractors, construction companies, municipalities, and counties. Hours of operation for the receipt, treatment/processioning and transferring source separated recyclable material can occur 24 hours per day, 7 days per week. The operation of the crushers shall be limited to: 7:00 a.m. to 7:00 p.m., Monday through Friday and Saturdays from 7:00 a.m. to 4:00 p.m.

The recycling center is also utilized for finished product storage and equipment storage as shown on the site plan. The recycling center markets clean soil and dense graded aggregate from the site.

When the Approval was last renewed on October 27, 2014 by the Division of Solid and Hazardous Waste, some of the authorized equipment, described in Requirement #94, were inadvertently omitted. Requirement #94 has been revised to include an actual list of authorized equipment.

Approved General Approval Application and Associated Documents

The registrant shall construct and operate the facility in accordance with N.J.A.C. 7:26A-1 *et seq.*, the conditions of this Approval, and the following documents:

a) Site plan entitled "As-Built Site Map Clean Earth of Carteret, Carteret, Middlesex County, NJ", prepared by Bradley J. Cunningham, P.E. of Compliance Plus Services, Inc., dated May 9, 2014 and last revised May 2, 2017.

b) Clean Earth of Carteret, Submittal of signed transfer agreement, prepared and signed by Michael D. Logan, Vice President, Compliance Plus Services, dated May 22, 2003.

c) Plan SB-01 entitled "Unprocessed PHC Soil Storage Building Layout, Clean Earth of Carteret, LLC, Carteret, Middlesex County, New Jersey", prepared by Bradley J. Cunningham, P.E., of Compliance Plus Services, Inc., dated May 2, 2014.

d) Clean Earth of Carteret, Inc., Request to utilize cement kiln dust or lime as a drying agent to remove moisture from its treated soils, prepared and signed by Michael D. Logan, Vice President, Compliance Plus Services, dated December 27, 2006.

e) Notification of Proposed Stock Purchase of Clean Earth Holdings, Inc. dated August 20, 2014 and prepared by Michael D. Logan, Vice President of Compliance Plus Services, Inc.

f) Class B Recycling Center General Permit Renewal and Modification Application for the Acceptance of Restricted Use Aggregate ("RUA") and Direct Reuse Soils ("DRS SOILS"), dated March 5, 2012, prepared by Michael D. Logan, Vice President of Compliance Plus Services, Inc.

g) Class B Recycling Center General Approval Renewal Application, dated June 10, 2014, and prepared by Michael D. Logan, Vice President of Compliance Plus Services, Inc. This Renewal of the Application does not include any modification approval requested to the proposed acceptance and processing of Direct Reuse of Soils (DRS) and Restricted Reuse Aggregate (RUA) referenced in the Compliance Plus Services, Inc. letter dated March 5, 2012.

h) Class B Recycling Center Renewal Application of General Approval dated November 21, 2016 and signed by Michael D. Logan, Vice President – Environmental Services, Compliance Plus Services, Inc. and including the following:

   1. Ground Lease Agreement dated November 1, 2010;
   2. List of Permitted Equipment; and
   3. Certification dated November 21, 2016, signed by Christopher Dods, President – Clean Earth of Carteret and certifying that there have been no changes in the operations of the recycling since the most recent Approval modification.

i) Supplemental information dated February 17, 2017 and signed by Michael D. Logan, Compliance Plus Services.

In case of conflict, the provisions of N.J.A.C. 7:26A-1 *et seq.* shall have precedence over the conditions of this Approval, and the conditions of this Approval shall have precedence over plans and specifications listed above.

Subject Item: PI 132310 -

1. All persons issued a general approval to operate a recycling center for Class B, Class C and/or Class D recyclable material pursuant to N.J.A.C. 7:26A-1 et seq. shall comply with all conditions of the approval [N.J.A.C. 7:26A-3.1(a)]
2. The holder of this general approval shall prominently post and maintain a legible sign, at or near the entrance to the recycling center, indicating that the recycling center is an approved New Jersey Department of Environmental Protection recycling center. The sign shall also indicate the following: Hours of operation of the recycling center; Listing of the source separated materials to be received; The size, weight, or other restrictions regarding materials to be received; The maximum amount of contaminants allowed in each load; Warning that loads will be inspected and will be barred from offloading if the contaminant level is exceeded; and Notice that the person offloading shall certify the amount of material per load, municipality of origin of the material and any other information contained on the Recyclable Material Receipt Form [N.J.A.C. 7:26A-3.5(f)]
3. Application for renewal of this general approval shall be submitted at least three months prior to expiration of the current approval and shall comply with all requirements for renewal set forth in N.J.A.C. 7:26A-3.6 et seq. One copy of the application for renewal of the general approval shall be submitted by the applicant to the municipal clerk of the municipality in which the recycling center is located, and to the solid waste or recycling coordinator of the county in which the recycling center is located [N.J.A.C. 7:26A-3.6(a)]
4. The applicant for renewal of this general approval shall certify in writing to the Department that there have been no changes in the operations of the recycling center since the issuance of the general approval in order to renew the approval in its existing form. In the event that there have been changes in the operations of the recycling center or where changes are planned, the application for renewal of a general approval shall be accompanied by a written request to modify the general approval in accordance with N.J.A.C. 7:26A-3.10 [N.J.A.C. 7:26A-3.6(b)]
5. In a case where the holder of this general approval does not comply with N.J.A.C. 7:26A-3.6(a) and (b) and continues to operate without renewal of the general approval, the Department may take enforcement action including the assessment of penalties under N.J.S.A. 13:1E-9; require the holder of this general approval to file an application as a new applicant for a general approval in accordance with N.J.A.C. 7:26A-3.2 and pay the application fee as per N.J.A.C. 7:26A-2; and/or take any other appropriate actions [N.J.A.C. 7:26A-3.6(c)]
6. All persons granted a renewal pursuant to N.J.A.C. 7:26A-3.6(d) shall continue to pay the annual fee as specified in N.J.A.C. 7:26A-2 [N.J.A.C. 7:26A-3.6(h)]
7. The holder of this general approval shall obtain prior approval from the Department for any modification of the general approval [N.J.A.C. 7:26A-3.10(a)]
8. Any change affecting the conditions of this general approval requires the prior approval of the Department [N.J.A.C. 7:26A-3.10(b)1]
9. Any change to the information submitted pursuant to N.J.A.C. 7:26A-3.2(a), 3.4, 3.8, 3.18, 3.19 or 3.20 requires the prior approval of the Department, except that changes in end-market information submitted pursuant to N.J.A.C. 7:26A-3.2(a) 7 shall not require the prior approval of the Department but shall be handled in accordance with N.J.A.C. 7:26A-3.10(f). [N.J.A.C. 7:26A- 3.10(b)2]

Subject Item: PI 132310 -

10. The holder of this general approval shall notify the Department in writing of the intended modification and shall update the information submitted pursuant to N.J.A.C. 7:26A-3.2(a), 3.4, 3.8, 3.18, 3.19 or 3.20. The holder of this general approval shall also provide written notice to the solid waste or recycling coordinator of the applicable county of any request to modify a general approval. [N.J.A.C. 7:26A-3.10(c)]
11. The holder of this general approval shall not institute the modification until it receives written approval from the Department [N.J.A.C. 7:26A-3.10(e)]
12. Within one week of any change to the end-market information submitted to the Department pursuant to N.J.A.C. 7:26A-3.2(a)7, the holder of this general approval shall submit to the Department a written notification which details any change in the use of the recyclable material transferred from the recycling center to an end-market or in the end-market location to which the recyclable material is transferred. The written notification shall be sent to: New Jersey Department of Environmental Protection, Division of Solid and Hazardous Waste, Bureau of Recycling & Hazardous Waste Management, 401 East State Street, P.O. Box 420, Mail Code 401-02C, Trenton, New Jersey 08625-0420. [N.J.A.C. 7:26A- 3.10(f)]
13. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any provision of N.J.S.A. 13:1E-1 et seq., the New Jersey Statewide Mandatory Source Separation and Recycling Act, or any rule, regulation or administrative order promulgated pursuant to N.J.S.A. 13:1E-1 et seq. and the New Jersey Statewide Mandatory Source Separation and Recycling Act [N.J.A.C. 7:26A-3.13(a)1]
14. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any solid waste utility law at N.J.S.A. 48:2-1 et seq. or 48:13A-1 et seq., or any rule, regulation or administrative order promulgated pursuant to N.J.S.A. 48:2-1 et seq. or 48:13A-1 et seq [N.J.A.C. 7:26A-3.13(a)2]
15. The Department may revoke this general approval upon a determination that the holder of the general approval has violated any provision of any laws related to pollution of the waters, air or land surfaces of the State or of any other State or Federal environmental laws including criminal laws related to environmental protection [N.J.A.C. 7:26A-3.13(a)3]
16. The Department may revoke this general approval upon a determination that the holder of the general approval has refused or failed to comply with any lawful order of the Department [N.J.A.C. 7:26A-3.13(a)4]
17. The Department may revoke this general approval upon a determination that the holder of the general approval has failed to comply with any of the conditions of this general approval issued by the Department [N.J.A.C. 7:26A-3.13(a)5]
18. The Department may revoke this general approval upon a determination that the holder of the general approval has transferred a general approval to a new owner or operator pursuant to N.J.A.C. 7:26A-3.15 without the prior approval of the Department [N.J.A.C. 7:26A-3.13(a)6]
19. The Department may revoke this general approval upon a determination that the holder of the general approval has failed to obtain any required permit or approval from the Department or other State or Federal agency [N.J.A.C. 7:26A-3.13(a)7]

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20. The Department may revoke this general approval upon a determination that the holder of the general approval has committed any of the acts which are criteria for denial of a general approval set forth in N.J.A.C. 7:26A-3.12. [N.J.A.C. 7:26A-3.13(a)8]

21. This general approval shall not be transferred to a new owner or operator without the Department's prior approval [N.J.A.C. 7:26A-3.15(a)]

22. A written request for permission to allow a transfer of this general approval must be received by the Department at least 60 days in advance of the proposed transfer of ownership or operational control of the recycling center. The request for approval shall include the following: the name, address and social security number of all prospective new owners or operators; a written certification by the proposed transferee that the terms and conditions contained in the general approval will be met by the proposed transferee; and a written agreement between the current owner or operator of the recycling center and the proposed new owner or operator containing a specific future date for transfer of ownership or operational control [N.J.A.C. 7:26A-3.15(a)1]

23. A new owner or operator may commence operations at the recycling center only after the existing approval has been revoked and a new approval is issued to the new owner or operator pursuant to N.J.A.C. 7:26A-3.5 [N.J.A.C. 7:26A-3.15(a)2]

24. The holder of this general approval remains liable for ensuring compliance with all conditions of the approval unless and until the existing approval is revoked and a new approval is issued to the new owner or operator pursuant to N.J.A.C. 7:26A-3.5 [N.J.A.C. 7:26A-3.15(a)3]

25. Compliance with the transfer requirements set forth at N.J.A.C. 7:26A-3.15 shall not relieve the holder of this general approval from the separate responsibility of providing notice of such transfer pursuant to the requirements of any other statutory or regulatory provision [N.J.A.C. 7:26A-3.15(a)4]

26. The transfer of a controlling interest in the stock or assets of the recycling center that is the subject of this general approval shall constitute a transfer of this general approval [N.J.A.C. 7:26A-3.15(b)]

27. The holder of this general approval shall maintain a daily record of the amounts of each recyclable material by type and municipality of origin which are received, stored, processed or transferred each day, expressed in tons, cubic yards, cubic feet or gallons. Those operators specifying this information in cubic yards shall also indicate the conversion ratio of the materials from cubic yards to tons [N.J.A.C. 7:26A-3.17(a)1]

28. The holder of this general approval shall maintain a daily record of the name, address and telephone number of the end-markets for all recyclable materials transported from the recycling center, including the amounts, in tons, cubic yards, cubic feet or gallons, transported to each end-market. Those persons specifying this information in cubic yards shall also indicate the conversion ratio of the materials from cubic yards to tons [N.J.A.C. 7:26A-3.17(a)2]

29. The holder of this general approval shall maintain a daily record of the amount of residue disposed of, expressed in tons, cubic yards, cubic feet or gallons, including the name and New Jersey Department of Environmental Protection solid waste registration number of the solid waste collector/hauler contracted to provide the haulage/disposal service. Those persons specifying the amount of residue in cubic yards shall also indicate the conversion ratio of the residue from cubic yards to tons. [N.J.A.C. 7:26A-3.17(a)3]

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30. The holder of this general approval shall retain all Recyclable Material Receipt Forms required pursuant to N.J.A.C. 7:26A-3.2(a)16iii for three calendar years following the calendar year for which an annual report is required pursuant to N.J.A.C. 7:26A-3.17(c) [N.J.A.C. 7:26A-3.17(b)]

31. The holder of this general approval shall submit an annual report containing monthly summary statements of the information required pursuant to N.J.A.C. 7:26A-3.17(a) to the New Jersey Department of Environmental Protection, Division of Solid and Hazardous Waste, on or before March 1 of each year, for the previous calendar year. The summaries shall include the following: monthly totals of the amount of recyclable material received from each customer by municipality of origin; monthly totals of the amount of recyclable product transferred to each end-market; and the amount of residue disposed of during each month. [N.J.A.C. 7:26A- 3.17(c)]

32. The holder of this general approval shall certify in writing to the Department that all residue generated at the recycling center has been disposed of in accordance with the solid waste management rules at N.J.A.C. 7:26. The certification shall be submitted annually as part of the annual report [N.J.A.C. 7:26A-3.17(e)]

33. All information submitted to the Department pursuant N.J.A.C. 7:26A shall be handled in accordance with the requirements of the Public Records law, N.J.S.A. 47:1-1 et seq. The Department will hold confidential all end-market information, as well as information pertaining to the municipality of origin of recyclable material, submitted pursuant to N.J.A.C 7:26A-3.2, 3.7, and 3.17 through 3.20 for a period of two years from the date on which the information is submitted to the Department, where specified as confidential by the applicant and where there are no health, safety or environmental concerns which require the release of the information, as determined by the Department. [N.J.A.C. 7:26A-3.17(f)]

34. The holder of this general approval shall provide a recycling tonnage report by March 1 of each year to all municipalities from which recyclable material is received in the previous calendar year. The report shall detail the amount of each source separated recyclable material, expressed in tons or cubic yards, brought to the recycling center, as well as the date on which the recyclable materials were delivered to the recycling center. Those persons specifying this information in cubic yards shall also indicate the conversion ratio of the materials from cubic yards to tons. [N.J.A.C. 7:26A-4.4(a)]

35. The recycling center shall not commence operations unless and until it is included in the applicable district solid waste management plan [N.J.A.C. 7:26A-4.2]

36. The construction of the recycling center that is the subject of this general approval shall be in conformance with the New Jersey Uniform Construction Code, N.J.S.A. 52:27D-119 et seq., and the rules promulgated pursuant thereto [N.J.A.C. 7:26A-4.1(b)]

37. The New Jersey Department of Environmental Protection or an authorized representative acting pursuant to the County Environmental Health Act, N.J.S.A. 26:3A2-1 et seq. shall have the right to enter and inspect any building or other portion of the recycling center at any time in order to determine compliance with the provisions of all applicable laws or rules and regulations adopted pursuant thereto. This right to inspect includes, but is not limited to: sampling any materials on site; photographing any portion of the recycling center; investigating an actual or suspected source of pollution of the environment; and, ascertaining compliance or non-compliance with the statutes, rules or regulations of the Department, including conditions of the recycling center approval issued by the Department. [N.J.A.C. 7:26-1.7(a)]

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38. The right of entry specified at N.J.A.C. 7:26A-1.7(a) shall be limited to normal operating hours for the purpose of reviewing and copying all applicable records, which shall be made available to the Department during an inspection and submitted to the Department upon request. [N.J.A.C. 7:26-1.7(b)]

39. The facility shall comply with the general operating requirements for all Recycling Centers as provided at N.J.A.C. 7:26A-4.1 [N.J.A.C. 7:26A-4]

Subject Item: RCBG139162 - General Class B & Soil Conditions

40. Recycling centers receiving petroleum contaminated soil must have a preparedness and prevention plan. The contingency plan contained in the approved documents must be maintained on-site and updated as necessary. [N.J.A.C. 7:26A- 3.5(e)]

41. Upon detection of a release of contaminants to the environment, the facility shall perform the following cleanup steps: stop the release, contain the released contaminants, clean up and manage properly the released contaminants and other materials and if necessary, repair or replace any leaking soil containment systems prior to returning them to service. [N.J.A.C. 7:26A-3.5(e)]

42. Upon closure of the facility the owner or operator shall remove or decontaminate petroleum contaminated soils, containment system components, and structures and equipment and manage them as hazardous waste, unless the materials are not hazardous waste under N.J.A.C. 7:26G-5. [N.J.A.C. 7:26A- 3.5(e)]

43. All equipment and portions of the facility designated for the storage or processing of petroleum contaminated soils shall be visually inspected each operating day for integrity and leaks. [N.J.A.C. 7:26A-3.5(e)]

44. Records shall be maintained for all visual inspections. These records shall document that inspections were performed, any problems found, and the subsequent correction of such problems. All records shall be kept for a minimum of three years. [N.J.A.C. 7:26A-3.5(e)]

Subject Item: RCBG139162 - General Class B & Soil Conditions

45. The facility shall keep a record of each shipment of petroleum contaminated soil accepted for processing. These records may take the form of a log, invoice, manifest, bill of lading or other shipping documents. All tracking records shall be maintained by the holder of this general approval as required by N.J.A.C. 7:26A-3.2(a) 16iii for three calendar years.

    Records for each shipment shall include the following information: the name and address of the transporter who delivered the soil to the facility, the name and address of the generator from whom the soil was sent, the NJDEP registration number of the transporter, EPA ID number (if applicable) of the generator, the quantity of soil accepted and the date of acceptance.

    Prior to the receipt of a shipment of soil from a generation source, the holder of this approval shall have received a completed Clean Earth of Carteret Material Characterization Report, as referenced in the approved General Approval Application, and associated documents for that shipment. The report shall include at least the following information: name and address of the generation site, contact information, quantity of soil, type of oil contaminating the soil, contamination source (i.e. underground storage tank, above ground storage tank, spill, histroic or other), past use of generation site (i.e. industrial, commercial, residential or historic fill), analytical results conducted on the soil and a certification that the information provided is true and accurate. The holder of this approval shall review the information provided to ensure the shipment complies with the facility's acceptance criteria for soil prior to authorizing acceptance of a shipment. [N.J.A.C. 7:26A- 3.5(e)]

46. The facility shall maintain on-site a written operating record showing analysis records, tracking records, and summary reports of incidents requiring implementation of the contingency plan. This information shall be made available to Department personnel upon request and shall be kept for a minimum of three years. [N.J.A.C. 7:26A-3.5(e)]

47. The following source separated Class B recyclable materials, which have been separated at the point of generation from other waste materials or separated at a permitted solid waste facility authorized to separate recyclable materials, may be received, stored, processed or transferred at this recycling center: NJDOT street sweepings (that meet NJ Non-Residential Direct Contact Soil Remediation Standards) and non-hazardous petroleum contaminated soils which otherwise would be ID 27 if not recycled. Only soil contaminated with the following compounds shall be accepted and processed at this facility: gasoline, kerosene, jet fuel, Numbers 1 through 6 fuel oil, and used oil. Used oil shall be defined as any oil that has been and as a result of such use, is contaminated by physical or chemical impurities. No soils may be accepted that have been contaminated with materials that are other waste materials, or waste by-products, such as sludges. No soils with free petroleum product or other liquids shall be accepted at the facility. For soils containing greater than 17,000 ppm EPH, the soil shall be determined not to contain free liquids by USEPA SW-846, Method 9095. No hazardous waste, as defined by N.J.A.C. 7:26G-5, shall be accepted by the facility. [N.J.A.C. 7:26A- 3.5(e)]

48. At no time shall the receipt, storage, processing, or transferring of non-source separated construction and demolition material be allowed at this recycling center. The prohibition of this material shall be strictly enforced and any incident shall be considered a serious violation to the conditions of this Approval. [N.J.A.C. 7:26A-3.5(e)]

Subject Item: RCBG139162 - General Class B & Soil Conditions

49. The recycling center may not receive, store, process, or transfer source separated petroleum contaminated soils and NJDOT street sweepings with any other Class B recyclable materials. The commingling of petroleum contaminated soil and NJDOT street sweepings shall only be allowed after the testing requirements identified in this approval have been met. The commingling of any other materials not described above is prohibited. [N.J.A.C. 7:26A-3.5(e)]

50. The maximum amount of contaminants, as defined in N.J.A.C. 7:26A-1.3, allowed in each incoming load of Class B recyclable material shall be limited to 1% by volume. Incidental by-product materials shall not be considered to be contaminants. [N.J.A.C. 7:26A-3.5(e)]

51. Incidental amounts of rebar, metal, soil, and other by-products which adhere to the Class B recyclable materials, as specified in this Approval, and which are returned to the economic mainstream as raw material or products, may be received, stored, processed, or transferred at this recycling center. The receipt of such incidental amounts of these materials need not be separately accounted for, but the storage and end-markets for these materials shall be subject to specific conditions of this Approval. [N.J.A.C. 7:26A-3.5(e)]

52. The holder of this general approval shall operate the recycling center and construct or install associated appurtenances thereto, in accordance with the provisions of N.J.A.C. 7:26A-1 et seq., the conditions of this general approval, and the general approval application documents. [N.J.A.C. 7:26A-3.5(e)]

53. In case of conflict, the provisions of N.J.A.C. 7:26A-1 et seq. shall have precedence over the conditions of this Approval, and the conditions of this Approval shall have precedence over plans and specifications listed above. [N.J.A.C. 7:26A- 3.5(e)]

54. One complete set of the general approval application documents, this general approval, and all records, reports and plans as may be required pursuant to this approval shall be kept on file at the recycling center and shall be available for inspection by authorized representatives of the Department or delegated agents upon presentation of credentials. [N.J.A.C. 7:26A-3.5(e)]

55. Hours of operation for the receipt, treatment/processing and transferring source separated petroleum contaminated soils and NJDOT street sweepings material can occur 24 hours per day, 7 days per week. [N.J.A.C. 7:26A- 3.5(e)]

56. Material deliveries to the recycling center shall be scheduled in such a manner as to minimize truck queuing on the recycling center property. Under no circumstances shall delivery trucks be allowed to back-up or queue onto public roads. [N.J.A.C. 7:26A-3.5(e)]

57. The recycling center may receive no more than 2,700 tons per day of petroleum contaminated soils and street sweepings. This condition is contingent upon the traffic on the public roads adjacent to the facility not being adversely affected. Should the traffic be impacted by the facility, the Department reserves the right to reduce the capacity of the facility. [N.J.A.C. 7:26A- 3.5(e)]

58. The total amount of unprocessed soil material stored in the "soil storage warehouse" shall not exceed 18,287 cubic yards. Materials stored in the "soil storage warehouse" shall be stored only in those areas designated for that purpose as indicated on the approved interior layout drawing. In addition "Area B" on the approved site plan may be used to temporarily store 15,000 cy of unprocessed soils until further processing in the "soil storage warehouse". The unprocessed soils in "Area B" will be segregated on an asphalt base with Jersey barriers and tarped during storage. [N.J.A.C. 7:26A-3.5(e)]

Subject Item: RCBG139162 - General Class B & Soil Conditions

59. If at any time, the amount of soil material stored inside the building exceeds 18,287 cubic yards and the temporary storage "Area B" exceeds 15,000 cubic yards, the recycling center shall immediately cease receiving any unprocessed soil material until the amount of unprocessed soil material combined fall below 33,287 cubic yards. [N.J.A.C. 7:26A- 3.5(e)]

60. Unprocessed recyclable material shall not remain on-site, in its unprocessed form, for more than one (1) year. [N.J.A.C. 7:26A-3.9(b)]

61. The total amount of processed soil materials stored outside shall not exceed 31,674 cubic yards. Processed material shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawings. [N.J.A.C. 7:26A-3.5(e)]

62. If at any time, the amount of processed soil material stored on-site exceeds 31,674 cubic yards, the recycling center shall immediately cease processing activities until the amount of processed material falls below 31,674 cubic yards. [N.J.A.C. 7:26A-3.5(e)]

63. All processed material shall be stored separately from residues. [N.J.A.C. 7:26A-3.5(e)]

64. By-products shall be stored in the container(s) or area(s) as depicted on the approved site plan and shall be removed off-site to the end markets as referenced in the approved documents. [N.J.A.C. 7:26A-3.5(e)]

65. Horizontal and vertical control points for the unprocessed and processed materials soil stockpile areas shall be set and maintained on-site. Horizontal limitation markers shall be set at the corners of the stockpile areas as depicted on the approved site plan. Vertical limitation markers shall be set at locations in close proximity of the stockpile areas and shall clearly establish elevation height of 18 feet above the existing grade for the stockpile areas located inside the building and 20 feet above the existing grade for the processed stockpile areas located outside. [N.J.A.C. 7:26A- 3.5(e)]

66. Metal pipe or metal rods or the equivalent as approved by the Department shall be used to establish these control points. [N.J.A.C. 7:26A-3.5(e)]

67. Ingress and egress of the facility shall be restricted to Middlesex Avenue only. [N.J.A.C. 7:26A-3.5(e)]

68. Methods of effectively controlling dust shall be implemented at the facility in order to prevent offsite migration. [N.J.A.C. 7:26A-3.5(e)]

69. Fire fighting and emergency procedures shall be posted, and shall include the telephone numbers of local fire, police, ambulance, and hospital facilities. If a fire occurs on-site, the facility shall immediately notify the local fire official and the N.J.D.E.P. Environmental Action Hotline at 1-877-927-6337. [N.J.A.C. 7:26A-3.5(e)]

70. Any suspected or prohibited hazardous waste, as defined at N.J.A.C. 7:26G-5, found in a load accepted at the recycling center shall not be returned to the generator. Such materials shall be segregated and stored in a secure manner and shall be immediately reported to the N.J.D.E.P. Environmental Action Hotline at 1-877-927-6337. The owner/operator of the recycling center shall secure the name of the collector/hauler suspected of delivering such waste to the facility and related information surrounding the incident, if available, and shall make this information known to the Department's enforcement personnel. Such material may be returned to a known generator, provided that specific permission to do so is received by the owner/operator after contacting 1-877-927-6337. Otherwise, the owner/operator shall dispose of the unauthorized waste in accordance with instructions received from the Department. [N.J.A.C. 7:26A- 3.5(e)]

Subject Item: RCBG139162 - General Class B & Soil Conditions

71. All revisions to the site plan and the approved documents which may be required as a result of the above, shall be submitted to this office for modification to this Approval. [N.J.A.C. 7:26A-3.5(e)]

72. Pursuant to N.J.A.C. 7:26A-3.11(a), the holder of this general approval shall obtain prior approval from the Department for any increase in the design capacity of the facility. The facility shall submit a request to the Department, in writing, for the proposed increase and shall submit updated information pursuant to the requirements of N.J.A.C. 7:26A-3.2(a), 3.4, or 3.8, as applicable. The facility shall also provide written notice of the request to the solid waste or recycling coordinator of the applicable district. [N.J.A.C. 7:26A-3.5(e)]

73. The sampling plan, collection, preservation, and handling for the sampling and analysis of unprocessed contaminated soil as required in this Approval must be performed in accordance with the New Jersey Technical Requirements for Site Remediation at N.J.A.C. 7:26E and the latest edition of the New Jersey Department of Environmental Protection, Field Sampling Procedures Manual. All analysis must be performed by a New Jersey certified laboratory. [N.J.A.C. 7:26A- 3.5(e)]

74. Petroleum contaminated soils shall be sampled either at the point of generation or at the recycling center. Soils from different generation sites shall be segregated at the facility until the sampling results are received. The sampling and analysis shall be implemented as follows: [N.J.A.C. 7:26A-3.5(e)]

75. All soils must be tested using the most current approved test methodology in accordance with USEPA SW-846. [N.J.A.C. 7:26A-3.5(e)]

76. Every 100 cubic yards of contaminated soil from each site shall be sampled and analyzed for EPH in the following manner: a representative sample from every 20 cubic yards of contaminated soil shall be taken and these five samples shall be composited into one sample and analyzed. When the volume of soil is less than 100 cubic yards, a representative sample of every 20 cubic yards, or a fraction thereof, shall be taken and these samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A- 3.5(e)]

77. Every 800 cubic yards of contaminated soil shall be sampled and analyzed for total volatile organic compounds (VOC), in the following manner: a representative sample from every 100 cubic yards of contaminated soil shall be taken and these samples shall be composited into one sample and analyzed. When the volume of soil is less than 800 cubic yards, a representative sample of every 100 cubic yards, or fraction thereof, shall be taken and these samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A-3.5(e)]

78. The sampling results shall be used to determine the maximum contaminant feed rate or maximum contaminant concentration for the processing equipment in accordance with the Air Quality Permit and shall also demonstrate that the material is non-hazardous for the above contaminants in accordance with N.J.A.C. 7:26G-8.5. The processing equipment at the facility uses bioremediation to process petroleum contaminated soils and achieve acceptable contaminent levels for reuse. [N.J.A.C. 7:26A- 3.5(e)]

Subject Item: RCBG139162 - General Class B & Soil Conditions

79. Processed material end products, for uses other than as landfill cover material, Department approved Brownfields projects or road construction projects, shall be sampled and analyzed for extractable petroleum hydrocarbons (EPH), total volatile organic compounds (VOC), and all contaminants listed in the New Jersey Soil Remediation Standards (SRS). The sampling procedure shall be implemented as follows: Every 100 cubic yards of processed soil shall be sampled and analyzed for the above contaminants in the following manner: a representative sample from every 20 cubic yards of processed soil shall be taken and these five samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A- 3.5(e)]

80. Processed material end products to be used in road construction projects shall be sampled every 1,000 cubic yards for EPH and VOC in the following manner: a representative sample from every 100 cubic yards of processed soil shall be taken and the samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A- 3.5(e)]

81. Other levels of testing may be allowed on a case-by-case basis as determined by use criteria in accordance with Department guidance and regulations. Applications for case-specific testing requirements must be made to the Bureau of Recycling & Hazardous Waste Management. [N.J.A.C. 7:26A- 3.5(e)]

82. Only approved criteria shall be used to determine the allowable end use of the processed material and the maximum allowable contamination levels for use. [N.J.A.C. 7:26A-3.5(e)]

83. The maximum allowable contamination levels for unrestricted general use are 200 ppm EPH and all individual organic contaminants less than or equal to 50% and inorganic contaminants less than or equal to 75% of the most stringent Direct Contact Soil Remediation Standards (SRS). [N.J.A.C. 7:26A- 3.5(e)]

84. The analytical requirements of the individual landfills shall be complied with for soils being used as landfill cover material. For soils being used as fill material in Brownfields projects, the requirements (including sampling frequency and analytical parameters) shall be approved by the individual Site Remediation Program case manager on a case-by-case basis. [N.J.A.C. 7:26A- 3.5(e)]

85. Other levels of contamination may be allowed on a case-by-case basis as determined by use criteria and levels of contamination in accordance with Department guidance and regulations. Certificates of Authority to operate beneficial use projects pursuant to N.J.A.C. 7:26-1.7(g) must be obtained before any use of the processed material end products. [N.J.A.C. 7:26A-3.5(e)]

86. Any processed material end products that do not meet the above criteria must be reintroduced to the treatment process for further treatment. After treatment, the processed material end products must be reanalyzed in accordance with the above criteria. [N.J.A.C. 7:26A-3.5(e)]

87. All analysis records must be kept for a minimum of three years and made available for inspection by state and local officials upon request. [N.J.A.C. 7:26A-3.5(e)]

Subject Item: RCBG139339 - Street Sweepings Sampling

88. Every 800 cubic yards of street sweepings shall be sampled and analyzed for total volatile organic compounds (VOC), in the following manner: a representative sample from every 100 cubic yards shall be taken and these samples shall be composited into one sample and analyzed. When the volume is less than 800 cubic yards, a representative sample of every 100 cubic yards, or fraction thereof, shall be taken and these samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A-3]

89. The sampling results shall be used to determine the maximum contaminant feed rate or maximum contaminant concentration for the processing equipment in accordance with the Air Quality Permit and shall also demonstrate that the material is non-hazardous for the above contaminants in accordance with N.J.A.C. 7:26G-5. [N.J.A.C. 7:26A-3]

90. Unprocessed street sweepings shall be sampled either at the point of generation or at the recycling center. Street sweepings from different generation sites shall be segregated at the facility until the sampling results are received. [N.J.A.C. 7:26A- 3]

91. Every 100 cubic yards of street sweepings from each site shall be sampled and analyzed for EPH in the following manner: a representative sample from every 20 cubic yards shall be taken and these five samples shall be composited into one sample and analyzed. When the volume is less than 100 cubic yards, a representative sample of every 20 cubic yards, or a fraction thereof, shall be taken and these samples shall be composited into one sample and analyzed. [N.J.A.C. 7:26A- 3]

Subject Item: RCBG882032 - Final Phase Crushing Operations

92. The recycling center may receive no more than 2000 tons per day of source-separated asphalt, concrete, brick, block, rock, and stone. [N.J.A.C. 7:26A-3.5(e)]

93. Hours of operation for the receipt, processing and transferring source separated recyclable material can occur 24 hours per day, 7 days per week; the operation of the crusher shall be limited to: 7:00 a.m. to 7:00 p.m., Monday through Friday and Saturdays from 7:00 a.m. to 4:00 p.m. [N.J.A.C. 7:26A- 3.5(e)]

94. The following equipment or equivalent shall be available for site operations and shall be maintained in operable condition:

Extec C-12+ Crusher
Extec Impact Crusher
Fintec 542 Screener
Sandvik QE440 Screener
Extec Robotrac Screener (2 units)
Extec S6000 Screener. [N.J.A.C. 7:26A- 3.5(e)]

95. The total amount of unprocessed asphalt, concrete, brick, block, rock, and stone stored on-site shall not exceed 36,580 cubic yards (8,800 cy in Area A & 27,780 cy in Area B). These unprocessed materials stored on-site shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawing. [N.J.A.C. 7:26A- 3.5(e)]

Subject Item: RCBG882032 - Final Phase Crushing Operations

96. If at any time, the amount of unprocessed asphalt, concrete, brick, block, rock, and stone stored on-site exceeds 36,580 cubic yards (8,800 cy in Area A & 27,780 cy in Area B), the recycling center shall immediately cease receiving any unprocessed material until the amount of these unprocessed materials stored on-site falls below 36,580 cubic yards (8,800 cy in Area A & 27,780 cy in Area B). [N.J.A.C. 7:26A- 3.5(e)]

97. The total amount of processed asphalt, concrete, brick, block, rock, and stone stored on-site shall not exceed 74,812 cubic yards (30,901 cy in Area C & 43,911 cy in Area D). These processed materials stored on-site shall be stored only in those areas designated for that purpose as indicated on the approved site plan drawing. [N.J.A.C. 7:26A- 3.5(e)]

98. If at any time, the amount of processed asphalt, concrete, brick, block, rock, and stone stored on-site exceeds 74,812 cubic yards (30,901 cy in Area C & 43,911 cy in Area D), the recycling center shall immediately cease processing activities until the amount of these processed materials falls below 74,812 cubic yards. [N.J.A.C. 7:26A- 3.5(e)]

99. Horizontal and vertical control points for the unprocessed and processed materials stockpile areas shall be set and maintained on-site. Horizontal limitation markers shall be set at the corners of the stockpile areas as depicted on the approved site plan. Vertical limitation markers shall be set at locations in close proximity of the stockpile areas and shall clearly establish elevation height of 20 feet above the existing grade for the unprocessed stockpile area and 30 feet above the existing grade for the processed stockpile area. [N.J.A.C. 7:26A- 3.5(e)]

100. Metal pipe or metal rods or the equivalent as approved by the Department shall be used to establish these control points. [N.J.A.C. 7:26A- 3.5(e)]

101. Requisite recycling center operations shall not be delayed or neglected for lack of required equipment or for equipment down time. [N.J.A.C. 7:26A- 3.3(5)e3]

Category B – Regulated Landfill

WM Fairless

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

March 30, 2016

Mr. Brian P. Bolvin, P.E.
Waste Management of Fairless, LLC
1000 New Ford Mill Road
Morrisville, PA 19067

Re: Fairless Landfill
Falls Township
Bucks County
Application No. 101699
APS No. 688905, AUTH No. 785826

Dear Mr. Bolvin:

The Department of Environmental Protection (DEP) has reviewed your application for the Fairless Landfill, a new municipal waste landfill, to be constructed on a brownfield site at the Keystone Industrial Port Complex (KIPC) – the former U.S. Steel Fairless Works, located in Falls Township, Bucks County. The Fairless Landfill consists of 330.5 acres of permit area, of which 197 acres will be for waste disposal with an estimated disposal capacity of 47,300,000 bank cubic yards. DEP has determined that you have satisfied all applicable requirements necessary to perform these activities. Therefore, we have issued the enclosed permit in accordance with Article V of the Solid Waste Management Act, 35 P.S. Sections 6018.101 et seq.

Compliance with the terms and conditions set forth in the permit is mandatory. You have the right to file an appeal as to these terms and conditions.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions about the enclosed permit or requirements of the Solid Waste Management Act, please contact Dr. Mohamad Mazid, Chief, Technical Services, at 484.250.5768.

Thank you for your cooperation.

Sincerely,

James Wentzel, P.E.
Regional Manager
Waste Management

Enclosure: Fairless Landfill Permit

cc w/enc: Mr. Gray - Falls Township
Ms. Kostick - Bucks County Health Department
Mr. Adams - Golder Associates, Inc.
Re 30 (eh16wm)070

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Permit
For
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FORM NO. 8

Permit No. 101699
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Date Expired March 30, 2026

Under the provisions of the Pennsylvania Solid Waste Management Act of July 7, 1980, Act 97, a permit for a solid waste disposal and/or processing facility at (municipality) Falls Township in the County of Bucks is granted to

(applicant) Waste Management of Fairless, LLC

(address) 1000 New Ford Mill Road

Morrisville, PA 19067

This permit is applicable to the facility named as Fairless Landfill and described as:

Latitude - 40°, 09', 11"

Longitude - 74°, 45', 33"

This permit is subject to modification, amendment, and supplement by the Department of Environmental Protection (DEP) and is further subject to revocation or suspension by DEP for any violation of the applicable laws or the rules and regulations adopted thereunder, for failure to comply in whole or in part with the conditions of this permit and the provisions set forth in the application No. 101699 which is made a part hereof, or for causing any condition inimical to the public health, safety, or welfare.

See Attachment for waste limitations and/or special conditions.

FOR THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION

THIS PERMIT IS NON - TRANSFERABLE

COMMONWEALTH OF PENNSYLVANIA
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AUTHORIZATION

1. This solid waste management permit is issued based upon Phase I/Phase II application No. 101699 (APS No. 688905, AUTH No. 785826) that was received in the Southeast Regional Office of the Pennsylvania Department of Environmental Protection (DEP). The initial Phase I submission was received on March 23, 2009, and the initial Phase II submission was received on February 5, 2014. This permit is for the Fairless Landfill, a new municipal waste landfill, to be constructed on a brownfield site at the Keystone Industrial Port Complex (KIPC) – the former U.S. Steel Fairless Works, located in Falls Township, Bucks County. Any and all approvals granted under this permit are limited to Fairless Landfill, unless otherwise noted.

   The Fairless Landfill is a new municipal waste landfill, consisting of 330.5 acres of permit area of which 197 acres is waste disposal area. The landfill consists of 14 cells, with a total disposal capacity of 47,300,000 bank cubic yards (bcy). Based on a permitted average daily volume (ADV) of 18,333 tons per day and 306 operating days per year, the landfill will have an operational life ranging from 6.9 to 8.6 years. The construction of the landfill is divided into five Phases. Phase 1 consists of cells 1 to 6 construction without a Mechanically Stabilized Earth (MSE) Wall. Phases 2 through 5 consist of the construction of cells 7 through 14 with a MSE Wall and the expansion of the MSE wall to cells 1 to 6. The maximum height of the landfill will be at elevation 294.00 feet above sea level.

   The approved application consists of the following documents (unless otherwise noted, received and revised refer to the dates documents were received by DEP and not necessarily the dates of the documents themselves):

   Phase I

   General Information Form (GIF) received on December 22, 2008, and revised on May 17, 2011
   Form A received on December 22, 2008, revised on May 19, 2014, and September 1, 2015
   Form B received on December 22, 2008, revised on May 17, 2011, and May 7, 2012
   Form B1 received December 22, 2008, revised on May 17, 2011, and May 7, 2012
   Form HW-C received on December 22, 2008, and revised on May 17, 2011
   Form D received on December 22, 2008, and revised on May 17, 2011
   Form E received on December 22, 2008, revised on May 17, 2011, May 19, 2014 and September 1, 2015
   Form F received on December 22, 2008, and revised on May 17, 2011
   Form 1 received on December 22, 2008, and revised on May 17, 2011

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Form 2 received on December 22, 2008, revised on May 17, 2011 and May 7, 2012
Form 6 received on December 22, 2008
Form 7 received on December 22, 2008, revised on May 17, 2011, May 7, 2012, and October 1, 2012
Form 8 received on December 22, 2008, and revised on May 17, 2011
Form 11 received on December 22, 2008
Form 12 received on December 22, 2008
Figure D.B-1 to Figure D.B-3, and Figure J.D-1 received on December 22, 2008, and Figure D.B-2 and Figure J.D-1 revised on May 17, 2011, Figure D.B-2 revised on May 7, 2012, and Figure D.B-1 and D.B-2 revised on May 19, 2014
Figure 1.B-1 to Figure 1.B-2 received on December 22, 2008, revised on May 17, 2011, and May 19, 2014
Figure 2.B-1 to Figure 2.B-4 received on December 22, 2008, revised on May 17, 2011, and May 7, 2012, Figure 2.B-4 revised on May 19, 2014
Figure 6.B-1 to Figure 6.B-11 received on December 22, 2008
Figure 7.B-1 to Figure 6.B-13 received on December 22, 2008, and Figure 7.B-10 and Figure 7.B-12 revised on May 17, 2011, Figure 7.B-12 and Figure 7.B-13 revised on May 7, 2012
Figure 11.B-1 received on December 22, 2008
Figure 12.B-1 received on December 22, 2008, and revised on May 19, 2014
Figure E-1 and E-2 received on September 1, 2015

The Phase I application includes the May 17, 2011, May 7, 2012, October 1, 2012, and May 22, 2014, responses to DEP's comments sent on December 23, 2010 (via e-mail), February 13, 2012, June 22, 2012 (via e-mail), and November 28, 2012, respectively.

Phase II

General Information Form (GIF) received on February 5, 2014
Form B received on February 5, 2014
Form B1 received on February 5, 2014
Form G (A) received on February 5, 2014
Form G (B) received on February 5, 2014
Form H received on February 5, 2014
Form I received on February 5, 2014, and revised on March 12, 2015
From J received on February 5, 2014, revised on June 22, 2015, September 1, 2015, and February 17, 2016

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Form K received on February 5, 2014
Form L received on February 5, 2014
Form Q (Form Q1 to Q5) received on February 5, 2014, revised on March 12, 2015, and September 1, 2015
Form R received on February 5, 2014, revised on March 12, 2015, September 1, 2015, February 17, 2016, and February 25, 2016
Form X received on February 5, 2014, and revised on March 12, 2015
Form 3 received on February 5, 2014
Form 14 received on February 5, 2014, revised on March 12, 2015, June 22, 2015, September 1, 2015, and February 17, 2016
Form 18 received on February 5, 2014, and revised on March 12, 2015
Form 24 received on February 5, 2014, revised on March 12, 2015, June 22, 2015, and September 1, 2015
Form 25 received on February 5, 2014, revised on March 12, 2015, and September 1, 2015
Form 28 received on February 5, 2014
Bonding worksheets received on February 5, 2014, revised on March 12, 2015, and September 1, 2015
Form 45 received on February 5, 2014, and revised on March 12, 2015
Form 46 received on February 5, 2014
Drawing Numbers 86086B-00 to 86086B-49 received February 5, 2014
Drawing Numbers 86086B-22, 23, 24, 25, 26 and 46 revised on June 22, 2015
Figure 14-1 to 14-7 received on February 5, 2014, and Figures 14-1, 14-2, and 14-3 revised on September 1, 2015
Table 14-1, Airspace and Life Expectancy Estimate, received on February 5, 2014
Figure I-1 and I-2 received on February 5, 2014
Figure 18-1 and 18-2 received on February 5, 2014
Figure X-1 received on February 5, 2014, revised on March 12, 2015, and February 25, 2016
Final Drawings 86086B-00 to 86086B-49 and 86086B-10A, 14A, 14B, and 14C. Drawing 86086B-15 is deleted from the application. Total of 53 drawings received on September 1, 2015
Drawing 86086B-01, Rev. dated August 27, 2015, indicating the property area and permitted area.

The Phase II application includes the March 11, 2015, and September 1, 2015, responses to DEP's comments sent on January 27, 2015 (via e-mail), and comments discussed in meetings on June 24, 2015, and July 22, 2015. Also included are the March 11, 2015, September 1, 2015, February 17,

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2016, and February 25, 2016, responses received on DEP's Form R comments sent on January 27, 2015, June 15, 2015, February 2, 2016, and February 23, 2016.

The contents of all the above listed documents are hereby incorporated in the permit as conditions with which the permittee must comply. Where the terms or conditions of this permit differ from the documents incorporated by reference, the terms or conditions of this permit shall govern.

2. Nothing in this permit shall be construed to supersede, amend, or authorize violation of, the provisions of any valid and applicable local law, ordinance, or regulation, provided that said local law, ordinance, or regulation is not preempted by the Pennsylvania Solid Waste Management Act, the Act of July 7, 1980, Act 97, 35 P.S. 6018.101 et seq. and Act 101, the Municipal Waste Planning, Recycling, and Waste Reduction Act.

3. As a condition of this permit, and of the permittee's authority to conduct the activities authorized by this permit, the permittee hereby authorizes and consents to allow authorized employees or agents of DEP, without advanced notice or a search warrant, upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas on which solid waste management activities are being or will be conducted. The authorization and consent shall include consent to collect samples of waste, water or gases, to take photographs, to perform measurements, surveys and other tests, to inspect any monitoring equipment, to inspect the methods of operation, and to inspect and/or copy documents, books, or papers required by DEP to be maintained. This permit condition is referenced in accordance with Section 608 and 610(7) of the Solid Waste Management Act, 35 P.S. Sections 6018.608 and 6018.610(7). This condition in no way limits any other powers granted under the Solid Waste Management Act.

4. Form 37, Certification of Facility Construction Activity, is to be submitted to the Regional Solid Waste Manager in DEP's Southeast Regional Office for review after each cell of the landfill is constructed, including the subbase preparation (includes MSE wall construction and structural fill placement to establish grades in advance of construction of the subbase itself), preparation of the witness zone, installation of the primary liner, installation of the leachate collection pipes, and the preparation of the protective layer for the primary liner prior to the start of landfilling operations. Waste disposal operations may not commence in a cell until DEP has accepted, in writing, the certification report(s) for all of that cell's components. All certification reports shall identity and explain deviations from the design approved in this permit.

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5. Form 37, Certification of Facility Construction Activity, including as-built reports for all construction and closure activities related to the landfill, is to be submitted to the Regional Solid Waste Manager in DEP's Southeast Regional Office for review after the construction of the following major construction activities as these activities are completed in part or in total, including the installation of the groundwater monitoring systems, landfill liner systems, leachate management systems, landfill final cover, landfill gas management systems, major access roads, stormwater management structures, and closure and final closure activities. All certification reports shall identity and explain deviations from the design approved in this permit. Systems and structures that are the subject of the certification submittal shall not be utilized until DEP has accepted, in writing, the certification submittal.

OPERATIONS AND REPORTING

6. A daily operational record is to be maintained in accordance with Section 273.311 of the Municipal Waste Rules and Regulations.

7. A quarterly operations report is to be submitted on or before the 20th day of April, July, October, and January for the three-month period ending the last day of March, June, September, and December in accordance with Section 273.312 of the Municipal Waste Rules and Regulations.

8. An Annual Operations Report is to be submitted to DEP's Southeast Regional Office on or before June 30 of each year in accordance with the format indicated in Chapter 273.312 of the Municipal Waste Rules and Regulations. The annual report submitted to DEP is to be accompanied by the annual permit administrative fee.

9. An annual topographic survey is to be conducted and is to be submitted to the Southeast Regional Office concerning the elevation and total volume of area that has been filled. This is due as part of the Annual Operations Report due on June 30 of each year.

10. After both the GROWS North and the Tullytown Resource Recovery Facility Landfills have permanently ceased waste acceptance, no more than 20,000 tons of solid waste may be received at the Fairless Landfill for disposal on any single operating day. This figure represents the maximum daily volume (MDV) of the facility, set pursuant to Section 1112 of the Municipal Waste Planning, Recycling, and Waste Reduction Act, 53 P.S. Section 1112 (Act 101 of 1988) and the regulation of DEP. The permittee is advised that this section also provides that a mandatory civil penalty of $100 per ton applies

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to any excess volume received for disposal at this facility for any reason. When the Fairless Landfill, the GROWS North Landfill, and/or the Tullytown Resource Recovery Facility Landfill, or any combination thereof, accept waste on a given day, the 20,000 tons per day MDV shall be shared amongst the operating landfills and the MDV of each individual landfill, when totaled together for that day, shall not exceed 20,000 tons in total for that day.

11. After both the GROWS North and the Tullytown Resource Recovery Facility Landfills have permanently ceased waste acceptance, no more than an average of 18,333 tons of solid waste may be received at the Fairless Landfill for disposal per operating day during the standard calendar year quarter. This figure represents the ADV of the facility, set pursuant to Section 1112 of the Municipal Waste Planning, Recycling, and Waste Reduction Act, 53 P.S. Section 1112 (Act 101 of 1988) and the regulation of DEP. The permittee is advised that this section also provides that a mandatory civil penalty of $100 per ton applies to any excess volume received for disposal at this facility for any reason. When the Fairless Landfill, the GROWS North Landfill, and/or the Tullytown Resource Recovery Facility Landfill, or any combination thereof, accept waste during a calendar quarter, the 18,333 tons per day ADV shall be shared amongst the operating landfills for that quarter and the ADV of each individual landfill, when totaled together for that quarter, shall not exceed 18,333 tons in total for that quarter.

12. After both the GROWS North and the Tullytown Resource Recovery Facility Landfills have permanently ceased waste acceptance, compliance with Condition 11, above, shall be calculated by taking the total tons of solid waste received for disposal at the Fairless Landfill during a standard calendar year quarter, divided by the number of days during the quarter that the facility was permitted to operate, including partial days. In the event Condition 11 is modified, compliance during the quarter, when the permit condition is modified, shall be calculated by dividing the total tons of solid waste received during the partial quarter by the number of permitted operating days within that partial quarter. When the Fairless Landfill, the GROWS North Landfill, and/or the Tullytown Resource Recovery Facility Landfill, or any combination thereof, accept waste during a calendar quarter, compliance with Condition 11, above, shall be calculated by taking the total tons of solid waste received for disposal at each of the landfills that accepted waste during the standard calendar year quarter, divided by the largest number of days during the quarter that any of the facilities were permitted to operate, including partial days.

13. The Fairless Landfill is permitted to accept waste for disposal Monday through Saturday from 2 a.m. to 8 p.m. (scale gate hours). Operations other than waste acceptance, construction operations in particular, shall be conducted and/or scheduled to minimize nuisances to the greatest extent possible.

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Operations may be extended due to extreme weather conditions in accordance with the following procedure. Prior to extending operations, justification for such an extension must be mailed or faxed to the Waste Management Program Manager or his designee. Written concurrence that the extension is justifiable needs to be received by the permittee from the manager or his designee before extended operations may be implemented. All other requests to extend operating hours must be requested in advance of need and be approved, in writing, in advance by DEP. Records documenting the compliance with the above-approved hours shall be provided in the facility's daily, quarterly, and annual reports.

14. Except to the extent this permit provides otherwise, the permittee shall conduct solid waste management activities as described in the approved application. The permittee shall file an application for a permit modification with DEP and shall receive approval from DEP prior to receiving any waste volumes in excess of the maximum or average daily volume stated in the permit.

15A. This facility may not operate to receive waste unless the operator has established at least one drop-off center for the collection or sale of at least three recyclable materials chosen from the following: clear glass, colored glass, aluminum, steel and bimetallic cans, high-grade office paper, newsprint, corrugated paper, and plastics. The drop-off center must be located at the facility or at a location that is easily accessible to substantial numbers of persons generating municipal waste that is processed or disposed of at the facility. The drop-off center shall be operated in compliance with Section 1502(b) of the Municipal Waste Planning, Recycling, and Waste Reduction Act, 53 P.S. Section 4000.1502(b).

15B. The drop-off center shall be located at the facility or in a place that is easily accessible to persons generating municipal waste that is processed or disposed at the facility.

15C. The drop-off center shall contain bins or containers where recyclable materials may be placed and temporarily stored. If the operation of the drop-off center requires attendants, the center shall be open at least eight hours per week, including four hours during evenings or weekends.

15D. Once every six months, the operator shall provide public notice of the availability of the drop-off center. The operator shall place an advertisement in a newspaper circulating in the municipality or provide notice in another manner approved by DEP in writing.

15E. On or before February 15 of each year, the operator shall inform the host municipality, in writing, of the weight and type of materials that were recycled in the previous calendar year, so that the host

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municipality may comply with the requirements of Section 304(f) of the Municipal Waste Planning, Recycling, and Waste Reduction Act.

16. The permittee shall not act in a manner contrary to any Municipal Waste Management Plan approval by DEP pursuant to the Municipal Waste Planning, Recycling, and Waste Reduction Act, nor shall the permittee fail to act in a manner that is consistent with any Municipal Waste Plan approved by DEP pursuant to that Act.

17. The permittee shall not violate, or cause or assist in the violation of any provision of the Municipal Waste Planning, Recycling, and Waste Reduction Act, 53 P.S. Sections 4000.101 et seq., or the terms or conditions of any Municipal Waste Management Plan approved by DEP under that Act.

18. The permittee shall not allow solid waste generated outside the host county of the permitted facility to be received, disposed, or otherwise managed at the facility if the transportation to, or management at, the facility would violate applicable laws in affect in the county or state in which the waste was generated, or state or local solid waste management plan in effect where the waste was generated.

19. This facility may not accept for disposal, or for processing, truckloads composed primarily of leaf waste.

20. No lead acid batteries shall be placed into mixed waste or be disposed of at this facility.

21. Form 19, Quarterly and Annual Groundwater Analysis Form, must be submitted in duplicate for the quarterly and annual testing of monitoring well numbers: GFD-1S, GFD-2S, GFD-3S, GFD-4S, GFD-5S, GFU-6S, GFU-7S, GFU-8S, GFD-9S, GFD-10S,GFD-11S, GFD-12S, GFD-13S, GFU-6D, GFD-1DR, and GFD-4D. The sampling is to be performed on a quarterly basis for analysis, and the analytical data for all parameters shall be submitted to DEP within 60 days of the date the last well is sampled for each quarterly sampling event, which end on March 31, June 30, September 30, and December 31, respectively. Monitoring well data is to be submitted to the Lower Bucks Joint Municipal Water Authority and Aqua PA at the same time the data is submitted to DEP. Two quarters of overlapping sampling events shall be conducted with respect to all monitoring well replacements at the site. After achievement of two quarters of sampling, an evaluation report shall be submitted to DEP for review and approval to abandon the wells being replaced. A revised Form 18 and Form 37 Certification shall be submitted to DEP after completion of the work.

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The quarterly monitoring program shall include testing of stormwater runoff samples from the major drainage areas. One sample shall be collected from the main swale leading to each of the sedimentation basins and tested for inorganic leachate indicator parameters. These include: Total Alkalinity, Ammonia-Nitrogen, Chemical Oxygen Demand, Chloride, pH, Potassium, Specific Conductivity, Sodium, Sulfate, and Total Organic Carbon. The analytical results should be reported on Form 19 and be submitted to DEP at the same time as the quarterly groundwater results.

The annual monitoring program shall include the collection of surface water samples from the outfalls of each sedimentation basins or, if no discharge is occurring, from the impounded water in basin. Surface water sampling shall be scheduled as necessary to acquire an appropriate sample from each basin's outfall or impounded water. Failure to collect a sample because the basin(s) is (are) dry at the time that annual groundwater sampling is being conducted during the calendar quarter shall be considered a violation of this condition unless the permittee can demonstrate that the basins were dry throughout the entire calendar quarter. In addition to the parameters listed on Form 19, each groundwater and surface water monitoring point shall be sampled for Tritium as part of the annual water quality analyses, as a minimum.

22. A report on the sampling of the influent leachate for all parameters on Form 19 shall be presented in tabular form and on a graph, and shall be submitted to DEP quarterly and annually with the monitoring well data.

23. The witness zone between the primary and secondary liner must be monitored on a weekly basis to determine the rate of flow, if any. These results must be submitted to the Southeast Regional Office.

24. All mixed loads of residual waste and municipal waste are to be managed as municipal waste in accordance with 25 Pa. Code 299.201(b).

25. Removal or reuse of daily cover from a cell is prohibited.

26. The capping of the landfill must follow the "Cap as you Go" practice. The construction sequence of the landfill must be followed closely, to ensure this practice and to minimize open areas waiting to be capped. No settlement accommodation plan (SAP) is approved for the landfill and disposal or capping operations above final permitted elevations, whether temporary or otherwise, are not authorized under this permit.

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27. The construction of the landfill shall follow the construction sequence described in Form 14, Table 14-3, which is incorporated into this permit pursuant to Condition No. 1, above.

28. Sediment Basins 1 and 2 and any temporary basins must be constructed and operational prior to the commencement of disposal in their respective phase of the Fairless Landfill construction schedule, which is incorporated into this permit by reference pursuant to Condition No. 1 above.

29. Borrow Pit 20 (BP-20) shall be clean closed during waste disposal operations in cells 7/8 and prior to construction of cells 9/10. See Note No. 7 in Drawing 86086B-10, above.

30. Any substitution of an equivalent material, which is not specifically approved by DEP in the permit application for the landfill construction or closure activities, shall be provided to DEP for approval prior to its use.

31. Progress reports, including work performed, deviations from approved design and future work for construction, filling, and capping activities, shall be submitted to DEP at no less a frequency than bi-weekly (i.e., every two weeks).

32. This permit does not authorize the discharge of air emissions unless the Bureau of Air Quality has approved the discharge of these emissions.

33. Failure to obtain other necessary permits may result in the suspension or revocation of this waste management permit.

34. The permittee shall submit a permit modification application, no later than one year from the date of issuance of this permit, for changes necessary to permanently cease the recirculation of brine (Reverse Osmosis concentrate from the Landfill Treatment Plant, both prior to or subsequent to evaporation and crystallization) including, but not limited to, establishment of a permanent off-site transportation strategy to authorized wastewater treatment plants or solidification of the brine such that it may be disposed as a solid (nonliquid) waste. Upon DEP approval of the modification application, recirculation of brine shall cease in accordance with the schedule contained in the DEP approval. Until prohibited in accordance with the aforementioned schedule, no more than 20,000 gallons per day of brine may be recirculated at Fairless Landfill, provided that brine is sprayed on the landfill waste disposal area at least 75 feet from the outside slope of the landfill. The recirculation of raw leachate is not authorized as part of this permit.

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35. Leachate seep occurrences and repairs shall be reported in writing to DEP at no less a frequency than bi-weekly (i.e., every two weeks) and recorded in the facility's daily operational record.

36. Fairless Landfill shall utilize site-specific meteorological data as part of its approved nuisance minimization and control plan. The weather station shall collect time, temperature, wind speed, wind direction, and humidity readings and shall provide this information in real time via publicly available internet access as well as via recorded data maintained by the landfill operator. This weather station may be repositioned as needed based on operational conditions but shall provide weather data representative of conditions at the Fairless Landfill. A third-party vendor shall perform instrument audits and calibration for the weather station at six-month intervals. The permittee shall submit the vendor's report to DEP for review. The weather station located at the permittee's offices on New Ford Mill Road and currently used by both the GROWS North and Tullytown Resource Recovery Facility Landfills may be utilized if it can be shown, through the aforementioned audit and calibration requirements, that the weather station is functional, accurate, and representative of conditions at the Fairless Landfill.

37. The utilization of a scale house, laboratory, public convenience center, and radiation staging area (Scale Facility Complex) is authorized to be utilized jointly between the GROWS North Landfill, the Tullytown Resource Recovery Facility Landfill, and the Fairless Landfill subject to the following conditions:

    a. Pursuant to this permit, the Scale Facility Complex is hereby incorporated in the permit area of the Fairless Landfill and shall be the responsibility and liability of Waste Management of Fairless, LLC to operate and maintain in accordance with this permit and the applicable rules and regulations of DEP. The Scale Facility Complex may be open from 2 a.m. to 8 p.m. and only utilized at those hours by Fairless Landfill and GROWS North Landfill. Operating hours of the Scale Facility Complex for vehicles utilizing the Tullytown Resource Recovery Facility Landfill shall be governed by the more restrictive operating hours contained in the Tullytown Resource Recovery Facility Landfill permit. Use of the scale shall at all times comply with all applicable requirements of the Solid Waste Management Act, the Municipal Waste Regulations, and the applicable terms and conditions of the permits of the authorized facilities utilizing the Scale Facility Complex.

    b. The use of the Scale Facility Complex shall not modify any other permitted operational activities at Fairless Landfill.

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c. The use of the Scale Facility Complex by Tullytown Resource Recovery Facility, GROWS North, and Fairless Landfills shall be managed to prevent traffic congestion at the intersections or the approach routes leading to the respective landfill facilities.

d. The special waste laboratory shall serve Tullytown Resource Recovery Facility, GROWS North, and Fairless Landfills. However, the operational procedures and waste acceptance/screening plan requirements contained in each facility's permit shall govern the required operations for each respective facility.

e. The Scale Facility Complex is incorporated by this permit into the Fairless Landfill permit area and Waste Management of Fairless, LLC, as the permittee, shall be responsible for ensuring that the Scale Facility Complex is routinely cleaned and maintained using sweepers and laborers.

f. If the Scale Facility Complex opens before 6 a.m. pursuant to either the GROWS North or the Fairless Landfill permit, all vehicles shall be directed to the appropriate landfill, unless restricted by manifest to Tullytown Resource Recovery Facility Landfill. Those vehicles restricted to Tullytown Resource Recovery Facility Landfill shall be directed to wait along the private entrance road located on Waste Management property (the scale house access roadway) until such time that they may be processed through the scale facility in compliance with the permitted hours of operation of Tullytown Resource Recovery Facility Landfill.

g. When waste from Fairless Landfill, GROWS North Landfill, or Tullytown Resource Recovery Facility Landfill is directed through the Scale Facility Complex, individual site access control shall be managed and electronically verified by a card reader system. All recordkeeping shall be maintained separately for each facility. The form of the recordkeeping shall not be changed without written approval from DEP.

38. Operation of the Public Convenience Center (PCC) at the Scale Facility Complex is further subject to the following conditions:

a. The PCC shall consist of a designated area that allows the public to drop-off their household MSW and C&D waste into roll-offs, which will then be hauled to the working face of the appropriate operating landfill, thereby eliminating residential vehicular traffic from the working face with associated safety improvements.

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b. The use of this PCC by the GROWS North Landfill, the Tullytown Resource Recovery Facility Landfill, and the Fairless Landfill shall not cause traffic congestion at the intersections or the approach routes leading to either facility.

c. The use of this PCC by the GROWS North Landfill, the Tullytown Resource Recovery Facility Landfill, and the Fairless Landfill shall not cause nuisance, odor, or dust.

d. Roll-off containers that are staged at the PCC shall be watertight so that no leachate leakage occurs and shall be covered when not in use. Roll-off containers that contain waste shall be removed and emptied daily.

e. This PCC shall serve the GROWS North Landfill, the Tullytown Resource Recovery Facility Landfill, and the Fairless Landfill. However, the operational procedures and waste acceptance/screening plan requirements contained in each facility's permit shall govern the required waste acceptance/screening criteria for the PCC.

f. This PCC facility is located at the shared Scale Facility Complex. The operator of the landfill whose permit area is designated as containing the Scale Facility Complex shall be responsible for ensuring that the PCC is routinely cleaned and maintained using sweepers and laborers as specified the associated operation plan.

g. Operation hours for the PCC shall be between the hours of 5 a.m. to 6 p.m., Monday through Saturday, irrespective of the operation hours for the Scale Facility Complex. The PCC shall be closed on Sunday.

39. Revisions or controls authorized under this permit, or future modifications must also be consistent with the applicable requirements of the Federal Clean Air Act or the Pennsylvania Air Pollution Control Act and any permit(s) issued thereunder.

40. The Nuisance Minimization and Control Plan, incorporated into this permit by reference pursuant to Condition No. 1, above, includes the following operational techniques designed to minimize and control odors and shall be implemented as part of routine operations except as further modified by this permit:

a. Accelerated installation of gas collection wells and infrastructure, including the use of horizontal gas collection trenches as interim control measures in the platform of the tipping areas.

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b. Use of a temporary cap to cover open areas, where waste disposal is not expected to occur for some time, in order to minimize leachate generation and odors. When used, the temporary cap shall be placed over intermediate soil cover. Removal of the temporary cap shall be minimized to the greatest extent practicable in order to minimize the exposed area of previously disposed waste.

c. Use of odor control and odor neutralization chemicals via direct application to the working face, fixed misting lines, and portable sprayers. Both misting and vapor systems may be utilized, with the vapor systems used during cold weather months when the regular misting systems may freeze. MSDS sheets on the odor control chemicals used shall be provided to DEP when new odor control products are utilized.

d. Daily cover, whether soil, ADCM, or a mixture thereof, shall not be removed or reused.

e. Tonal back-up alarms on landfill equipment shall be replaced with white noise back-up alarms meeting OSHA requirements to mitigate noise nuisances related to landfill operations if needed to address noise complaints.

41. The Quality Assurance and Guidance Document for the Installation of Lining Systems (QAGD) as an attachment to Form 24 for use for quality assurance procedures during the construction of geosynthetic lining systems at the facility is incorporated by reference. The QAGD is a technical reference and DEP may rely on it as a reference in the course of permit application and construction certification reviews. DEP reserves the right to question specifics on the site or case-specific quality assurance plans during the course of its review.

42. Inclinometers shall be installed to monitor deformation of the mechanically stabilized earthen (MSE) berm. The inclinometers shall be located in the MSE berm at a spacing of no less than one per disposal cell. The permittee shall provide DEP with the proposed installation location of each inclinometer and shall obtain DEP concurrence of each location prior to installation. While the inclinometer(s) cannot be installed until after the pertinent portion of the MSE berm has been constructed, waste disposal operations in the proximate cell may not commence until the inclinometer(s) has(have) been installed and made operational.

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43. Sediment elevations in the sedimentation basins shall be surveyed on an annual (calendar year) basis and the basins clean out as needed to restore the basins to required design capacity. The results of the annual sediment survey(s) shall be submitted as part of the Annual Operation Report submittal that is due on or before June 30 of each year.

WASTE ACCEPTANCE AND CLASSIFICATION PLAN

44. a. The approved waste acceptance and classification plan allows Fairless Landfill to accept the following categories of residual waste requiring chemical analysis, residual wastes with chemical analysis waived, and municipal waste requiring special handling:

Residual Waste Requiring Chemical Analysis (Including the Residual Waste Code):

000 - Combustion Residues

001 - Coal-Derived Bottom Ash
002 - Coal-Derived Fly Ash
003 - Flue Gas Desulfurization Residue (FGD)
004 - Incinerator Bottom Ash
005 - Incinerator Fly Ash
006 - Incinerator Mixed Ash
007 - Other Ash

100 - Metallurgical Process Residues

101 - Foundry Sand
102 - Slag
103 - Refractory Material
104 - Grindings, Shavings
105 - Ferrous Baghouse Dust
106 - Nonferrous Baghouse Dust
107 - Ferrous Scrap, including Auto Recycle
108 - Nonferrous Scrap
109 - Sandblast Abrasive and Residue

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110 - Air Emission Control Dust
111 - Lubricating Soaps
112 - Mill Scales, Heat Treat Scales
113 - Dross, Skims

200 - Sludges, Scales

201 - Water Treatment Plant Sludge/Sediment
203 - Industrial Wastewater Treatment Sludge/Sediment including Acid Mine Drainage Sludge
204 - Metallurgical Sludge
205 - Food Processing Sludge
206 - Paint, Coating Sludge, and Scale
207 - Tank Bottoms
208 - Still Bottoms
209 - Oily Sludge, Petroleum Derived
210 - Air Emission Control Sludge (excluding FGD Sludge and Gypsum)
211 - Other Industrial Sludge
212 - Lime/Cement Kiln Scale, Residue
213 - Lime-Stabilized Spent Pickle Liquor
214 - Cooling Tower Sediment/Sludge
215 - Flue Gas Desulfurization (FGD) Sludge (including FGD Gypsum)
216 - Filter Socks from Erosion and Sedimentation Controls

300 - Chemical Wastes - (Wastewaters Containing Chemicals, Cleaning Agents, Detergents, etc. are reported as 420)

301 - Acidic Chemicals (pH <6)
302 - Basic Chemicals (pH >8)
303 - Combustible Chemicals, Nonhazardous
304 - Chemical Salts
305 - Spent Activated Carbon
306 - Surface Coatings (e.g., Solid, Semi-Solid Paints, Polishes, Adhesives, and Inks)
307 - Filter Media/Aids (e.g., Diatomaceous Earth, Ion Exchanging Resins, and Silica Gels)

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308 - Spent Dyes
310 - Detergents, Cleaning Agents
311 - Off-Specifications Products, Intermediates
312 - Pharmaceutical, Biological (Mfg. and Lab Wastes)
313 - Wax, Paraffin
314 - Alcohols (Nonhazardous)
315 - Solvents (Nonaqueous, Nonhazardous)
316 - Solvents (Aqueous, Nonhazardous)
317 - Glycols/Antifreeze, Machine Coolants
318 - Photographic Chemicals (Nonhazardous)
320 - Spent Plating Baths (Nonhazardous)
399 - Other Chemical Wastes

400 - Generic Wastes

401 - Leather Wastes
402 - Rubber, Elastomer Wastes
403 - Wood Wastes (Scrap Lumber, Pallets, Particle Board)
404 - Paper, Laminated Paper, Cardboard Wastes
405 - Textile Wastes (Yarn, Fabric, Fiber, Elastic)
406 - Glass Wastes (Cullet)
407 - Polyethylene, Polystyrene, Polyurethane, Other Nonhalogenated Plastics
408 - Glass Reinforced Plastics
409 - PVC, Teflon, CPE, Other Halogenated Plastics
410 - Electronic Component Wastes (Off-Spec Semi-Conductors, Circuit Boards)
411 - Agricultural Wastes (Fertilizers, Pesticides, Feed, Feed Supplements)
412 - Photographic Wastes (Film and Photographic Paper)
413 - Asphalt (Bituminous), Asphalt Shingles
414 - Ceramic Wastes
415 - Linoleum Wastes
416 - Thermal Insulation Waste (Cellulose, Glass, Wool)
417 - Wiring, Conduit, Electrical Insulation
418 - Sawdust, Wood Shavings/Turnings
419 - Empty Containers (Metallic, Nonmetallic Drums, Pails)
424 - Treated Wood, Railroad Ties

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430 - Food Waste (Excluding Wastewater Treatment Sludge)
440 - Resins
450 - Polymers (Other Than 407, 409)
460 - Vinyl (Sheet, Upholstery)
470 - Spent Filters (Air/Gas)
471 - Spent Filters (Aqueous)
472 - Spent Filters (Nonhazardous Fuel, Oil, Solvent)
473 - Paint Filters, Other Cloth/Paper Filters, Supersacs
474 - Grease
480 - Refractory (Furnace, Boiler other than 103)
481 - Carbon/Graphite Residue/Scrap
482 - Baghouse Dust (Other than 105, 106)
483 - Blasting Abrasive/Residue (Other than 109)
484 - Gypsum Plaster Molds, Drywall
499 - Other Generic Waste

500 - Special Handling Residual Wastes

501 - Asbestos-Containing Waste (Friable Asbestos Containing Waste, Insulation, Brake Lining, etc.)
502 - PCB Containing Waste (as defined in 25 Pa. Code 287.1)
503 - Oil-Contaminated Waste (Absorbents, Rags)
504 - Paints (Liquid)
505 - Spent Catalysts
506 - Contaminated Soil/Debris/Spill Residue and Near-Surface Horizontal Directional Drill (HDD) Cuttings (Nonpetroleum) (Dredge Material, Water Intake Debris and Sediment, Coal Mill Rejects)
507 - Waste Petroleum Material Contaminated Soil/Debris
508 - Virgin Petroleum Fuel-Contaminated Soil and Debris
509 - Waste Oil that is not Hazardous Waste Oil (automotive, machining, cutting, etc.)
510 - Waste Tires

700 - Industrial Equipment, Maintenance Waste/Scrap

701 - Pumping, Piping, Vessels, Instruments, Storage Tanks

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702 - Scrap from Maintenance and Product Turnaround
703 - Batteries (Nonhazardous)
704 - Grinding Wheels, Sanding Disks, Polishing Belts, Welding Rods, Broken Tools
710 - Plant Trash
799 - Other Maintenance Waste

800 - Noncoal Mining, Oil and Gas, and Other Well Drilling Wastes

801 - Nonoil and Gas Well Drilling Waste - includes residuals, and drill cuttings from monitoring well and drinking water well construction. For this facility, does not include drilling fluids.

900 - Miscellaneous

901 - Auto Shredder Fluff
902 - Nonhazardous Residue from Treatment of Hazardous Waste (Other than 203)
999 - Other

Residual Wastes with Chemical Analysis Waived

The categories of residual wastes that qualify for the waiving of chemical analysis by DEP are limited to those listed below.

499	Animal Droppings (Manure)
413	Cured Asphalt (Solidified)
405	Carpet or Fabric Scrap Waste
414	Ceramic Insulation Waste
499	Cured Resin Waste
402	Cured Rubber, Elastomer waste
499	Dead Animals (Nonexperimental)
419	Empty Container Waste (RCRA Empty)
499	Empty (Dried) Commercial Paint Can Waste
499	Fencing (Chain-Link and Barbed)
407	Foam Type Wastes (Rigid Plastic Foam, Expanded Polystyrene Foam, and Polyurethane)
430	Food Waste (Excluding Treatment Sludges)

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470	Fresh Air Intake Filters waste
499	Gaskets - Unused (Rubber and Cork)
408	Glass Reinforces Plastics (Fiberglass)
406	Glass Waste (excluding Specialty Glass and Glass Sludges)
409	Halogenated Plastics (PVC, CPE, and Teflon)
406	Incandescent Light Tubes/Bulbs
499	Labels/Packaging Waste
401	Leather Scraps
415	Linoleum Waste
499	Metal Scrap (Excluding Powdered Grindings or if Contaminated with Fluids or Oils)
407	Nonhalogenated Plastics
403	Nontreated Wood Waste
405	Nylon Materials
472	Oil Filters, Used (Hot Drained and Nonterne Plated)
499	Packing/Shipping Material
404	Paper and Cardboard Waste
499	Personal Protective Equipment Waste
499	Screen Waste
499	Shingle Scrap
416	Thermal Insulation Waste (Cellulose, Glass, and Wool)
417	Wire and Wire Scrap (Conduit and Electrical Insulation)
403	Wood Wastes (Excluding Treated Wood)

Municipal Waste Requiring Special Handling:

- Municipal Sewage Sludge
- Processed Infectious Waste
- Chemotherapeutic Waste (after being processed by incineration)
- Nonhazardous Ash Residue from Municipal Waste Incineration

b. The maximum total concentrations for non-TCLP organics in residual waste, municipal waste, and municipal waste requiring special handling are not to exceed the following limits: 2,500 ppm for aromatic halogenated hydrocarbons; 5,000 ppm for aliphatic halogenated hydrocarbons; 10,000 ppm for aromatic hydrocarbons; and 50,000 ppm for volatile and semi-volatile organics.

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c. For acceptance of virgin petroleum contaminated soil and debris, Form U is to be substituted for Form FC-1 if the TPH concentration exceeds one percent. See also 44.v(v) for acceptance procedures for TPH concentrations less than one percent (10,000 ppm).

d. The permittee shall not accept any residual waste or municipal waste requiring special handling whose chemical constituents are not included or are in excess of the maximum acceptance concentrations as delineated in the waste analysis and classification plan, unless a major permit modification is submitted and approved by DEP. Any new waste request not approved in this plan must be submitted as a major permit modification.

e. The permittee shall not accept, receive, dump, discharge, process, or dispose hazardous waste as defined in 25 Pa. Code Chapter 261a or 40 CFR Part 261.

f. All residual and municipal waste requiring special handling from new generators must be consistent with the requirements stated in the waste analysis and classification plan incorporated by reference pursuant to Condition 1.

g. The permittee must submit a waste disposal request and source reduction strategy from each individual large quantity residual waste generator. The permittee must submit a waste disposal request from each individual generator of municipal waste requiring special handling. Proof of submission to DEP would be dated certified mail return receipt cards, signed, dated, acceptance receipts for hand-delivered requests, signed, dated receipt from overnight mail/federal express deliveries, or some other means, such as electronic submission, acceptable to DEP. Except for disposal requests including residual waste code 999 (Other), the wastes indicated on Forms U, 35, 36, or 43 may be accepted for disposal by the permittee 15 days after proof of submittal to DEP, unless otherwise notified by DEP in writing. Wastes identified as 999 (Other), may not be accepted until specific written approval is received from DEP. If, at any time, it is determined by DEP that the waste included in the disposal request is not consistent with the waste analysis and classification plan or the design of the landfill or waste reduction strategy, the permittee shall be notified and acceptance of this waste may be prohibited until deficiencies have been corrected. The permittee may be subject to any and all applicable enforcement action to the Solid Waste Management Act and the Rules and Regulations promulgated thereunder, if waste is accepted not consistent with the waste analysis and classification plan. This subcondition is not

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applicable to those Residual Wastes with Chemical Analysis Waived as listed in Condition 44.a, above.

h. All submissions covered by Condition 44.g must be sent to the host municipality and the host county at the same time they are submitted to DEP, unless the host municipality/county specifically notifies both the permittee and DEP in writing that they do not wish to receive the submissions and affirmatively waives their right to receive the submissions. An alternative submittal or notification process for the individual disposal request submittal process that is acceptable to the host municipality/county may be substituted, upon written notification to DEP, in the event the municipality/county does not wish to completely waive their rights under this subcondition.

i. The permittee shall submit, to DEP's Southeast Regional Office, an amended appendix to the permit that lists all residual waste and municipal waste requiring special handling accepted for disposal at the facility. This amended appendix shall be submitted for the calendar quarter by April 20, July 20, October 20, and January 20 for the January – March, April – June, July – September, and October – December quarters, respectively. This amended appendix shall include the information by generator, including the waste type, approved quantity, quantity accepted, generator identification number, and the identification number for each Form U, Form 35, Form 36, and Form 43 for all waste accepted at the landfill during the calendar quarter covered by the report. The appendix must include the anniversary acceptance date for each generator of residual waste and municipal waste requiring special handling.

j. Form 26R, the annual analysis report and annual analysis data from generators of municipal waste requiring special handling (Forms 35, 36, and 43) is to be kept on file for each waste generator at the landfill site. This is due at Fairless Landfill from the generator one year after DEP receives Forms U, 35, 36, or 43 submissions. For small quantity residual waste generators, analysis data and/or certification pertaining to hazardous waste determination criteria is to be kept on file. The waste cannot continue being accepted if the landfill does not have an annual submission of Form 26R or annual analytical data from generators of municipal waste requiring special handling on file.

k. Any new large quantity generator of Residual Wastes with Chemical Analysis Waived, as listed in Condition 44.a, above, that proposes to use the landfill must submit Forms U and 25R to the landfill.

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l. The landfill must keep certification documents from all small quantity generators on file indicating that their waste streams are not hazardous.

m. The landfill's annual report, submitted by June 30 of each year, must include documentation that the analysis or certification required under Section 273.313 for chemical analysis of waste for each waste stream from each individual generator utilizing the landfill for disposal is on file.

n. All Forms U, 35, 36, 43, and FC-1 documents must be kept on file and each assigned a sequential identification number which is to be recorded on all forms submitted to DEP.

o. Hazardous waste, as defined under 25 Pa. Code 261a, may not be accepted at the facility for disposal. Any residual waste generator whose analysis reaches 85 percent of the hazardous waste limit shall provide additional analysis and documentation to justify that the waste is below the hazardous waste limit.

p. No residual waste is to be accepted from any facility bulking/mixing different categories of residual (Form U) waste, unless such facility is permitted by DEP for this purpose.

q. Form U's from individual generators of friable asbestos containing waste do not have to be submitted.

r. New sources of incinerator residue from resource recovery incinerators shall be tested in accordance with the following procedure. The analysis data shall be submitted to the Southeast Regional Office. Analyses data generated by resource recovery incineration permit requirements can be submitted to comply with the following conditions:

   i. A grab sample of resource recovery incinerator residue is to be taken from each incoming load of ash residue to be tested for pH. All of this sampling data shall be submitted with the data from the composite sampling below.

   ii. For a minimum of the first eight weeks of incinerator operation, testing shall be done on a weekly composite sample comprised of at a minimum daily grab sample. Each grab sample shall be tested for pH. The weekly composite sample shall be tested for pH, lead, chromium, and cadmium. Also, for the initial sampling period, an analysis for all Form 41 parameters shall be run on each fourth week composite sample. All data from

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this sampling period shall be submitted to DEP at the conclusion of the eight-week period.

iii. Upon receiving written approval from DEP, testing shall be done on a monthly basis for all Form 41 parameters and reserve alkalinity for a minimum of six months. The monthly composite sample is comprised of a minimum of one random grab sample from each day of operation. All grab samples shall be of an equal amount. Data from this sampling period is to be submitted to DEP on a monthly basis.

iv. Upon receiving written approval from DEP, testing shall be done on a quarterly basis for all Form 41 parameters and reserve alkalinity. The quarterly composite sample is comprised of weekly random grab samples. All grab samples shall be of an equal amount. Data from this sampling is to be submitted to DEP on a quarterly basis.

s. Infectious and chemotherapeutic incinerator ash must contain less than five percent volatile solids. Incinerator ash from other sources has no volatile solids limit.

t. Wastes for quantity increase requests for previously approved waste streams from specific generators may be accepted for disposal immediately. Each request must include the most recent generator's annual report and analytical data for submissions more than 12 months old.

u. RCRA empty containers can be accepted as Residual Wastes with Chemical Analysis Waived.

v. i. All solid wastes excluded under 25 Pa. Code 261a.4(b) and 40 CFR 261.4(b) may be accepted for disposal except for waste categories listed under Sections 261.4(a)(4), (6), (8), (10), (18), and (20). The unacceptable waste includes:

(I) Source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954.

(II) Household hazardous waste collected by a collection contractor under Section 1512 of Act 101.

(III) Coal refuse as defined in the Coal Refuse Disposal Control Act.

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(IV) Treatment sludges from coal mine drainage treatment facilities.

(V) Pulping liquors (black liquor) that are reclaimed in a pulping liquor furnace and then re-used in the pulping process.

(VI) Spent sulfuric acid used to produce virgin sulfuric acid.

ii. Corrosivity and Ignitability, as defined in 40 CFR 261.21 and 261.22, will replace pH and flashpoint, respectively, as acceptance criteria for disposal.

iii. If a specific waste stream has been found to be consistent based on 25 standard fingerprint analyses, then the frequency can be reduced to one standard fingerprint analysis per day for each specific waste stream from a specific generator.

iv. Sampling frequencies for oil contaminated waste, contaminated soils, site cleanup waste, oil washing material, thermally treated soil, and bioremediated soil must satisfy the requirements of SW-846 (or equivalent). If the sampling frequency does not meet the requirements of SW-846 (or equivalent), then the sampling frequency must be at least one sample per 500 cubic yards.

v. A Form FC-1 is to be submitted for virgin petroleum contaminated soil and debris containing less than one percent total petroleum hydrocarbons (10,000 ppm). A Form U is to be submitted for virgin petroleum contaminated soil and debris containing greater than one percent total petroleum hydrocarbons. For virgin petroleum contaminated soil and debris of containing less than one percent total petroleum hydrocarbons, the facility is permitted to accept the waste without written approval from DEP pursuant to, and consistent with, the provisions of Appendix V of the Waste Acceptance Plan.

w. Prior to commencement of disposal operations at Fairless, the permittee shall certify, by providing a list in writing, as to which previously approved residual wastes and municipal wastes requiring special handling from current generators approved for waste acceptance at GROWS North and/or TRRF Landfills are consistent with the Form R Waste Acceptance and Classification Plan approved herein for Fairless. Waste streams from generators so certified may then be transitioned to, and accepted at, Fairless when disposal operations commence. After the

commencement of disposal operations at Fairless, any new or modified disposal requests must be submitted to Fairless pursuant to Condition 44, herein.

45. All approved sources of residual waste and municipal waste requiring special handling are to be analyzed on an annual basis for parameters included in the approved Form U, Module 1, Form 35, Form 36, or Form 43 submissions.

LEACHATE MANAGEMENT

46. Two leachate storage tanks, each 1.42 million gallons (101' dia. and 25' high) shall be utilized for on-site storage of leachate. The first tank shall be constructed and available for use prior to the commencement of acceptance of waste for disposal, and the second tank shall be constructed and available for use prior to commencement of waste disposal operations in Cell 7 or 8, whichever cell is constructed first. Leachate shall be discharged directly to the Leachate Treatment Plant (LTP) for treatment and discharge in accordance with Condition 48 of this permit.

47. a. Secondary containment, consistent with the requirements of 25 Pa. Code 285.122, shall be provided for each tank and/or tank farm.

b. All stormwater collected within the secondary containment area(s), shall be inspected. If there is evidence of leachate present within the containment area(s), stormwater shall be conveyed to the Leachate Treatment Plant before it is discharged to the environment. If there is no evidence of leachate present in the secondary containment area(s), the stormwater may be directed to an adjacent stormwater management channel in accordance with, and subject to, any procedures, practices or requirements as may be specified by DEP's Clean Water Program. Standard erosion and sedimentation control measures shall be implemented to control run-off from the disturbed area during and after the construction of leachate storage facilities.

c. The vehicular transportation of leachate is not an approved leachate treatment method for the Fairless Landfill until such a change in method, as may be authorized under Act 45, is authorized through the submission and approval of a major permit modification to address the change in method. In the event that vehicular transportation of leachate becomes necessary, the permittee shall notify DEP in writing of its intent and basis for implementing vehicular transportation of leachate. The notice shall include the commencement date of the transportation, the specific

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conditions requiring the vehicular transportation of leachate, and the anticipated duration. Written notification shall be provided by the permittee within forty-eight (48) hours of the commencement of the vehicular transportation of leachate. Written updates shall be provided every two weeks during the duration of vehicular transportation (when the event exceeds two weeks) and upon the cessation of vehicular transportation. These written updates shall include the total duration of the event as of the date of the update, the total amount of leachate transported as of the date of the update and the incremental amount of leachate transported since the previous written update, and the available storage capacity in gallons and percent of available storage. Nothing in this permit condition shall be construed as authorizing a change in the facility's approved leachate treatment method.

48. a. Leachate generated by the Fairless Landfill shall be conveyed to the Leachate Treatment Plant, incorporated herein as part of the Fairless Landfill permit area, for processing prior to discharge, via NPDES permit, to the Delaware River and/or via piped discharge to an approved off-site Publically Owned Treatment Works (POTW).

b. The generic concept of piped discharge to an off-site POTW is incorporated into the Fairless leachate management plan. However, the only actual POTW discharge alternative approved at this time is discharge to the Morrisville Pollution Control Facility (Morrisville Plant), owned and operated by the Municipal Authority of the Borough of Morrisville (Authority). This discharge alternative is further subject to any restrictions or limitations that may be placed upon the alternative by DEP or the Delaware River Basin Commission. Any other off-site POTW direct discharge alternative(s) will require further modification of the Fairless Landfill's leachate management plan prior to implementation. The type(s) of further modification(s) is(are) to be governed by the specifics of each individual request. However, a request to discharge directly to a POTW other than the Authority's shall not be construed, in and of itself, as requiring a major modification to the Fairless Landfill leachate management plan because of the concept approval contained herein unless the specifics of the request would otherwise require the submission of a major modification application.

c. Title 25 Pa. Code 273.275(b) requires an on-site leachate storage system to have sufficient capacity at least equal to the maximum expected production of leachate for any 30-day period for the life of the facility as estimated pursuant to 25 Pa. Code 273.162. Fairless Landfill may not rely on storage capacity available at GROWS Landfill, GROWS North Landfill, or

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Tullytown Resource Recovery Facility Landfill for the purpose of complying with 25 Pa. Code 273.275(b), as noted above.

GAS MANAGEMENT

49. The permittee shall install and operate its Gas Management Plan for the facility as an active gas management system in accordance with approved plans and designs. Additional wells may be installed, if warranted by site conditions, subject to DEP approval via either the construction certification or permit modification process, the choice of which is at DEP's discretion. There are 259 gas wells shown on drawing 86086B-40 and Gas Extraction Well Schedule shown on drawing 86086B-42.

a. Provision for the direct sale of landfill gas to PECO Energy (PECO), or its successor, to utilize the landfill gas either at the Pennsbury Power Plant or at the boilers at the United States Steel – Fairless Works facility is authorized under this permit provided that the permittee may not implement changes to the landfill gas agreement with PECO or its successor that result in modifications to the landfill gas design or system without DEP's prior approval. It shall be DEP's decision to determine if the changes constitute a major modification to the landfill gas management plan.

b. The Fairless Landfill gas compressor station and conveyance pipeline are hereby incorporated into the Fairless Landfill gas management plan.

c. The landfill gas flare system located at the Fairless Landfill may be used only for emergency situations as described in the application documents incorporated into this permit by Condition No. 1, above, or as may be authorized by applicable air permits.

EQUIVALENCIES (Form Q)

50. a. Alternate Subbase material. A proposed alternative to the 6-inch thick low permeability soil subbase layer is a Geosynthetic Clay Liner (GCL) consisting of bentonite encapsulated between two layers of nonwoven geotextile. GCL will be installed on the prepared subgrade of which the upper one foot will have maximum particle size of one inch.

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b. Leachate Detection Zone. A geocomposite drainage layer (HDPE geonet core with a needle punch nonwoven geotextile heat bonded to both sides) in lieu of the 12-inch granular layer.

c. i. Final Cover Grading. A design configuration of at least a 16 foot-wide terrace (bench) for every 40 feet maximum rise in elevation on the slope is proposed instead of a terrace at least 15 feet wide on slope of every 25 feet maximum rise in elevation. The benches will be graded at minimum of inward slope 12.5%.

ii. Final cover system configuration 1. A 10 oz/sy nonwoven geotextile, 40 mil textured on both sides geomembrane, and geocomposite drainage layer as shown in drawing 86086B-35, detail 1.

iii. Final cover system configuration 2. A combination of geomembrane/drainage layer and 10 oz/sy nonwoven geotextile as shown in drawing 86086B-35, detail 1A.

d. Alternate Daily Cover Material (ADCM) as described in Condition 51, below.

e. The facility is permitted to use two specific aggregate gradation materials for the protective cover as provided in Table J-2(2). The protective cover material shall have a maximum particle size of 1.5 inches, shall be classified as GW, GP, or SP as defined by USCS and shall be used as follows:

i. Coarse aggregate No.1 (modified AASHTO No. 8) may be used with geocomposite.

ii. Coarse aggregate No. 2 (modified AASTHO No. 57) shall be used with a geocomposite as per Note 1 of Details 1A and 2A of Drawing 86086B-22.

Additionally, Protective Cover shall meet the minimum permeability of 0.20 cm/sec. If less than 0.20 cm/sec, then leachate collection laterals shall be installed as shown in Drawing 86086B-08.

f. The facility is permitted for the use of glass cullet material as gas extraction well backfill, gas system header backfill, leachate force main backfill, use in construction of landfill access road subgrades, the use as a general fill material, and utilization of glass cullet beneath the final cap in areas of settlement and in the cap drainage layer subject to the following sub-conditions:

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i. Temporary landfill access road subgrades and subbases will utilize no more than a forty percent (40%) glass cullet/mixture.

ii. Final landfill access roads depicted on final development plans, including subgrades and subbases, will utilize no more than a ten percent (10%) glass cullet/soil mixture.

iii. For road construction utilizing glass cullet and soil, the ratio of cullet to soil will be done by the use of individual loads during road construction. For a 40% mixture, three loads of soil must be mixed with two loads of glass cullet utilizing a bulldozer to incorporate the two materials. For a 10% mixture, nine loads of soil will be mixed with one load of glass cullet utilizing a bulldozer to incorporate the two materials.

iv. For use of glass cullet in the landfill cap drainage layer, engineering test must be performed to determine suitability including the permeability and grain size as required by the cap design criteria. As built, documentation must be submitted with Form 37 pertaining to the use of glass cullet in the landfill cap drainage area.

ALTERNATE DAILY COVER MATERIAL (ADCM)

51. An equivalency to use alternate daily cover materials (ADCM) in lieu of the soil material composition required in section 273.232. The following materials are approved for use as ADCM at Fairless Landfill. The following ADCM have been previously approved by DEP for statewide use.

- Municipal Incinerator ash
- Fly ash conditioned with cement kiln dust
- Recycled paper deinking sludge
- USDA clay loam soil texture classification
- Coal ash, as subject to waste placement within 24 hours

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- Sanifoam
- RUSMAR AC-645 Long Duration Foam
- No. 3ML-9791 Foam
- Processed construction and demolition waste
- Propat (patented processed auto shred material produced by Polarized Schiabo Neu Company)
- Posi-shell
- Nonpetroleum contaminated soil
- Fairo-Cover (shredded auto fluff produced by Fairless Iron and Metal, LLC)

The following subconditions a. through f., apply to all approved ADCM at the facility:

a. All stormwater runoff from ADCM applied at the working face or from ADMC stockpiles must be managed as leachate, unless otherwise approved in writing by DEP. Stormwater runoff from uncontaminated soil from nonspecific borrows area and clay loam soils applied as daily cover will not have to be managed as leachate.

b. No ADCM is to be utilized on a side slope, unless runoff from the ADCM is directed into the leachate collection system. Uncontaminated soils from nonspecific off-site borrow areas and clay loam soils can be placed on side slopes without directing runoff into the leachate collection system.

c. DEP is to be notified one week prior to making any changes in types of ADCM utilized at the site.

d. All processed or unprocessed materials consisting of solid waste(s) utilized as ADCM under approvals granted in this permit or subsequent modifications, are wastes and not

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recyclable materials, and count towards the ADV of the facility. The wastes are subject to the host municipality benefit fee(s) of Act 101.

e. All categories of ADCM approved under this permit are to be only utilized as daily cover, unless otherwise indicated.

f. Neither soil nor ADCM, whether used in place of or in addition to soil, are to be removed from the previous day's working face or cell prior to starting operations the following day, nor may soil or ADCM be reused.

The above referenced ADCM have received separate approvals for use as ADCM, and are included on the statewide-approved equivalency list. Based upon DEP's Policy and Procedure for Municipal Waste Facility Equivalency Approvals, the permittee is authorized to utilize these materials, subject to the terms and conditions of their individual approvals, at the Fairless Landfill. Failure of any of these materials to perform satisfactorily at the Fairless Landfill, or failure of the permittee to comply with the terms and conditions upon which the original reviewing region based its approval, shall be grounds for revocation of the approval herein granted. The details of each ADCM are provided in Attachment-I, below.

NONSITE SPECIFIC OFF-SITE SOURCES SOIL AND AGGREGATE MATERIAL

52. The facility is permitted to utilize nonsite specific off-site sources of soil for construction material and cover material subject to the following subconditions:

a. For the use of dredged material, chemical analysis data of the dredged material must be submitted to DEP for approval in accordance with sampling protocol outlined below for each dredge disposal area, or replenished dredge disposal area, at least thirty (30) days prior to excavation:

i. Dredge Sampling Protocol:

Procedures:

- The dredge deposits will be subdivided into 50,000 cubic yard sections.

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- For all inorganic parameters: One composite sample will be collected from each 50,000 cubic yard section. Each composite sample will be taken from five locations within each 50,000 cubic yard section.

- For Volatile Organic Compounds (VOCs): Each of the 50,000 cubic yard sections (identified above) will be screened with a Photoionization Detector (PID). The material will be extracted from ground surface to the total depth of dredge pile using a hand auger or other method acceptable to DEP. Once extracted, the materials will be scanned with a PID at one-foot intervals. Field screening will be performed at a location shielded from the wind, and away from gas tanks, or gas-powered equipment. One sample discrete location will be selected and a sample will be collected from each 50,000 cubic yard section. The sample interval with the highest PID reading will be collected for analysis. If the materials are all nondetect (i.e., do not exceed background PID readings), a minimum of one sample for the 50,000 cubic yard section will be collected.

Laboratory Analysis:

Samples that are collected according to the above sampling procedure shall be analyzed for the following parameters:

- Volatile Organics (EPA Method 8260B)
- Total Metals and TCLP: AG, AS, Ba, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, and Zn
- Pesticides (EPA Method 8081A/8082), plus Lindane and Methoxychlor
- Total Petroleum Hydrocarbons (TPH)
- Cyanide
- Sulfide
- pH

- Total PCBs (Method 608 GC/ECD), PCBs, 209 congeners (Method 1668A GC/ECD)

- Radioactivity: Radium 226 (EPA 903.1), Gross Alpha (EPA 900.0), Gross Beta (EPA 900.0), Radium 228 (EPA RA-05), Radium Total (EPA RA-05)

ii. For the use of dredged material, Physical Test Data of the dredged material consisting of one composite sample in accordance with the sampling protocol outlined in the EPA SW846 Manual for every 10,000 yards of dredge material demonstrating that the dredged material will satisfy the performance standards of DEP, thirty (30) days prior to excavation of any dredge disposal site or replenished dredge disposal site.

iii. Unless dewasted pursuant to Chapter 287.7 or otherwise determined by DEP not to be a waste (based upon the data provided pursuant to Subconditions 52(a)(i) and 52(a)(ii), above), dredged material is regulated as residual waste, is not a recyclable material, and counts towards the daily volume of the facility. These wastes are subject to the host municipality benefit fee(s) of Act 101.

Unless determined by DEP not to be a waste, use of dredged material pursuant to this Condition (52) is limited to alternative daily or intermediate cover uses, or structural fill uses located within lined areas of the landfill, subject to the acceptability of the physical and chemical analyses required in Subconditions 52(a)(i) and 52(a)(ii), above. If determined not to be a waste, use of dredge material shall be consistent with the dewasting determination.

b. Uncontaminated soil material other than dredge material from nonsite-specific off-site sources (soil material that meets clean fill requirements) shall have no use restriction at the landfill other than the requirements listed below, provided that the material is not placed in or on waters of the Commonwealth:

i. Uncontaminated soil may be used as a source of daily, intermediate, and final cover soils as well as structural fill and subgrade fill based on the chemical and physical suitability of the soils for each designated purpose.

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ii. Uncontaminated soil is further subject to the approved Quality Assurance Program and Testing Protocol for Nonsynthetic Material of Form J. Use of uncontaminated soil from nonsite specific off-site sources pursuant to this condition shall be adequately described in accordance with Chapter 273.117(a)(2) and (b).

iii. Determinations that soil from nonsite specific off-site sources is suitable for use at the landfill pursuant to this Subcondition 52(b) shall also be consistent with DEP's Management of Fill Policy and shall be keep on file by the permittee for the duration of the facility's bond. These records shall be made available to DEP upon request.

c. Contaminated soil from nonsite-specific off-site sources shall be utilized pursuant to this subcondition:

i. Soil material that does not meet clean fill requirements shall be considered a waste and not a recyclable material, and shall be used only as daily or intermediate cover pursuant to Attachment – I, below, except as otherwise allowed pursuant to Subcondition 52(c)(ii) below. Material subject to this Subcondition 52(c)(i) shall be subject to applicable fees and shall be counted against the facility's daily volume.

ii. If the soil material does not meet the clean fill requirements but does meet the regulated fill requirements, then it may be used as structural or subgrade fill at the landfill provided that said soil is chemically and physically suitable for each designated purpose and provided that said use is further authorized by a DEP approval pursuant to General Permit No. WMGR096 for the beneficial use of regulated fill. Soil utilized under this Subcondition (52(c)(ii)) shall not be considered a waste for the purposes of fee and daily volume determinations.

d. No material other than soil meeting clean fill requirements or dewasted dredge material, if authorized pursuant to a dewasting determination, shall be utilized in the construction of the final cover at the landfill.

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RADIATION MONITORING ACTION PLAN

53. This permit also approves the Radiation Protection Action Plan for Solid Waste (RPAP), consisting of approval of a radiation monitoring, detection and action plan received on February 5, 2014, and revised on March 12, 2015.

    a. Pursuant to Section 613 of the Solid Waste Management Act, 35 P.S. Section 6018.613, DEP may recover its costs to abate a public nuisance related to radioactive waste including its costs of management, transport, and disposal of the radioactive waste processed, stored, disposed, or rejected at the facility.

    b. Approval of this permit modification does not guarantee operational effectiveness. Failure to operate this equipment to perform as intended or designed, and implement the Action Plan according to the application documents herein approved, for any reason, shall be sufficient grounds for revocation or suspension of the facility's waste permit in part or in its entirety.

FINANCIAL ASSURANCE

54. A valid and current certificate of liability insurance shall be maintained at the facility. A copy of the current certificate, listing DEP as a certificate holder and providing a 60-day notice period prior to cancellation or termination, shall be submitted to DEP's Southeast Regional Office, Waste Management Program, as required by 25 Pa. Code Section 271.374 of the municipal waste regulations.

55. The bond between Waste Management of Fairless, LLC and DEP for the Fairless Landfill in the amount of $52,815,089 is hereby incorporated as part of this permit. Upon receipt of written notice from DEP, this bond will have to be updated within 90 days in accordance with Chapter 271 of the municipal waste regulations.

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ATTACHMENT-I

I. Municipal incinerator ash as ADCM subject to the following conditions:

a. pH of the ash must be less than 12.5 standard units.

b. Moisture content must be within the range of 10 to 30 percent.

c. Ash for use as an ADCM must originate from generators with functioning metal recovery operations and shall not contain large metal pieces.

d. The thickness of the ash layer applied as ADCM must be sufficient to provide adequate coverage of waste to meet the daily cover performance standards, but shall be no more than six inches in depth. Where a six-inch depth is not sufficient to provide adequate coverage, better waste compaction shall be practiced or other approved daily cover materials shall be utilized in place of ash.

e. Storage of ash shall be within the working area such that any runoff from the ash shall be contained within the landfill's leachate collection system.

f. Testing of incoming ash, whether for disposal or use as an ADCM, shall comply with approved waste acceptance procedures as contained in this permit.

g. This approval is restricted to municipal incinerator ash. The permittee shall provide written notification to DEP of the generator(s) ash being utilized as ADCM. Said notification shall be provided prior to the use of the ash as an ADCM.

II. The following materials have received previous approvals (approving region noted in parentheses) for use as ADCM, and are included on the statewide-approved equivalency list. Based upon the DEP's Policy and Procedure for Municipal Waste Facility Equivalency Approvals, the permittee is authorized to utilize these materials, subject to the terms and conditions of their individual approvals, at the Fairless Landfill. Failure of any of these materials to perform satisfactorily at the Fairless

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Landfill, or failure of the permittee to comply with the terms and conditions upon which the original reviewing region based its approval, shall be grounds for revocation of the approval herein granted:

- Fly ash conditioned with cement kiln dust (SERO).
- USDA clay loam soil texture classification (NWRO).
- Sanifoam (SERO).
- RUSMAR AC–6454 Long Duration Foam (SWRO).
- 3ML-9791 Foam (SWRO).

III. Recycled paper deinking sludge (RPDS) subject to the following conditions:

a. Approval for use of RPDS as alternate daily cover is limited to the RPDS generated by Hagerstown Fiber Limited and Marcal Paper Mills, Inc. (KAOFIN), at this time. Other sources of RPDS may not be used as alternate daily cover without first obtaining written approval from DEP.

b. If DEP determines, upon inspect ion that the RPDS is not meeting the daily cover performance standards specified in Section 273.232(b), the permittee must:

i. Upon notification from DEP, immediately cease the use of RPDS as landfill alternate daily cover. Notification can be in the form of an inspection report.

ii. Submit to DEP a report, which explains why the RPDS is not adequately meeting the performance standard(s), as well as what steps will be taken to improve the quality of the alternate daily cover and prevent noncompliance with Section 273.232(b).

Under the above circumstances, the RPDS may not be utilized until DEP is satisfied that the continued use of RPDS will not result in noncompliance with Sect ion 273.232(b). In the event the alternate daily cover cannot meet the required performance standards, DEP reserves the right to revoke approval.

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c. A five-day supply of daily cover soil material shall also be maintained on the site as required by Section 273.232(d), in the event that the RPDS does not comply with the performance standards as outlined in Attachment-I(III)(b), above.

d. RPDS may not be applied as alternate daily cover within forty (40) linear feet of an exterior side slope. If in the judgment of DEP, the RPDS is determined to be a causative agent in the generation of leachate seeps, DEP may suspend the use of RPDS as landfill daily cover.

e. The RPDS material I should be dewatered to thirty-five percent (35%) to sixty percent (60%) solids contents. The permittee must verify the solids content of incoming RPDS.

f. RPDS may not be stored/stockpiled at the landfill for greater than twenty- four (24) hours; i.e., this material is intended to be utilized for daily cover purpose as it is generated on a daily basis. All RPDS must be stored/stockpiled on the lined landfill area.

IV. Coal Ash, as subject to waste placement within 24 hours and as subject to the following conditions:

a. The testing of incoming ash, whether for disposal or use as ADCM, shall comply with approved waste acceptance procedures and the Form U approved by DEP for that source of coal ash.

b. Coal ash is not to be utilized as ADCM under adverse weather conditions, including periods of rain, snow or excessive wind.

c. Coal ash is to be used as ADCM only when it is covered by additional solid waste the next day.

d. Storage of coal ash shall be within the working area, including the establishment of a berm, such that any runoff from coal ash storage is contained within the landfill's leachate collection system.

e. If, at any time, the coal ash presents a problem related to erosion, dust off-site tracking or traffic ability, its use as ADCM shall be discontinued until such time as the problem(s) are resolved to the satisfaction of DEP.

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f. Coal ash approved for use as ADCM shall be analyzed quarterly or when the coal ash source is changed, whichever occurs first, using the chemical parameters contained in the Bureau of Mining and Reclamation Module 25. DEP will consider a reduction in analytical frequency to once annually if, after a minimum of four quarterly analyses, the coal ash demonstrates no significant differences in the analysis of variance (ANOVA) of the total concentrations (mg/kg) for each of the Module 25 metals analyzed, including boron and sodium, and the coal ash's pH shows no significant variances.

g. Coal ash produced at the U.S. Gen New England, Inc. Brayton Point Station, Somerset, Massachusetts, is approved for use as ADCM conditioned upon continued compliance with this sub-condition. New sources may be approved by DEP in writing based upon sufficient demonstration by the permittee that the physical and chemical properties of the coal ash from the new source is suitable for both (1) disposal at this landfill and (2) use as ADCM consistent with this sub-condition.

V. Processed construction and demolition waste material: The source of processed C&D material approved in this permit modification will be the STAR ADC materials (sized at two-inch minus material) produced at STAR's Vorick II facility in Brooklyn, NY; Recovermat, Waste Management of New Jersey, Inc., Amboy Facility; Karta Industries, Inc., in Peekskill, New York; the Gun Hill Facility located at 620-636 Truxton Street, Bronx, New York; the Mercer Group International of New Jersey Material Recovery Facility, Mercer County, New Jersey; and the Eagle Recycling of New Jersey Materials Recycling Facility, Hudson County, New Jersey subject to the following conditions:

a. Areas upon which processed C&D material has been used must be covered with either conventional daily cover (soil) or additional waste within seven (7) days.

b. Storage or stockpiling of any approved processed C&D alternate daily cover, as approved by this permit modification, shall not occur off the lined area of the landfill without obtaining written DEP approval. In addition, the stockpile areas must have appropriate erosion and sedimentation controls in place before stockpiling is initiated.

c. If DEP inspections indicate an alternate daily cover approved by this permit modification is not meeting the daily cover performance standards specified in 25 Pa. Code Section 273.232, the permittee must:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Permit
For
Solid Waste Disposal and/or Processing Facility
FORM NO. 8

Permit No. 101699
Date Issued March 30, 2016
Date Expired March 30, 2026

i. Upon notification by DEP, immediately cease the use of the alternate daily cover. Notification can be in the form of an inspection report.

ii. Submit a report to DEP which explains why the alternate cover material is not meeting the applicable performance standards, and what steps will be implemented to improve the quality of the alternate daily cover and prevent noncompliance with 25 Pa. Code Section 273.232.

Under the above circumstances, the alternate daily cover may not be utilized until DEP is satisfied that the continued use of the alternate daily cover will not result in noncompliance with 25 Pa. Code Section 273.232. In the event the alternate daily cover cannot meet the required performance standards, DEP reserves the right to revoke approval.

d. Each source of the processed construction and demolition material must be pre-approved in writing by DEP.

e. Testing of incoming C&D materials, whether for disposal or use as an ADCM, shall comply with approved waste acceptance procedures.

f. The thickness of processed C&D layer applied as ADCM must be sufficient to provide adequate coverage of waste to meet the daily cover performance standards, and shall be between six (6) to twelve (12) inches in depth. Where a 12-inch depth is not sufficient to provide adequate coverage, better waste compaction shall be practiced or other approved daily cover materials shall be utilized in place of processed C&D.

VI. Propat (patented processed Auto Shred Material produced by Prolerized Schiabo Neu Company) and Fairo Cover (shredded auto fluff produced by Fairless Iron and Metal, LLC) as an ADCM subject to the following conditions:

a. This approval is limited to the Propat material produced by Prolerized Schiabo Neu Company and Fairo Cover produced by Fairless Iron and Metal, LLC. Failure of either of these products to perform satisfactorily at the Fairless Landfill, or failure of the permittee to comply with the terms and conditions upon which the original issuing region based its approval, shall be grounds for revocation of the approval here in granted.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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Date Issued March 30, 2016
Date Expired March 30, 2026

b. The ADCM as received must have a moisture content, and contain cementitious material, as described in the manufacturer's process information, sufficient at all times to allow the material to meet the daily cover performance standards, but at no time shall the moisture content be below fifteen percent (15%).

c. The ADCM as received must be shredded to particle size no greater than two (2) inches.

d. Prior to utilizing the ADCM, the permittee shall obtain, and keep available at the site for DEP review, copies of the applicable permit approvals from the original issuing region. The permittee is responsible for demonstrating compliance with the terms and conditions of the original approval of the ADCM.

e. Areas upon which the material has been used as an ADCM must be covered with either conventional daily cover (soil) or additional waste within seven (7) days. The material may also be used as an ADCM on the leading edge of the fluff lift layer of waste in newly constructed cells. The ADCM is considered waste received and disposed.

f. The stormwater from this ADCM shall be treated as leachate and be diverted into the landfill's leachate collection system.

VII. Posi-Shell as an ADCM subject to the following conditions:

a. This approval is limited to the Posi-Shell material that received approval as an ADCM and is listed on the statewide approved equivalency list. Based upon DEP's Policy and Procedure for Municipal Waste Facility Equivalency Approvals, the permittee is authorized to utilize this product, subject to the terms and conditions of its original approval, at GROWS North Landfill. Failure of this product to perform satisfactorily at GROWS North Landfill or failure of the permittee to comply with the terms and conditions upon which the original issuing region based its approval shall be grounds for revocation of the approval herein granted.

b. Areas where Posi-Shell has been used must be broken up (cracked) before additional waste is placed on top.

c. Posi-Shell may not be used as an alternate daily cover in the following areas:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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Date Issued March 30, 2016
Date Expired March 30, 2026

i. Each partial lift for which the operator intends to place no additional waste for three (3) days.

ii. Each partial or completed lift that represents final permitted elevations for that part of the facility.

VIII. Nonpetroleum Contaminated Soil as an ADCM subject to the following conditions:

a. This approval is limited to the Nonpetroleum Contaminated Soil that received approval as an ADCM from the South Central Regional Office and is listed on the statewide approval equivalency list. Based upon DEP's policy and procedure for municipal waste facility equivalency approvals, this ADCM may be approved via a minor modification for use at GROWS North Landfill. Failure of this material to perform satisfactorily at GROWS North Landfill or failure of the permittee to comply with the terms and conditions upon which the original issuing region based its approval shall be grounds for revocation of the approval herein granted.

b. All ADCM that does not meet DEP's current Management of Fill policy must be managed and stored on a lined area of the landfill.

c. Soil contaminated with residual waste listed in Attachment-II, below, qualifies for use as daily cover, under the following conditions:

i. The primary source of soil contamination is approved for disposal in accordance with the facility's Form R, Waste Analysis and Classification Plan, approval criteria.

ii. It can be demonstrated that the soil meets the performance standards and design requirements of Section 273.232 of the Solid Waste Regulations.

iii. ADCM consists primarily of soil, meeting the approximate maximum percentage of contaminants listed on Attachment-1. Percentage may be calculated if actual quantities are known, or estimated using any available data.

COMMONWEALTH OF PENNSYLVANIA
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Date Issued March 30, 2016
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d. In addition to the residual waste contaminated soils listed in Attachment-II, soils containing approximately twenty-five percent (25%) or less of Construction and Demolition Waste may be used as daily cover, provided that the daily cover is composed of materials that are primarily six (6) inches in diameter or smaller.

e. All Nonpetroleum Contaminated Soil used as an ADCM is a waste and not a recyclable material, and counts towards the ADV of the facility. This waste is subject to the host municipality benefit fee(s) of Act 101.

f. The stormwater from this ADCM shall be treated as leachate and be diverted into the landfill's leachate collection system.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Permit
For
Solid Waste Disposal and/or Processing Facility
FORM NO. 8

Permit No. 101699
Date Issued March 30, 2016
Date Expired March 30, 2026

ATTACHMENT-II

(Refer to Condition 51 and Attachment-I (VIII)

RWC	Description	Max. Allowable Percent in Soil
001	Coal-derived Bottom Ash	25 Percent
002	Coal-derived Fly Ash	25 Percent
004	Incinerator Bottom Ash	25 Percent
006	Incinerator Mixed Ash	25 Percent
101	Foundry Sand	25 Percent
102	Slag	25 Percent
103	Refractory Material	25 Percent
107	Ferrous Scrap, including Auto Recycle	10 Percent
206	Paint, Coating Sludge, and Scale	10 Percent
306	Surface Coatings (to be individually requested with waste approval)	25 Percent
313	Wax, Paraffin	25 Percent
406	Class Wastes excluding Industrial Refractory Material	25 Percent
413	Asphalt (Bituminous)	25 Percent
414	Ceramic Wastes	25 Percent
504	Paints (liquids)	10 Percent
506	Nonhazardous Metals Contaminated Soils	25 Percent
902	Nonhazardous Residual from Treatment of D002-D008 Hazardous Waste	

Re 30 (eh16wm)077

Category B – Regulated Landfill

Conestoga

pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

FEB 07 2017

CERTIFIED MAIL NO. 9171 9690 0935 0133 7704 02

Mr. Bryan Cleaver, Environmental Manager
New Morgan Landfill Company, Inc.
420 Quarry Road
P.O. Box 128
Morgantown, PA 19543-0128

Re: Permit Renewal
Conestoga Landfill
Permit No. 101509
APS# 922475
New Morgan Borough, Berks County

Dear Mr. Cleaver:

Enclosed is a permit renewal for Solid Waste Permit No. 101509 for the operation of Conestoga Landfill, issued in accordance with Article V of the Solid Waste Management Act, 35 P.S. Sections 6018.101, et seq.

Compliance with the terms and conditions set forth in the permit is mandatory. You have the right to file an appeal as to these terms and conditions.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions about the enclosed permit or requirements of the Solid Waste Management Act, please call Mr. David Richard at 717.705.4706.

Sincerely,

John L. Oren / for

Anthony Rathfon
Program Manager
Waste Management Program

Enclosure(s)

cc: New Morgan Borough
Berks County Planning Commission
Ms. Jane Meeks, Berks Co. SWA

bcc: Central Office - M&R Waste Division
John Oren
Mark Embeck
Don Korzeniewski
David Richard
Mike Maiolie
File
T

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WASTE MANAGEMENT PROGRAM
SOUTHCENTRAL REGION

FORM NO. 13-A

MODIFICATION TO SOLID WASTE DISPOSAL AND/OR PROCESSING PERMIT

Under the provisions of Act 97, the Solid Waste Management Act of July 7, 1980, as amended, Solid Waste Permit Number 101509, issued on June 24, 1992 to:

New Morgan Landfill Company, Inc.
PO Box 128
Morgantown, PA 19543-0128

New Morgan Borough Berks County

is hereby modified as follows:

This permit renewal is issued based on the following submissions:

1. Permit Renewal Application prepared by AECOM, Inc., received August 26, 2016, consisting of the following:

   Introduction
   General Information Form
   Form A, Application for Municipal Waste Permit
   Proof of Public Notifications
   Form B, Professional Certification
   Form B-1, Application Form Certification
   Form HW-C Update
   Form E, Contractual Consent of Landowner
   Form 46, Relationship Between Municipal Waste Management Plans and Permits
   Bonding Worksheets
   Statement of Remaining Capacity

This permit renewal shall be attached to the existing Solid Waste Permit described above and shall become a part thereof effective on FEB 07 2017.

John L. Carew / for Anthony Rathfon
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Drawing No. 60489468-01, Topographic Map Update as of December 4, 2015 (Sheet 1 of 3)
Drawing No. 60489468-02, Topographic Map Update as of December 4, 2015 (Sheet 2 of 3)
Drawing No. 60489468-03, Topographic Map Update as of December 4, 2015 (Sheet 3 of 3)
Drawing No. 60489468-04, Cross Sections A-A', B-B', and C-C'
Drawing No. 60489468-05, Cross Sections D-D', E-E', and F-F'
Drawing No. 60489468-06, Cross Sections G-G', H-H', and I-I'

Supporting Information

2. Revisions to application, submitted under Republic Services cover, received January 10, 2017.

Permit Conditions:

1. The permit for Conestoga Landfill (Permit No. 101509) is extended until September 1, 2027.

2. Nothing herein shall be construed to supersede, amend or authorize violation of the provisions of any valid and applicable local law ordinance, or regulation, provided that said local law, ordinance or regulation is not preempted by the Pennsylvania Solid Waste Management Act, the Act of July 7, 1980, Act 97, 35 P.S. § 6018.101, et seq.

Category C – Hazardous Lead

ACV (Cycle Chem)

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Solid & Hazardous Waste
Bureau of Recycling & Hazardous Waste Management
401 East State Street
P.O. Box 420, Mail Code 401-02C
Trenton, NJ 08625-0420
Tel (609) 984-3438 Fax (609) 777-1951/984-0565
www.nj.gov/dep/dshw/recycling/

BOB MARTIN
Commissioner

Solid and Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

Cycle Chem, Inc.
217 South First Street
Elizabeth, New Jersey 07206-1502

For the Purpose of Operating a:	Solid and Hazardous Waste Treatment, Storage, and Transfer Facility
Block No.:	2
Lot Nos.:	865 and Part of 74
Municipality:	City of Elizabeth
County:	Union
Under Facility Permit No.:	HWP060001
EPA ID No.:	NJD002200046

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the New Jersey Department of Environmental Protection (hereinafter referred to as the Department).

This permit shall not prejudice any claim the State of New Jersey (hereinafter referred to as the State) may have to riparian land, nor does it allow the permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department or the U.S. Environmental Protection Agency (EPA).

Zafar Billah

Zafar M. Billah, Acting Chief
Bureau of Recycling &
Hazardous Waste Management

June 9, 2017
Issuance Date
July 9, 2017
Effective Date
July 9, 2022
Expiration Date

Category C – Hazardous Lead

CENJ

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID & HAZARDOUS WASTE
BUREAU OF RECYCLING AND HAZARDOUS WASTE MANAGEMENT
MAIL CODE: 401-02C
P.O. BOX 420 401 EAST STATE STREET
TRENTON, NEW JERSEY 08625-0420
Telephone: (609) 984-3438 Telecopier: (609) 777-1951
http://www.state.nj.us/dep/dshw

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

MAY 05 2014

CERTIFIED MAIL RETURN RECEIPT NO.: 7011 2970 0003 7283 1515

Robert P. Fixter, Vice President
Clean Earth of North Jersey, Inc
105 Jacobus Avenue
South Kearny, NJ 07032

Re: Final Permit for the Hazardous Waste Facility Permit Renewal for:
CLEAN EARTH OF NORTH JERSEY INC
Kearny Town, Hudson County
EPA ID No.: NJD991291105
Permit No.: HWP040002

Dear Mr. Fixter:

The New Jersey Department of Environmental Protection's Bureau of Recycling and Hazardous Waste Management (Bureau) has evaluated the public comments received on the draft hazardous waste facility permit renewal for Clean Earth of North Jersey Inc during the public comment period, which ended December 15, 2011.

The Bureau has reached a final determination to issue the hazardous waste facility permit. Copies of the final permit and Report of Public Comment are enclosed for your information.

Should you wish to contest any of the conditions of the enclosed permit, you must file a request for an adjudicatory hearing with the Department's Office of Legal Affairs within twenty (20) days of the date you receive this decision notice. A copy of the request must also be mailed to this Bureau. The adjudicatory hearing shall be conducted in accordance with the Administrative Procedures Act, N.J.S.A. 52:14B1 et seq. and the Uniform Administrative Procedures Rules, N.J.A.C. 1:1.

Very truly yours,

Guy Watson, Chief
Bureau of Recycling and Hazardous Waste Management

Enclosures: Final permit/Report of Public Comment
Document: Facility Final Permit

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID & HAZARDOUS WASTE
BUREAU OF RECYCLING AND HAZARDOUS WASTE MANAGEMENT
MAIL CODE: 401-02C
P.O. BOX 420 401 EAST STATE STREET
TRENTON, NEW JERSEY 08625-0420
Telephone: (609) 984-3438 Telecopier: (609) 777-1951
http://www.state.nj.us/dep/dshw

BOB MARTIN
Commissioner

Hazardous Waste Facility Permit

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this permit is hereby issued to:

CLEAN EARTH OF NORTH JERSEY INC
105 Jacobus Ave
Kearny, New Jersey 07032

For the Purpose of Operating a:	Hazardous Waste Treatment, Storage and Transfer Facility
Lot & Block :	Lots 14 and 14A; Block: 289
In the Municipality of:	Kearny Town
County:	Hudson
Under Facility Permit No.:	HWP040002
EPA ID No.:	NJD991291105

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to riparian land, nor does it allow the permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection or the U.S. Environmental Protection Agency.

May 5, 2014
Issuance Date

Guy J. Watson
Guy Watson, Chief
Bureau of Recycling and Hazardous Waste Management

June 4, 2014
Effective Date

June 4, 2024
Expiration Date

Category D – Subtitle C Landfill
TSCA PCBs

WM Emelle

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

RECEIVED
OCT 27 2016
WASTE MANAGEMENT
EMELLE, ALABAMA

October 21, 2016

CERTIFIED MAIL # 91 7199 9991 7033 1582 7392

Mr. Mike Davis
District Manager
Chemical Waste Management
P.O. Box 55
Emelle, AL 35459-0055

Re: **Final Permit Determination**
Chemical Waste Management, Inc. (CWM)
Emelle, Alabama Facility
USEPA I.D. Number: ALD 000 622 464

Dear Mr. Davis:

The Department has made a final determination to renew the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) operating permit for CWM.

A public comment period was held from August 18, 2016 to October 4, 2016. The permit application and the draft operating permit were available for public review electronically via ***http://www.adem.alabama.gov/newsEvents/PublicNotices.cnt*** and at the Department's main office in Montgomery during the comment period. No comments were received during the public comment period. Attached is a copy of the issued permit.

A permit issuance may be appealed as provided in §22-22-A-7 of the Code of Alabama. The procedures for hearing appeals are outlined in ADEM Admin. Code r. 335-2-1, "Rules of Procedures for Hearing Appeals of Administrative Actions of the Alabama Department of Environmental Management."

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

Regarding the issued permit, please note that the permit application documents have been incorporated into the permit by reference and, as such, must be maintained together with the permit document. The Permittee should be aware of the permit conditions containing compliance schedules. Failure to comply with compliance schedules will constitute a permit violation and may result in enforcement actions by the Department.

If questions or comments should arise concerning this matter, please contact Mr. Clay Messer of the Engineering Services Section at (334) 394-4330.

Sincerely,

Phillip D. Davis, Chief
Land Division

PDD/CM/nbf

Attachments

cc/via email: ADEM: Robert Stanley, Clethes Stallworth, Austin Pierce
EPA: Meredith Anderson

ADEM
Alabama Department of Environmental Management

HAZARDOUS WASTE FACILITY PERMIT

PERMITTEE:	**Chemical Waste Management, Inc.**
ADDRESS:	**36964 Alabama Highway 17 North Mile Marker 163 Emelle, Alabama 35459**
EPA ID/PERMIT NUMBER:	**ALD 000 622 464**
UNITS PERMITTED:	**Storage in containers Storage in tanks Storage in containment buildings Treatment in containers Treatment in tanks Treatment in containment buildings Treatment in miscellaneous units Disposal in landfills Post-Closure Care**
ISSUANCE DATE:	**October 21, 2016**
EXPIRATION DATE:	**October 20, 2021**

This Permit is issued pursuant with the Code of Alabama 1975, §§ 22-30-1-et. seq., as amended, and regulations adopted thereunder and the Hazardous Wastes Management and Minimization Act and in accordance with the plans and specifications and applications filed with the Department subject to the conditions appended hereto, all of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama, rules and regulations and orders of the Department of Environmental Management and shall be effective from the date of issuance.

Alabama Department of Environmental Management

PART A APPLICATION, SECTION X
LIST OF ENVIRONMENTAL PERMITS
CHEMICAL WASTE MANAGEMENT, INC.
EMELLE, ALABAMA FACILITY

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
NPDES PERMITS				
9/1/2006	ADEM	AL0050580	Stormwater discharge from DSN001, 002, 003, 005, 007, 008 and DSN013 to Bodka Creek, and DSN006 to Factory Creek. Treated sanitary wastewater discharge to DSN001a, 003a, and 005a. Treated landfill leachate to DSN001b.	Facility
12/11/01	ADEM	AL0050580	Stormwater discharge from DSN001, 002, 003, 004, 005, 007, 008, 009, 010, 011, 012 and DSN013 to Bodka Creek, and DSN006 to Factory Creek. Treated sanitary wastewater discharge to DSN001a, and land application of treated sanitary wastewater. Bio-reactor discharges.	Facility
RCRA PERMITS				
11/08/04	ADEM	ALD000622464	Storage and Treatment of hazardous waste in containers, tanks, and containment buildings. Treatment in misc. units. Disposal in landfills. Post-Closure Care.	Facility
09/26/97	EPA	ALD000622464	Storage and Treatment of hazardous waste in containers and landfill disposal.	Facility
TSCA PERMITS				
04/13/07	EPA	ALD000622464	TSCA Waste Disposal Approval - PCBs and PCB Items	Facility
08/22/01	EPA	ALD000622464	TSCA Waste Disposal Approval - PCBs and PCB Items	Facility
10/31/95	EPA	ALD000622464	TSCA Waste Disposal Approval - Trenches 22-24	Facility
11/20/90	EPA	ALD000622464	TSCA Waste Storage Approval (Interim Status)	Facility
11/27/85	EPA	ALD000622464	TSCA Waste Disposal Authorization	Facility
OTHER PERMITS				
02/10/78	Alabama Department of Public Health	78-1	Disposal of Industrial and Hazardous Wastes	Facility
AIR PERMITS				
11/05/08	ADEM	412-0008-X001	Drum and Decanting Transformer Flushing (Permits 412-0008-Z014 and X053)	*See Referenced Permits*

PART A APPLICATION, SECTION X
LIST OF ENVIRONMENTAL PERMITS
CHEMICAL WASTE MANAGEMENT, INC.
EMELLE, ALABAMA FACILITY

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
11/05/08	ADEM	412-0008-X002	Tanker and Roll-Off Sampling and Storage (Permit 412-0008-X016)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X003	Drum Sampling and Storage (Permits 412-0008-X020, X025, X026, and X029)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X004	Leachate Handling and Treatment (Permits 412-0008-X030-X047, X060, and X061)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X005	Stabilization, Microencapsulation, and Macroencapsulation (Permits 412-0008-X048, and X054-X059)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X006	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe (Permit 412-0008-X027)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X007	Direct Landfill - Drum Void Filling	Facility
11/05/08	ADEM	412-0008-X008	Open Landfill - Trenches	Facility
11/05/08	ADEM	412-0008-X009	Closed Landfills	Facility
11/08/05	ADEM	412-0008-X001	Drum and Decanting Transformer Flushing (Permits 412-0008-Z014 and X053)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X002	Tanker and Roll-Off Sampling and Storage (Permit 412-0008-X016)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X003	Drum Sampling and Storage (Permits 412-0008-X020, X025, X026, and X029)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X004	Leachate Handling and Treatment (Permits 412-0008-X030-X047, X060, and X061)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X005	Stabilization, Microencapsulation, and Macroencapsulation (Permits 412-0008-X048, and X054-X059)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X006	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe (Permit 412-0008-X027)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X007	Direct Landfill - Drum Void Filling	Facility
11/08/05	ADEM	412-0008-X008	Open Landfill - Trenches	Facility
11/08/05	ADEM	412-0008-X009	Closed Landfills	Facility
09/08/96	ADEM	412-0008-X060	25,379 Gallon Fixed-Roof Storage Tank (T-1703) for Leachate	Unit 1700
09/08/96	ADEM	412-0008-X061	25,379 Gallon Fixed-Roof Storage Tank (T-1704) for Leachate	Unit 1700
12/13/93	ADEM	412-0008-X054	Stabilization Unit 1200A Vat #1 with Baghouse	Unit 1200A

PART A APPLICATION, SECTION X
LIST OF ENVIRONMENTAL PERMITS
CHEMICAL WASTE MANAGEMENT, INC.
EMELLE, ALABAMA FACILITY

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
12/13/93	ADEM	412-0008-X055	Stabilization Unit 1200A Vat #2 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X056	Bulk Stabilization Reagent Silo #1 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X057	Bulk Stabilization Reagent Silo #2 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X058	Bulk Stabilization Reagent Silo #3 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X059	Bulk Stabilization Reagent Silo #4 with Baghouse	Unit 1200A
12/01/93	ADEM	412-0008-X053	Drum Filling Station at Decant Processing Building (Unit 700) with Baghouse	Unit 700
08/02/90	ADEM	412-0008-X016	Eight 10,000 gallon fixed-roof Solvent Storage Tanks with a fixed-bed activatedcarbon absorber (T-507-514). One (1) 25,066 gallon tank (T-520) with a fixed bed activated carbon absorber.	Unit 500
08/02/90	ADEM	412-0008-X026	Three (3) Tanker Loading/Unloading Stations with Activated Carbon Absorber	Unit 500
05/19/89	ADEM	412-0008-X030	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1405)	Unit 1400
05/19/89	ADEM	412-0008-X031	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1406)	Unit 1400
05/19/89	ADEM	412-0008-X032	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1407)	Unit 1400
05/19/89	ADEM	412-0008-X033	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1408)	Unit 1400
05/19/89	ADEM	412-0008-X034	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1409)	Unit 1400
05/19/89	ADEM	412-0008-X035	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1410)	Unit 1400
05/19/89	ADEM	412-0008-X036	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1411)	Unit 1400
05/19/89	ADEM	412-0008-X037	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1412)	Unit 1400
05/19/89	ADEM	412-0008-X038	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1413)	Unit 1400
05/19/89	ADEM	412-0008-X039	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1414)	Unit 1400
05/19/89	ADEM	412-0008-X040	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1415)	Unit 1400
05/19/89	ADEM	412-0008-X041	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1416)	Unit 1400
05/19/89	ADEM	412-0008-X042	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1417)	Unit 1400

PART A APPLICATION, SECTION X
LIST OF ENVIRONMENTAL PERMITS
CHEMICAL WASTE MANAGEMENT, INC.
EMELLE, ALABAMA FACILITY

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
05/19/89	ADEM	412-0008-X043	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1418)	Unit 1400
05/19/89	ADEM	412-0008-X044	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1419)	Unit 1400
05/19/89	ADEM	412-0008-X045	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1420)	Unit 1400
05/19/89	ADEM	412-0008-X046	25,379 gallon fixed-roof storage tank for Leachate (T-1701)	Unit 1700
05/19/89	ADEM	412-0008-X047	25,379 gallon fixed-roof storage tank for Leachate (T-1702)	Unit 1700
10/25/88	ADEM	412-0008-X029	Cement Dust/Clay/Sand storage silo with baghouse (Bldg. #702)	Unit 702
10/25/88	ADEM	412-0008-X028	Cement Dust withdrawal and conveying system for silos D004 & D005 with baghouse	Unit 1200
02/23/88	ADEM	412-0008-X027	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe	Unit 901
04/26/85	ADEM	412-0008-X020	Cement Dust Silo/Bag House at Drum Process Facility	Unit 700
04/04/85	ADEM	412-0008-Z014	Draining and Flushing Transformer Facility with two10,000 gallon fixed-roof storage tanks with fixed-bed activated carbon absorbers. (T-634 and T-635)	Unit 600

Table J-1.1
List of Facility Environmental Permits
Chemical Waste Management, Inc.
Emelle, Alabama Facility

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
NPDES PERMITS				
09/01/06	ADEM	AL0050580	Stormwater discharge from DSN001, 002, 003, 005, 007, 008 and DSN013 to Bodka Creek, and DSN006 to Factory Creek. Treated sanitary wastewater discharge to DSN001a, 003a, and 005a. Treated landfill leachate to DSN001b.	Facility
12/11/01	ADEM	AL0050580	Stormwater discharge from DSN001, 002, 003, 004, 005, 007, 008, 009, 010, 011, 012 and DSN013 to Bodka Creek, and DSN006 to Factory Creek. Treated sanitary wastewater discharge to DSN001a, and land application of treated sanitary wastewater. Bio-reactor discharges.	Facility
RCRA PERMITS				
11/08/04	ADEM	ALD000622464	Storage and Treatment of hazardous waste in containers, tanks, and containment buildings. Treatment in misc. units. Disposal in landfills. Post-Closure Care.	Facility
09/26/97	EPA	ALD000622464	Storage and Treatment of hazardous waste in containers and landfill disposal.	Facility
TSCA PERMITS				
04/13/07	EPA	ALD000622464	TSCA Waste Disposal Approval - PCBs and PCB Items	Facility
08/22/01	EPA	ALD000622464	TSCA Waste Disposal Approval - PCBs and PCB Items	Facility
10/31/95	EPA	ALD000622464	TSCA Waste Disposal Approval - Trenches 22-24	Facility
11/20/90	EPA	ALD000622464	TSCA Waste Storage Approval (Interim Status)	Facility
11/27/85	EPA	ALD000622464	TSCA Waste Disposal Authorization	Facility
OTHER PERMITS				
02/10/78	Alabama Department of Public Health	78-1	Disposal of Industrial and Hazardous Wastes	Facility
AIR PERMITS				
11/05/08	ADEM	412-0008-X001	Drum and Decanting Transformer Flushing (Permits 412-0008-Z014 and X053)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X002	Tanker and Roll-Off Sampling and Storage (Permit 412-0008-X016)	*See Referenced Permits*

Table J-1.1
List of Facility Environmental Permits
Chemical Waste Management, Inc.
Emelle, Alabama Facility

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
11/05/08	ADEM	412-0008-X003	Drum Sampling and Storage (Permits 412-0008-X020, X025, X026, and X029)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X004	Leachate Handling and Treatment (Permits 412-0008-X030-X047, X060, and X061)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X005	Stabilization, Microencapsulation, and Macroencapsulation (Permits 412-0008-X048, and X054-X059)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X006	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe (Permit 412-0008-X027)	*See Referenced Permits*
11/05/08	ADEM	412-0008-X007	Direct Landfill - Drum Void Filling	Facility
11/05/08	ADEM	412-0008-X008	Open Landfill - Trenches	Facility
11/05/08	ADEM	412-0008-X009	Closed Landfills	Facility
11/08/05	ADEM	412-0008-X001	Drum and Decanting Transformer Flushing (Permits 412-0008-Z014 and X053)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X002	Tanker and Roll-Off Sampling and Storage (Permit 412-0008-X016)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X003	Drum Sampling and Storage (Permits 412-0008-X020, X025, X026, and X029)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X004	Leachate Handling and Treatment (Permits 412-0008-X030-X047, X060, and X061)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X005	Stabilization, Microencapsulation, and Macroencapsulation (Permits 412-0008-X048, and X054-X059)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X006	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe (Permit 412-0008-X027)	*See Referenced Permits*
11/08/05	ADEM	412-0008-X007	Direct Landfill - Drum Void Filling	Facility
11/08/05	ADEM	412-0008-X008	Open Landfill - Trenches	Facility
11/08/05	ADEM	412-0008-X009	Closed Landfills	Facility
09/08/96	ADEM	412-0008-X060	25,379 Gallon Fixed-Roof Storage Tank (T-1703) for Leachate	Unit 1700
09/08/96	ADEM	412-0008-X061	25,379 Gallon Fixed-Roof Storage Tank (T-1704) for Leachate	Unit 1700
12/13/93	ADEM	412-0008-X054	Stabilization Unit 1200A Vat #1 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X055	Stabilization Unit 1200A Vat #2 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X056	Bulk Stabilization Reagent Silo #1 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X057	Bulk Stabilization Reagent Silo #2 with Baghouse	Unit 1200A
12/13/93	ADEM	412-0008-X058	Bulk Stabilization Reagent Silo #3 with Baghouse	Unit 1200A

Table J-1.1
List of Facility Environmental Permits
Chemical Waste Management, Inc.
Emelle, Alabama Facility

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
12/13/93	ADEM	412-0008-X059	Bulk Stabilization Reagent Silo #4 with Baghouse	Unit 1200A
12/01/93	ADEM	412-0008-X053	Drum Filling Station at Decant Processing Building (Unit 700) with Baghouse	Unit 700
08/02/90	ADEM	412-0008-X016	Eight 10,000 gallon fixed-roof Solvent Storage Tanks with a fixed-bed activatedcarbon absorber (T-507-514). One (1) 25,066 gallon tank (T-520) with a fixed bed activated carbon absorber.	Unit 500
08/02/90	ADEM	412-0008-X026	Three (3) Tanker Loading/Unloading Stations with Activated Carbon Absorber	Unit 500
05/19/89	ADEM	412-0008-X030	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1405)	Unit 1400
05/19/89	ADEM	412-0008-X031	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1406)	Unit 1400
05/19/89	ADEM	412-0008-X032	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1407)	Unit 1400
05/19/89	ADEM	412-0008-X033	508,333 gallon fixed roof tank for Leachate and catchment waters (T-1408)	Unit 1400
05/19/89	ADEM	412-0008-X034	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1409)	Unit 1400
05/19/89	ADEM	412-0008-X035	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1410)	Unit 1400
05/19/89	ADEM	412-0008-X036	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1411)	Unit 1400
05/19/89	ADEM	412-0008-X037	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1412)	Unit 1400
05/19/89	ADEM	412-0008-X038	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1413)	Unit 1400
05/19/89	ADEM	412-0008-X039	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1414)	Unit 1400
05/19/89	ADEM	412-0008-X040	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1415)	Unit 1400
05/19/89	ADEM	412-0008-X041	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1416)	Unit 1400
05/19/89	ADEM	412-0008-X042	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1417)	Unit 1400
05/19/89	ADEM	412-0008-X043	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1418)	Unit 1400
05/19/89	ADEM	412-0008-X044	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1419)	Unit 1400
05/19/89	ADEM	412-0008-X045	250,195 gallon fixed roof storage tank for Leachate and catchment waters (T-1420)	Unit 1400
05/19/89	ADEM	412-0008-X046	25,379 gallon fixed-roof storage tank for Leachate (T-1701)	Unit 1700
05/19/89	ADEM	412-0008-X047	25,379 gallon fixed-roof storage tank for Leachate (T-1702)	Unit 1700

Table J-1.1
List of Facility Environmental Permits
Chemical Waste Management, Inc.
Emelle, Alabama Facility

Date of Issuance	Issuing Agency	Permit Number	Permit Description	Unit No. at Facility
10/25/88	ADEM	412-0008-X029	Cement Dust/Clay/Sand storage silo with baghouse (Bldg. #702)	Unit 702
10/25/88	ADEM	412-0008-X028	Cement Dust withdrawal and conveying system for silos D004 & D005 with baghouse	Unit 1200
02/23/88	ADEM	412-0008-X027	3,000 gallon unleaded gasoline tank (T-901) with submerged fill pipe	Unit 901
04/26/85	ADEM	412-0008-X020	Cement Dust Silo/Bag House at Drum Process Facility	Unit 700
04/04/85	ADEM	412-0008-Z014	Draining and Flushing Transformer Facility with two10,000 gallon fixed-roof storage tanks with fixed-bed activated carbon absorbers. (T-634 and T-635)	Unit 600

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: **CHEMICAL WASTE MANAGEMENT**

FACILITY NAME: **EMELLE FACILITY**

LOCATION: **EMELLE, ALABAMA**

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X001	Drum and Decanting Transformer Flushing for the following units, Z014 and X053.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 5, 2008

Alabama Department of Environmental Management

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: CHEMICAL WASTE MANAGEMENT

FACILITY NAME: EMELLE FACILITY

LOCATION: EMELLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X002	Tanker and Roll-off Sampling and Storage for the following unit, X016.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 5, 2008

Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: **CHEMICAL WASTE MANAGEMENT**

FACILITY NAME: **EMELLE FACILITY**

LOCATION: **EMELLE, ALABAMA**

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X003	Drum Sampling and Storage for the following units, X020, X025, X026, and X029.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 5, 2008

Alabama Department of Environmental Management

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: **CHEMICAL WASTE MANAGEMENT**

FACILITY NAME: **EMELLE FACILITY**

LOCATION: **EMELLE, ALABAMA**

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X004	Leachate Handling and Treatment for the following units, X030, X031, X032, X033, X034, X035, X036, X037, X038, X039, X040, X041, X042, X043, X044, X045, X046, X047, X060, and X061.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 5, 2008

Alabama Department of Environmental Management

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: CHEMICAL WASTE MANAGEMENT

FACILITY NAME: EMELLE FACILITY

LOCATION: EMELLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X005	Stabilization, Microencapsulation, and Macroencapsulation for the following units, X048, X054, X055, X056, X057, X058 and X059.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: May 31, 2007

Alabama Department of Environmental Management

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

SYNTHETIC MINOR SOURCE OPERATING PERMIT

PERMITTEE: CHEMICAL WASTE MANAGEMENT

LOCATION: EMELLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X006	3,000 Gallon Unleaded Gasoline Storage Tank (T-901) with Submerged Fill Pipe for the following unit, X027.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§22-28-1 to 22-28-23 (the "AAPCA") and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 8, 2005

Alabama Department of Environmental Management

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

SYNTHETIC MINOR SOURCE OPERATING PERMIT

PERMITTEE: CHEMICAL WASTE MANAGEMENT

LOCATION: EMELLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X007	Direct Landfill – Drum Void Filling.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§22-28-1 to 22-28-23 (the "AAPCA") and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 8, 2005

Alabama Department of Environmental Management

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: **CHEMICAL WASTE MANAGEMENT**

FACILITY NAME: **EMELLE FACILITY**

LOCATION: **EMELLE, ALABAMA**

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X008	Open Landfill – Trenches.

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code §§22-28-1 to 22-28-23 (1997 Rplc. Vol. and 2006 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code §§22-22A-1 to 22-22A-15 (1997 Rplc. Vol. and 2006 Cum. Supp.), and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 5, 2008

Alabama Department of Environmental Management

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

SYNTHETIC MINOR SOURCE OPERATING PERMIT

PERMITTEE: CHEMICAL WASTE MANAGEMENT

LOCATION: EMELLE, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
412-0008-X009	Closed Landfills

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§22-28-1 to 22-28-23 (the "AAPCA") and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: September 8, 2005

Alabama Department of Environmental Management

LANCE R. LEFLEUR
DIRECTOR

ADEM

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

JULY 11, 2012

MR MICHAEL J DAVIS
SENIOR DISTRICT MANAGER
WASTE MANAGEMENT INC
36964 ALABAMA HIGHWAY 17
EMELLE AL 35459

RE: **NPDES PERMIT NUMBER AL0050580**

Dear Mr. Davis:

Attached is the issued copy of the above referenced permit. Please note the permit limitations and conditions with which the permittee must comply.

Future monitoring data should be submitted in accordance with the conditions of your permit. Please see PART I.C for your reporting requirements. To reduce the paperwork burden for both the Department and the Permittee, when submitting the required Discharge Monitoring Reports (DMRs), please **do not submit** lab worksheets, logs, reports or other paperwork not specifically required by the permit unless requested by ADEM staff.

For your convenience, DMR forms for the first three months following the permit effective date are attached. In the future, you should receive pre-printed DMR forms from the Department near the beginning of each calendar quarter.

Please be aware that Part I.C.1.c of your permit requires that you apply for participation in the Department's web-based electronic environmental (E2) reporting system for submittal of DMRs within 180 days of the effective date of this permit unless valid justification as to why you cannot participate is submitted in writing. After 180 days, hard copy DMRs may be used only with written approval from the Department. The E2 DMR system allows ADEM to electronically validate, acknowledge receipt, and upload data to the state's central wastewater database. This improves the accuracy of reported compliance data and reduces costs to both the regulated community and ADEM. The Permittee Participation Package may be downloaded online at **https://e2.adem.alabama.gov/npdes** or you may obtain a hard copy by submitting a written request or by emailing **e2admin@adem.alabama.gov**.

If you have questions regarding this permit or monitoring requirements, please contact Wayne Holt by email at **WHolt@adem.state.al.us** or by phone at **(334) 271-7847**.

Sincerely,

Eric Sanderson, Chief
Industrial Section
Water Division

Enclosure: Final Permit
cc: EPA Region IV: Final Permit
Mike McCary, P & S: Final Permit
Montgomery Field Office: Final Permit

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S. W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 16 2007

4APT-PTSB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED
APR 19 2007
WASTE MANAGEMENT
EMELLE, ALABAMA

Dr. Roger Henson
Landfill Division Manager
Chemical Waste Management
P.O. Box 55
Emelle, AL 35459

Dear Dr. Henson:

Enclosed is a document entitled "Approval for Commercial Storage, Processing, and Landfill Disposal of Polychlorinated Biphenyls (PCBs) and PCB Items." This document permits Chemical Waste Management, Inc., (CWM) to store, process and dispose of PCB waste subject to the conditions of the approval. This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA) and the federal PCB regulations, 40 CFR Part 761.

A public notice of the availability of the draft approval for review and request for comments was published in the Sumter County Record-Journal on March 1, 2007. The public notice along with a copy of the draft approval and CWM's approval renewal application was also posted on EPA Region 4's PCB home page. EPA did not receive any comments on the draft approval during the 30-day public comment period.

This approval is effective today, on the date of signature and will expire concurrently with CWM's Resource Conservation and Recovery Act Part B permit on November 7, 2009. This approval may be modified, withdrawn or further conditions may be added to it at any time EPA has reason to believe that CWM's PCB disposal or storage activities present an unreasonable risk of injury to health or the environment. Withdrawal of the approval or imposition of further conditions may also result from future EPA rulemaking with respect to PCBs. Moreover, violation of any condition included as part of this approval and/or applicable PCB regulations may subject CWM to TSCA enforcement action and/or termination of this approval.

It is the responsibility of CWM to comply with all applicable provisions of TSCA, the federal PCB regulations, and this approval in storing, processing and disposal of PCBs. Furthermore, this approval does not relieve CWM of any responsibility to comply with all other applicable federal, state, and local regulations and ordinances for operation and maintenance of the facility. EPA reserves the right to inspect the CWM Emelle

Internet Address (URL) • http://www.epa.gov
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Kronable, Robert

From: Sweeney, Jennifer
Sent: Thursday, April 16, 2015 7:06 PM
To: swhitworth@osageva.com
Cc: Box, April; Davis, Mike; Kronable, Robert
Subject: FW: OSR Approval

Hi Shaun-

CWM-Emelle is currently a CERCLA approved facility. However, we no longer use our original "letter" as proof of our CERCLA approval. Prior to waste shipment, the federal contractor on-site must obtain a "VCA" or Verification of Continued Acceptability from EPA region IV to ensure any CERLA facility is still CERCLA approved.

Paula Whiting is the contact for EPA region IV.

WM cannot request the VCA. The request must come from federal/DOE contractor. See below link for process & contact information.

http://www.epa.gov/epawaste/hazard/wastetypes/wasteid/offsite/index.htm

I hope this answers your question. Feel free to call or e-mail if I can be of further assistance.

Thank you,
Jennifer

Jennifer Sweeney, CHMM
ESP Manager
Phone: 904.524.5589
jsweene1@wm.com

Waste Management
36964 Alabama Hwy 17
P.O. Box 55
Emelle, AL 35459

From: Shaun Whitworth [mailto:swhitworth@osageva.com]
Sent: Tuesday, April 14, 2015 1:35 PM
To: TSCAlabama
Subject: OSR Approval

Hi

Would it be possible to get documentation that your facility has a valid USEPA Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Off-site Rule approval (40 CFR 300.440)? I looked at your website which says you do but my client is looking for a letter or something documenting OSR approval.

Thanks,

Shaun C. Whitworth, P.G.
Osage of Virginia, Inc.

ADEM
Alabama Department of Environmental Management

HAZARDOUS WASTE TRANSPORT PERMIT

PERMITTEE:	**Chemical Waste Management Inc.**
ADDRESS:	**36964 Alabama Highway 17 Emelle, AL 35459**
PERMIT NUMBER:	**ALD 000 622 464**
HAZARDOUS WASTES APPROVED:	**All hazardous waste identified by Rules 335-14-2-.02. through 335-14-2-.04, inclusive, and used oil identified by Rule 335-14-17-.02 of the ADEM Administrative Code**
TRANSPORTATION MODE:	**Highway**

In accordance with and subject to the provisions of the Hazardous Waste Management Act of 1978, as amended, Code of Alabama 1975, §§22-30-1 to 22-30-2, the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to transport the approved hazardous wastes by the approved transportation mode.

ISSUANCE DATE:	**August 10, 2016**
EFFECTIVE DATE:	**October 27, 2016**
EXPIRATION DATE:	**October 26, 2019**

Alabama Department of Environmental Management

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

August 10, 2016

CERTIFIED MAIL # 91 7108 2133 3936 7156 2261

Mr. John Griffith
P. O. Box 55
Emelle AL 35459

RE: Permit Number ALD 000 622 464
Chemical Waste Management Inc.
36964 Alabama Highway 17
Emelle, AL 35459

Dear Mr. Griffith:

Enclosed is the Alabama Hazardous Waste Transport Renewal Permit for *Chemical Waste Management Inc.* of 36964 Alabama Highway 17, Emelle, Alabama. This permit is valid for three years from October 27, 2016 to October 26, 2019. If the anticipated transportation of used oil in Alabama is longer than the term of this permit, a renewal application must be submitted to the Department at least 180 days before the expiration date of this permit to avoid delays. It is the Permittee's responsibility to be aware of the expiration date of the Permit and the *Certificate of Liability Insurance.*

The wastes allowed for transport are specified in this permit. Pursuant to the requirements of the Alabama Department of Environmental Management Administrative Code Rule 335-14-17-.05(9)(a), a copy of this permit and a copy of the contingency plan required by Rule 335-14-8-.09(4)g must be maintained in each vehicle actively transporting used oil.

If questions or comments arise regarding this matter, please contact Mr. Naveen Sharma at (334) 270-5608 (ncs@adem.state.al.us) or Mr. Metz Duites (mpd@adem.state.al.us).

Sincerely,

Vernon H Crockett, Chief
Industrial Hazardous Waste Branch
Land Division

VHC/NCS/nbf

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

Chemical Waste Management
Emelle

Commonly Accepted Waste Types

- Asbestos
- Auto shredder residue
- Contaminated soils - hazardous (RCRA), non-hazardous and PCB (TSCA)
- CERCLA wastes
- Debris for treatment or disposal (including empty tanks and vessels)
- Drummed wastes (liquid and solids)
- E&P Wastes
- Industrial & Special Wastes
- Lab packs
- NORM wastes*
- Off-spec or out of date chemicals
- Palletized waste
- PCB's including capacitors and transformer
- Contaminated debris and equipment
- Plating wastes
- Refinery wastes

Emelle can accept all RCRA waste codes.

*NORM Waste is accepted on a case-by-case basis

YEAR OPENED
1978

PROJECTED LIFE REMAINING
100+ years

FACILITY ACREAGE
2,700 acres

PERMITTED FOOTPRINT
650 acres

REMAINING PERMITTED CAPACITY
2 million yd^3 in trench 22

OWNERSHIP
Waste Management

PERMIT TYPE & PERMIT #
RCRA and TSCA EPA ID Permit
ALD000622464

REGULATORY AGENCIES
EPA Region IV and the Alabama Department of Environmental Management (ADEM)

Chemical Waste Management (CWM) Emelle provides area businesses, industries, and the public with professional, safe, and efficient hazardous waste transportation, treatment and disposal services.

The Emelle facility cost-effectively serves the business triangle from the Midwest states to the eastern seaboard to the Gulf coast area. In operation since 1978, this award winning, environmentally safe hazardous waste facility boasts a stellar safety record and an unmatched technical service team with more than 16 years experience per representative. CWM Emelle adheres to strict regulations administered and overseen by the Environmental Protection Agency (EPA) Region IV and the Alabama Department of Environmental Management (ADEM). This facility is a Certified Wildlife Habitat by the Natural Wildlife Habitat Council and is positioned on a 2,700-acre site (with 650 acres permitted for disposal operations).

Literally, one of the most secure treatment and disposal facilities in the world, this remote operation is built on more than 600 feet of impermeable "Selma Chalk" limestone. Disposal cells, constructed under very strict EPA and state guidelines, are constructed into the Selma Chalk with double layers of 60 mil High Density Poly Ethylene (HDPE). Additional security measures include a complex leak detection system and sophisticated leachate collection system containing 81 monitoring wells and 6 RCRA wells, with 8 sediment basins to prevent run off.

TREATMENT AND SERVICE OPTIONS

Asbestos disposal

Drum collection, treatment and transshipment

Fuels Blending

Drum and bulk liquid/solids transportation

Macroencapsulation

Mercury long-term storage

Microencapsulation

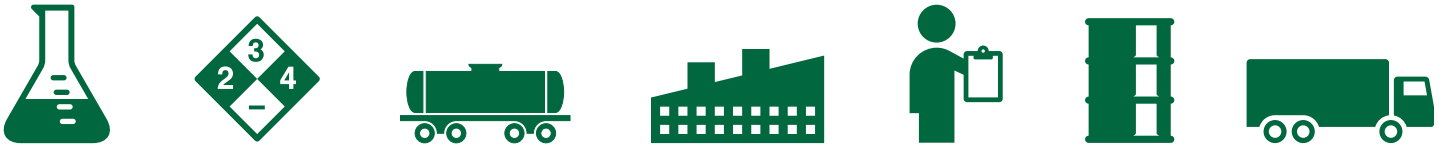
RCRA landfill disposal

Rail transportation

Stabilization

Solidification

Storage and transfer for recycling and thermal treatment



Waste Management's Industrial and Hazardous Waste Services include:

Direct Landfill

The CWM Emelle facility is ideally suited for the direct landfill of RCRA and TSCA wastes that naturally meet treatment standards. CWM Emelle routinely handles large volume soil projects delivered by truck or rail. The personnel at CWM Emelle are available to assist you with transportation design and scheduling to ensure that your soil or remediation projects have streamlined access and quick turnaround times.

Microencapsulation

Microencapsulation involves coating hazardous inorganic debris with a custom-tailored mixture of proprietary agents that significantly reduces the debris from leaching hazardous constituents into the surrounding landfill environment. It is the preferred treatment method for debris that can be fully coated on all surfaces – both exterior and interior. Most hazardous debris qualifies for this treatment process. Common examples include refractory brick, rocks and concrete.

Macroencapsulation

Macroencapsulation entails placing hazardous debris into a WM-patented, one-piece containment unit made from high-strength HDPE specially designed as a hazardous waste debris management container to ensure non-leachablity of the waste stream. HAZWOPER trained personnel fill any remaining void space with sand and then weld the container closed. The secure container is then transferred to an appropriate cell within the footprint of the RCRA Subtitle C landfill for safe, permanent disposal. Macroencapsulation is appropriate for virtually any hazardous debris that fits in a 20-cubic-yard roll-off box. Common examples include concrete, piping, filters, rags, hoses, crushed containers and motors.

Stabilization

Hazardous waste requiring stabilization is treated using cement and/or cement byproducts, along with other reagents to reduce the hazardous metals leachability. Process recipes are developed for each waste stream and post treatment analysis (TCLP) is performed to confirm that the recipe will treat the waste stream to levels below Land Disposal Restriction (LDR) standards. The Stabilization operation is housed in a secondary containment building comprised of two 90 cubic yard treatment vats. Each vat has a dust collection system, which minimizes hazardous air pollutants from exiting the process.

PCB Disposal

Polychlorinated biphenyls (PCBs) are chemical compounds once widely used in a variety of manufactured products including paints, adhesives, machinery lubricants and heat transfer fluids. Our Emelle facility is able to provide the infrastructure, equipment and technical expertise to transport, treat and/or dispose of manufactured materials, soil, sediment and debris contaminated with PCBs in a manner that is both cost-effective and in compliance with all local, state and federal environmental regulations. CWM Emelle offers all disposal options for PCB fluid and PCB articles. Transformers can be decommissioned and landfilled or recycled. Transformer fluid and flush material is transshipped to an approved incinerator for destruction. PCB capacitors (depending on size) can be landfilled or transshipped to an approved incinerator for destruction, and PCB contaminated equipment and debris is landfilled.

Drum Management Services

CWM Emelle offers safe, reliable and cost-effective drum management services for LTL (Less-Than-Truckload) and full truckload quantities. An expert in special and industrial waste, as well as hazardous waste handling and disposal, we will collect, transport and arrange for the proper treatment and/or disposal of drums or palletized containers while maintaining compliance with all federal, state, local, DOT and EPA regulations. CWM Emelle serves as a regional disposal and transfer facility managing liquid and solids drums. Upon receipt, drums are sampled, analyzed, segregated or consolidated, treated or transhipped for management with the most appropriate technology allowed by law.

Mercury Storage

Operated by WM Mercury Waste, Inc., a wholly-owned subsidiary of Waste Management, and approved by the Department of Energy (DOE), CWM Emelle offers long-term mercury storage at this facility. Emelle is one of only a few facilities in the United States that is sanctioned by USEPA and DOE to provide long-term mercury storage. Extensive operational control technologies and safety procedures ensure secure mercury storage in strict compliance with EPA, OSHA, and State agency operating guidelines.

Transportation Specialists

Whatever the quantity or the size of your shipment, our transportation specialists are on hand and ready to assist you with the secure transport of your RCRA, TSCA or non-hazardous waste shipments. The real value of our transportation capabilities lies with the regulatory knowledge and experience of our personnel. For the past thirty years, we have moved all types of sensitive cargo whether it's a single drum of corrosive materials, flatbeds of electrical transformers or loading and unloading gondola rail cars with regulated materials. Emelle's standard of care includes logistics and transportation design and providing pre-populated manifests and/or drum labels. We will work around your schedule to coordinate and implement an economical solution to your transportation challenges.

Customer Service

Excellence in customer service is defined by our ability to find the best solution even if the solution is not immediately available. When you don't have the answer or you're uncertain how regulations apply, we're there to help you find the answers:

- Is it more cost effective to ship your material by drum, rail or bulk?
- How do the treatment codes apply this waste type?
- Can you get your material approved and processed for shipment this week?
- What would you recommend for testing parameters?

If you have questions or challenges, we're here to help you find the solutions so that you can focus on your facility, your manufacturing activities or your remediation and land redevelopment projects. Our experienced Technical Service Representatives and Waste Approval teams are up to the challenge.

CONTACT CWM EMELLE

Technical Support
Technical Service Center Alabama
800 963 4776
TSCAlabama@wm.com

ADDRESS
36964 Highway 17 North
P.O. Box 55
Emelle, AL 35459

COMMUNITY RELATIONS
Rene Faucheux
985 639 7114
rfaucheu@wm.com

HOURS OF OPERATION
7:30am–3:30pm CST
Monday–Friday
Closed Saturday and Sunday
Special hours available upon request

Questions about industrial and hazardous waste services?

Contact a Waste Management representative:

Call 800 963 4776

Visit WMSolutions.com

Send an email to TSCAlabama@wm.com

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WASTE MANAGEMENT

THINK GREEN.®

Category D – Subtitle C Landfill
TSCA PCBs

US Ecology

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

May 4, 2012

Mr. Michael J. Takacs
Regulatory Specialist
EQ The Environmental Quality Company
Wayne Disposal, Inc.
49350 North I-94 Service Drive
Belleville, Michigan 48111

Dear Mr. Takacs:

SUBJECT: Hazardous Waste Management Facility Expansion Operating License (License); Wayne Disposal, Inc. (WDI), Belleville, Michigan; MID 048 090 633

The Department of Environmental Quality (DEQ), Resource Management Division (RMD), has completed its review of the License application from WDI. Based on that review and the results of the public hearing held on March 12, 2012, the DEQ has issued the License to WDI pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The License application review and the public participation procedures were conducted in accordance with Part 111.

Enclosed are copies of the License, Response to Comments, and Notice of Final Decision. The license attachments that were previously provided with the draft License have not changed, so they can be included with this final License. If you have any questions or comments, please contact Mr. Peter Quackenbush, Hazardous Waste Section, RMD, at 517-373-7397; quackenbushp@michigan.gov; or DEQ, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Liane J. Shekter Smith, P.E., Chief
Resource Management Division
517-373-9523

Enclosures
cc: Mr. Scott Maris, EQ The Environmental Quality Company
Ms. DeLores Montgomery/Mr. David Slayton, DEQ
Mr. Michael Busse, DEQ
Mr. Peter Quackenbush/Mr. Joseph Rogers, DEQ
Mr. Leo Parks, DEQ
Operating License File

State of Michigan
Department of Environmental Quality
HAZARDOUS WASTE MANAGEMENT FACILITY EXPANSION OPERATING LICENSE

NAME OF LICENSEE: Wayne Disposal, Inc.

NAME OF FACILITY OWNER: EQ – The Environmental Quality Company

NAME OF FACILITY OPERATOR: Wayne Disposal, Inc.

NAME OF TITLEHOLDER OF LAND: Wayne Disposal, Inc.

FACILITY NAME: Wayne Disposal, Inc.

FACILITY LOCATION: 49350 North I-94 Service Drive
Belleville, Michigan 48111

EPA IDENTIFICATION (ID) NUMBER: MID 048 090 633

EFFECTIVE DATE: May 4, 2012

REAPPLICATION DATE: November 5, 2021

EXPIRATION DATE: May 4, 2022

AUTHORIZED ACTIVITIES

Pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§324.11101 to 324.11153 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 *et. seq.* of the Michigan Administrative Code, by the Department of Environmental Quality (DEQ), an operating license (hereafter called the "license") is issued to Wayne Disposal, Inc. (hereafter called the "licensee"), to operate a hazardous waste management facility (hereafter called the "facility") located at latitude 42° 13' 30" N and longitude 83° 31' 00" W. The licensee is authorized to conduct the following hazardous waste management activities:

☒ STORAGE	☐ TREATMENT	☒ DISPOSAL	☒ POSTCLOSURE
☐ Container	☐ Container	☒ Landfill	☐ Tank
☒ Tank	☐ Tank	☐ Land Application	☐ Surface Impoundment
☐ Waste Pile	☐ Surface Impoundment	☐ Surface Impoundment	☒ Landfill
☐ Surface Impoundment	☐ Incinerator		☐ Waste Pile
☐ Drip Pad	☐ Other:		

APPLICABLE REGULATIONS AND LICENSE APPROVAL

The conditions of this license were developed in accordance with the applicable provisions of the rules, effective March 17, 2008. The licensee shall comply with all terms and conditions of this license. This license consists of the 32 pages of conditions attached hereto (along with those in Attachments 1 through 16) and the applicable regulations contained in R 299.9101 through R 299.11008, as specified in the license. For purposes of compliance with this license, applicable rules are those that are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information in the license application submitted on March 4, 2011, and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(11)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, as amended on December 22, 2010; the rules; and this license.

This license is effective on the date of issuance and shall remain in effect for 10 years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306). Pursuant to R 299.9516, this license shall be reviewed by the DEQ 5 years after the date of issuance and shall be modified as necessary in accordance with the provisions of R 299.9519 and R 299.9520.

Issued this 4th day of May, 2012

by Liane J. Shekter Smith

Liane J. Shekter Smith, P.E., Chief
Resource Management Division

Customer Audit Manual

THE ENVIRONMENTAL QUALITY COMPANY

Michigan Disposal Waste Treatment Plant
Wayne Disposal, Inc. Site #2 Landfill

THE ENVIRONMENTAL QUALITY COMPANY

Presents...

Michigan Disposal Waste Treatment Plant
Wayne Disposal, Inc., Site #2 Landfill

49350 North I-94 Service Drive
Belleville, MI 48111
Phone (734) 699-6201
Fax (734) 699-3499
www.eqonline.com

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VIII. ISO Certification

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I. Facility Overview

Corporate Headquarters
EQ – The Environmental Quality Company
36255 Michigan Avenue
Wayne, MI 48184
T 734.329.8000
F 734.329.8140
Hours 8:00 a.m. – 5:00 p.m.
Monday - Friday

Michigan Disposal Waste Treatment Plant (MDWTP)
49350 North I-94 Service Drive
Belleville, MI 48111
Storage, treatment and stabilization of hazardous and non-hazardous wastes.

EPA ID#	MID 000 724 831
NAICS Code	562211
SIC Code	4953
Corporate Tax ID#	20-5676570
Federal Tax ID#	38-2115534
Dun & Bradstreet	05-897-2555

Wayne Disposal, Inc., Site #2 (WDI)
49350 North I-94 Service Drive
Belleville, MI 48111
Active hazardous waste and TSCA landfill, closed non-hazardous waste landfill.

EPA ID#	MID 048 090 633
NAICS Code	562211
SIC Code	4953
Corporate Tax ID#	20-5676570
Federal Tax ID#	38-1579154
Corporate D&B	05-897-2555
Dun & Bradstreet	04-809-0633

Hours 7:00 a.m. – 5:00 p.m.
Monday – Friday
(also by appointment)

Ownership and Incorporation
Michigan Disposal Waste Treatment Plant (hereafter called MDWTP) and Wayne Disposal, Inc. Site #2 Landfill (hereafter called WDI) are privately owned and independently operated Subchapter C Corporations.

Relationship to other EQ Companies
MDWTP and WDI (located at Site #2) are independent companies, which are represented in the marketplace by the EQ name. EQ associates (the employees of EQ) proudly present the following information as an overview of the WDI and MDWTP facilities. Each facility is a separately permitted Treatment, Storage and Disposal Facility (TSDF) that provides safe and effective hazardous waste management solutions. If the answers to your questions about these facilities do not appear in the following pages, all you need to do is ask and an EQ associate will be pleased to provide you with the information you seek.

II. Operations

Waste Evaluation, Pre-Approval and Receipt

In order to utilize this facility, a generator must send the completed Generator Waste Characterization Report along with supporting analytical laboratory reports or Material Safety Data Sheets. A one-quart sample of the waste may be required for additional analysis. Simultaneously, a completed New Account Application form should be submitted to EQ's corporate office to establish an account. If the waste can be treated, EQ personnel will provide a Letter of Approval and the appropriate Land Disposal forms to accompany each new waste profile or Waste Characterization Report.

The price quote is signed by the customer and returned to EQ, indicating acceptance of the terms. A manifest, or appropriate shipping document must accompany each load to the facility. Upon arrival at the facility, the transporter is directed by site security to the waste receipt area where the vehicle is weighed and a sample of the waste and the shipping documents are reviewed for consistency with the Waste Characterization Report for the wastestream.

If the waste does not match the Waste Characterization Report or other inconsistencies appear on the manifest or Land Disposal Restriction form, the discrepancy is resolved through discussions, as appropriate, with the transporter, broker or generator.

If significant discrepancies in type or quantity of waste cannot be resolved, even after discussions, the load is rejected. EQ personnel will assist the transporter in making arrangements and procuring shipping documents needed to move the waste to the appropriate destination.

Container Storage and Containment Areas

Drums are unloaded from the trucks in a container staging area. The staging area is designed to hold the current permitted inventory of 400 containers or 22,000 gallons of waste. There is also a container storage area which never exceeds the current permitted capacity of 1,500 containers or 82,500 gallons. The concrete bases of the staging and storage areas are sloped to blind sumps to contain and control any potential spill. All waste containing storage tanks (#16, 17, 18, 19, 25 and 27) are within a diked containment area.

Treatment Processes and Quality Control – Stabilization and Chemical Oxidation

MDWTP uses two primary treatment processes, chemical fixation (also known as stabilization, solidification or pozzolanic stabilization), and chemical oxidation. Chemical fixation relies on using treatment reagents rich in stabilization and solidification agents to provide a solid stabilized mass when mixed with wastes in a semi-aqueous medium. The most commonly utilized materials in the MDWTP process are soluble silicates, lime, cement kiln dust, fly ash, and in part, electric arc furnace dust. All compounds contain either soluble silicates, 10-30% calcium oxide or a combination of the two and effectively stabilize waste in a slightly exothermic reaction.

The chemical oxidation process involves mixing an oxidizing agent into wastes. Chemical oxidation is used to treat wastes containing organic contaminants and is effective in destroying organics by breaking the carbon to carbon bonds. In addition to our primary treatment processes, we also offer chemical Deactivation, Neutralization, Microencapsulation, and Chemical Reduction (See Appendix 5).

Prior to removal from the treatment tank, each batch of waste treated in the plant is appropriately analyzed, using the required SW-846 test methods to ensure that all applicable treatment standards have been met. After clearance to remove the treated waste is granted to the plant operators by the analytical laboratory staff, the material is then removed for final disposal. A land disposal certification for each batch documents the attainment of levels below land disposal restriction standards for the applicable constituent of concern.

Treatment residuals of the listed wastes continue to be managed as hazardous wastes in accordance with the mixture and derived-from rules. Such treated hazardous wastes are sent to Wayne Disposal's Subtitle C Hazardous Waste Landfill, located adjacent to Michigan Disposal Waste Treatment Plant.

Treatment residuals of the characteristic wastes are no longer regulated as hazardous wastes. Such nonhazardous waste is sent to an appropriately permitted facility.

All MDWTP operating log documents, including analytical results and certifications, are maintained at Site #2 in accordance with the appropriate records retention requirements.

Storage Tanks For Treatment Reagents and Wastes

STORAGE TANK NO.	CAPACITY	DESCRIPTION
1	20,000 gal.	Hazardous waste/Lime storage silo
2	20,000 gal.	Hazardous waste/Lime storage silo
3	20,000 gal.	Hazardous waste/Lime storage silo
11	40,000 gal.	Sludge Receiving Tank
12	40,000 gal	Sludge Receiving Tank
16	20,000 gal	Waste/Reagent storage tank
17	20,000 gal	Waste/Reagent storage tank
18	20,000 gal	Waste/Reagent storage tank
19	20,000 gal	Waste/Reagent storage tank
25	20,000 gal	Waste/Reagent storage tank
27	20,000 gal	Waste/Reagent storage tank

Treatment Facility Design and Construction

MDWTP was constructed in 1990 and allows liquid and solid wastes from select generators to be combined in batches formulated for treatment to levels below land disposal restriction levels. Treatment occurs concurrently with physical solidification in tanks. The treatment tanks are steel tanks that are built completely within a concrete containment structure. The base of the concrete containment slopes toward the north and east to a low point beneath the northeast corner of each tank. A monitoring well is located at the low point to demonstrate that no liquids are released from the primary containment area.

MDWTP Treatment Tanks

TREATMENT TANK NO.	CAPACITY	DESCRIPTION
A	280 Cu. yd.	Hazardous Waste Storage /Treatment Tank
B	280 Cu. yd.	Hazardous Waste Storage /Treatment Tank
C	235 Cu. yd.	Hazardous Waste Storage /Treatment Tank
D	235 Cu. yd.	Hazardous Waste Storage /Treatment Tank
E	235 Cu. yd.	Hazardous Waste Storage /Treatment Tank
F	235 Cu. yd.	Hazardous Waste Storage /Treatment Tank
G	280 Cu. yd.	Hazardous Waste Storage /Treatment Tank
H	280 Cu. yd.	Hazardous Waste Storage /Treatment Tank

Secure Landfill Disposal at Wayne Disposal, Inc.

Wayne Disposal, Inc. (WDI) provides secure disposal for hazardous waste. Master Cell VI is currently accepting hazardous and TSCA wastes for disposal. The design and construction criteria for this cell can be found in Appendix 14. A minimum of ten feet of continuous native clay underlies the double composite liner system. The composite liner combines the impermeability of a high density polyethylene (HDPE) with the stability of the supporting clay layer.

Between the primary and secondary composite liners there is a drainage net covered by a fabric filter which is sloped to a sump. This structure comprises the leak detection, collection and removal system (LDCRS). Further details about the LDCRS can be found in Section VII, Environmental Monitoring.

All WDI operating records are maintained at WDI in accordance with applicable record retention requirements.

Ancillary Support Systems

A work-force of over 650 EQ associates provides manpower and support to each of the facilities through specialized skills and knowledge in the following service areas:

Analytical Laboratories
Customer Resource Team
Environmental, Health and Safety Services
Finance and Accounting
Human Resources
Operations
Regulatory Affairs
Industrial Services

Through the efforts of this team of highly qualified specialists at MDWTP and WDI, EQ has become a recognized leader in development and implementation of innovative technologies and systems to protect the environment.

EQ Analytical Laboratories

A commercially available analytical laboratory on-site offers customers a wide range of testing for wastes according to the procedures prescribed in SW-846 "Test Methods for Evaluating Solid Wastes" (3rd edition).

Waste Water Treatment Plant (WWTP)

A treatment plant which pretreats on-site leachate and potentially contaminated surface water prior to discharge to the Egeland Waste Water Treatment Plant. WWTP solid residuals are managed on site at MDWTP as F039. Only waste waters generated by EQ facilities are treated at this plant.

EQ Waste Energy Services

EQ Waste Energy Services extracts and purifies methane gas generated by decomposing wastes in closed nonhazardous landfill units. The plant converts methane gas into electricity to power approximately 1500 homes served by a local utility.

III. Site Description

Site History

Prior to development the site was partially wooded and open fields. In 1958, Wayne Disposal, Inc. (WDI) constructed landfills at other locations and began offering waste disposal services. From 1970 to 1975, Site #1 immediately west of the present site was active. In 1975, the second landfill, Site #2, was started. Beginning in 1980, WDI operations segregated hazardous waste from nonhazardous waste in separate and distinctly different landfill cells.

To prevent liquids from being placed into the landfill, Michigan Disposal, Inc. (MDI) waste stabilization and fixation plant was established in 1974. The facility presently in operation was constructed in 1990. The former plant was clean closed at that time. In 1992, the Michigan Disposal, Inc. (MDI) name was officially changed to Envotech Management Services, Inc. (EMSI) and in 1995, the facility name was switched back to Michigan Disposal Waste Treatment Plant (MDWTP).

Directions and Zoning

Located in southeastern Michigan, Site #2 is approximately ten miles west of Detroit Metro Airport along the I-94 corridor. The facility is located northwest of Belleville (population 3,366) in Wayne County, Michigan. Approaching from the east, exit at Belleville Road and travel north to the first light. Proceed west along the North Service Drive approximately two miles to EQ's main entrance gate. Transporters are required to approach the site from the west, exiting I-94 at Rawsonville Road and traveling north to the stop sign. Turn right and proceed east along the North Service Drive approximately two miles to EQ's main gate entrance.

The nearest residential neighbor is approximately one-quarter mile south of the site across I-94, a six-lane freeway. To the east lies a tract of undeveloped land which buffers the Quirk subdivision one-quarter of a mile away. Surrounding areas are developed for commercial and industrial purposes. Willow Run Airport borders the site to the north. An asphalt company and a self-storage unit company are located west of the site.

Although the facility occupies over 400 acres, WDI has licensed 120 acres for hazardous waste placement and 7.5 acres are licensed for MDWTP operations.

Climate

Prevailing winds at the site are from the southwest. The ambient air monitoring program conducted for the site indicates no negative impact upon the atmospheric environment. For greater detail refer to Section VII, Environmental Monitoring.

Annual rainfall in the area is approximately 31 inches. Precipitation falling onto the site is managed either as non-contact surface water or potentially contaminated surface water. Non-contact surface water is collected in a sedimentation basin and is discharged to the west branch of the Quirk Drain. Any surface water which may have contacted waste is considered potentially contaminated. It is collected and managed with the leachate collected from waste cells at the on-site wastewater treatment plant. The surface water monitoring program conducted for the site indicates no negative impact upon the waters of the area. For greater detail refer to Section VII, Environmental Monitoring.

Topography and Hydrogeology

The site is approximately 700 feet above sea level. When completed, WDI's cells will reach an elevation of 845 feet above sea level. Development of the site required the removal of a layer of sandy silt (up to 15 feet thick) that constituted a perched water table. Diversion berms and ditches conduct water drained from that water table along the northern perimeter eastward to the Quirk Drain and westward to Willow Run Creek.

Regional Hydrogeologic Setting

The region near the WDI and MDWTP facilities is part of a physiographic feature known as a glacial lake plain, which extends from the City of Ypsilanti to the Lake Erie shoreline. The principal characteristics of this feature are an almost flat topography and poor surface drainage. Only thin and discontinuous glacio-lacustrine deposits associated with the lake plain remain today.

Locally, the lake plain is covered by Pleistocene deltaic deposits which were lain when the ancestral Huron River exited the Defiance Moraine and fanned out over the lake plain area. Principal characteristics of this deposit are a gently upward sloping topography to the northwest and the presence of near-surface subsoils consisting of bedded granular materials such as fine sands, silty sands and silts.

Beneath the deltaic deposits is a thick clay-rich glacial till. This deposit is generally considered an ice-contact till and is composed of a clay and silt matrix with various amounts of sand and gravel. At the base of the till are laterally extensive glacial out-wash deposits. These deposits appear to thicken toward the Huron River Valley. There is an erosional channel within the underlying bedrock.

The predominant bedrock underlying the area is the Antrim Formation, a late Devonian shale deposit. Within the region, the Antrim Formation appears to be 50 to 100 feet thick.

Site Hydrogeologic Conditions

Numerous test borings and monitoring wells installed at the site have confirmed that site conditions are representative of the regional hydrogeology. The uppermost unit encountered at most test boring locations is the surface deltaic deposit. This unit has been found to range in thickness from 0 to 23 feet. There is a perched water table within these deltaic deposits. The ground water in this deposit is not usable as a ground water supply due to the low yields and seasonal occurrence in many locations. The depth to the saturated zone is quite variable but averages around 10-15 feet below ground surface.

Because this deposit was removed as part of landfill construction, no permeability tests were conducted on this material. The material is generally a silty fine sand with various amounts of both coarser and finer material. As such, it might be expected to have a coefficient of permeability in the 1×10^{-3} to 1×10^{-5} cm/sec range.

The next unit in the geologic sequence is a thick sequence of silty clay till of glacial origin. This unit ranges from 19 to 77 feet thick at the site and is generally 40-60 feet thick in most areas. Landfill units are constructed within this material. The silty clay till has a mean coefficient of permeability based on numerous tests of 3×10^{-8} cm/sec. This unit is an upper confining unit for the uppermost usable aquifer in most areas of the site. However, along the north site boundary the aquifer is absent and the clays extend all the way to bedrock with only minor sand and silt seams are present within the till.

Beneath the clay till in most areas is a unit referred to as the "transition silt" unit. This "unit" actually represents a somewhat gradual coarsening of the till deposit with increasing depth. This unit is composed of clayey silt, silts and sandy silts and generally exhibits coarser grain size with increasing depth. This unit acts as a second confining layer where present and can be 10-15 feet thick in some areas. Tests on the clayey silt portions of the transition silts yield values between 6.9×10^{-4} to 1.3×10^{-4} cm/sec.

Beneath the clay till and/or transition silts over most of the site is sequence glacial sand and gravel. This unit also tends to become coarser in depth; the upper portion is a silty sand and the lower portion a gravely sand or sandy gravel. This unit is found to be between 0 and 80 feet thick. In general, the deposit tends to increase in thickness to the south. Along the north site boundary the deposit is not found in some areas.

This sand deposit forms the uppermost usable aquifer at the site. It is present at a depth of 50 to 80 feet below ground surface. This aquifer is partially confined (i.e. confined in most areas by the overlying clay till but unconfined in some areas where the till is thinner). It is a usable aquifer from a quality and quantity standpoint, but is not used as the primary source because the entire area has access to a municipal supply.

From limited permeability tests and estimations from grain size analyses it appears that the coefficient of permeability for the silty sands ranges from 1×10^{-5} to 1×10^{-2} cm/sec with a median value around 1×10^{-3} cm/sec. Portions of the aquifer composed of coarser sand and gravel will most probably have a coefficient of permeability greater than 1×10^{-3} cm/sec.

Ground water in the usable aquifer flows to the south toward Belleville Lake. The gradient across the site is approximately 0.001. Using a horizontal permeability of 1×10^{-3} cm/sec and an effective porosity of 0.10, the lateral flow velocity of 0.03 feet/day or about 10 feet per year. Vertical gradients within the usable aquifer are low and tend to be slightly upward along the southern (downgrade) site boundary.

The aquifer sands are underlain by shale of the Antrim Formation. Although the upper, weathered portion produces water, no records are available that indicate that the formation itself is an aquifer. Although little information is available for the shale formation below the usable aquifer, it is assumed that this unit acts as a lower confining layer. It is continuous across the site at depths ranging from approximately 100 to 140 feet below ground surface.

IV. Insurance, Financial Information & Security

Insurance

MDWTP and WDI facilities were the first of their kind in the nation to secure environmental liability insurance in addition to General Liability and Property Insurance. Insurance certificates are included in Appendix 13.

Financial Information

Customer audits vary greatly in the nature and form of financial information required to demonstrate financial stability. EQ is a privately-held company and reserves the right to disclose financial information. Please contact EQ's Chief Financial Officer at (734) 329-8000 with all financial requests. For your convenience, a copy of the closure and post-closure financial assurance is provided Appendix 12.

Security

Access to the site is controlled by a 24 hour surveillance system using guards and operating personnel. Active surveillance is maintained 24 hours per day, seven days a week by an independent security contractor. The property is contained by a six-foot cyclone fence topped with three strands of barbed wire. The perimeter is posted with warning signs. Electronic drop-gate or locked fence gates control all entrances. The main gate is adjacent to the security office and is staffed 24 hours per day. Access for all site personnel and waste transporter traffic is though this gate. Signing-in and out is required for all visitors to the site.

In addition to security guard surveillance, EQ employees are instructed to be vigilant in the course of their work to ensure that the site security is maintained. Internal communications are maintained through telephones, mobile radios, cellular phones and paging systems. For external communications with ambulance services, Van Buren Township Police or Fire Department, site personnel rely upon telephone communication.

V. Training, Safety, & Contingency Planning

The required training of personnel is divided into the following broad categories:

- HAZWOPER Training (OSHA/MIOSHA)
  HAZWOPER Training consists of the required 24 hour training per the Hazardous Waste Operations standard established by MIOSHA for TSDF's. Each employee receives an annual 8 hour HAZWOPER training refresher. EQ associates who work at cleanup sites are required to go through 16 additional hours of HAZWOPER training that is focused on cleanup site work practices.

- RCRA Refresher Training
  RCRA Refresher Training is conducted annually for all site employees and instructs employees on what to do in the event of an emergency and identifies who the emergency coordinators are on site. The remaining refresher training is used to introduce any relevant changes to work practices at Site #2.

- Additional Environmental, Health and Safety Training includes:
  DOT Hazardous Materials Training
  First Aid Training and CPR Certification
  Personal Protection from Chemical Hazards
  Respiratory Protection Program and Fit Testing
  Hazard Communication
  Confined Space Entry
  Asbestos Handling
  Fire Extinguisher
  Powered Industrial Truck
  Aerial Platform
  New Hire Orientation

- Other job-related training classes are held as required.

Behavior Based Safety Program

EQ practices behavior-based safety (BBS). BBS refers to the use of behavioral psychology to promote safety. In a typical behavioral process, employees conduct observations and provide feedback to associates at their jobsites. These observations provide data that is used for problem recognition, problem-solving, and continuous improvement.

Medical Surveillance Program

EQ has a written medical surveillance program per the requirements of 29 CFR 1910.120. The program covers all employees who are or may be exposed to hazardous substances or health hazards for 30 days or more each year, any employees who display symptoms and all employees who wear a respirator. EQ utilizes a local health care network to conduct medical surveillance.

Worker's Compensation

A copy of the Insurance Certificate can be found in Appendix 13.

Contingency Planning and Emergency Response Preparedness

Integrated Contingency Plans are part of the permits or licenses for each facility. These are reviewed and updated as needed. Written notifications to local emergency response authorities are part of the update process. Each such authority is encouraged to visit the facility for regular tours and discussions regarding emergency response preparedness.

VI. Regulation by Government Agencies

Full Compliance Mandate

WDI and MDWTP are constructed and operated in full compliance with all required licenses and permits. Each employee's work is conducted in full compliance with the applicable federal, state and local regulations ensuring environmental protection, human health and safety.

Waste Operations Permits and Licenses

From 1970 to 1975, Wayne Disposal, Inc. operated a landfill at Site #1 immediately west of the present facility boundary. Landfill activities in the present area, Site #2, began in 1975.
Michigan Disposal, Inc. started to offer waste solidification and fixation services under a Michigan Part 115 License to Operate in 1974.

In 1980, each facility filed its Part A Permit Application and Notification of Hazardous Waste Activities pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA of 1976) and regulations found in the 40 CFR. In the same year, Michigan promulgated regulations implementing Michigan Part 111, the Hazardous Waste Management Act (1979 PA 64).

During 1984, RCRA was reauthorized with extensive changes known as the Hazardous and Solid Waste Amendments (HSWA). On October 30, 1986 the State of Michigan received final authorization to administer the pre-HSWA RCRA hazardous waste program. Until the State of Michigan became authorized to administer the new hazardous waste program requirements of HSWA, additional (HSWA) permit conditions would be embodied in a federal RCRA permit for each facility.

In 1990, the USEPA issued the RCRA permit (see Appendix 7) and Michigan Department of Environmental Quality issued the Michigan Part 111 Hazardous Waste Facility Operating License to MDWTP (see Appendix 6). EQ-The Environmental Quality Company (EQ) is the owner/operator of the hazardous waste storage and treatment facility. WDI was also issued both a RCRA permit and Michigan Part 111 Hazardous Waste Operating License (see Appendix 17) and renewed in 1997. A TSCA approval was also granted by the USEPA in 1997 to Wayne Disposal, Inc. (see Appendix 19).

In 1992, MDWTP officially changed the name which appears on its permits and licenses to Envotech Management Services, Inc. (EMSI). During the course of 1993, EMSI and WDI became wholly owned affiliates of the Environmental Quality Company and the name Michigan Disposal was returned to the Waste Treatment Plant (MDWTP). Nonhazardous waste management activities at the Belleville, Michigan site are regulated under Michigan Part 115 Operating Licenses. Although WDI's nonhazardous waste capacity on site was completed in 1993, ongoing final closure and post closure maintenance activities follow the WDI operating license conditions as stated at the time of closure. The MDWTP stabilization of nonhazardous wastes, such as off-specification products, follows the processing plant conditions in the MDWTP Part 115 Operating License (see Appendix 8).

Locations of Regulatory Agency Permit/License Staff

Regulatory personnel responsible for issuance or modifications of permits and licenses are located at the following addresses:

Michigan Department of Environmental Quality Waste and Hazardous Materials Division Atrium North, Constitutional Hall 525 West Allegan Lansing, MI 48933 517.373.2730	USEPA - Region V RCRA Permit Branch 77 W. Jackson Street Chicago, IL 60604 312.353.2000

Agency Inspections

The Michigan Department of Environmental Quality (MDEQ) regulates hazardous waste management activities in Michigan through inspection, reporting and enforcement actions.
Eight unannounced facility inspections are conducted annually by a MDEQ inspector from the Southeast Michigan District Headquarters. A full-time, MDEQ Compliance Representative is also stationed on site. The MDEQ's District Headquarters is located at:

Michigan Department of Environmental Quality (MDEQ)
Southeast Michigan District Headquarters
Waste and Hazardous Materials Division
27700 Donald Court
Warren, MI 48092-2793
586.753.3700

The MDEQ Air Quality Division (MDEQ-AQD) regularly inspects air quality programs. Nonhazardous waste management activities at WDI and MDWTP are licensed by the MDEQ under Michigan Part 115 and monitored by the MDEQ-WHMD. MDEQ-WHMD inspects the facility on a quarterly basis.

Wayne County Department of Environment Land Resources Management Division 3600 Commerce Court Wayne, MI 48184 734.326.3936 or 734.329.4421	MDEQ Air Quality Division Cadillac Place 3058 West Grand Blvd. Suite 2-300 Detroit, MI 48202 313.456.4678

Air Permits

A Renewable Operating Permit (ROP) is held for the site from the MDEQ-AQD. See Appendix 9 to review the ROP.

Waste Water Treatment Plant Permits

The Wastewater Treatment Plant on site serves both MDWTP and WDI. The plant holds a revised Class D Wastewater Discharge Permit, D-11201. The permit sets discharge limits for ten parameters which must be sampled for analysis monthly. The plant is also required to test for organic pollutants once per year. See Appendix 16 to review the WWTP permit.

Biennial Reporting

MDWTP and WDI are each required to submit RCRA Biennial Reports summarizing hazardous waste management activities during the odd numbered years.

SARA Reporting

EQ files the Tier II and TRI (Form R) reports as required by the SARA regulation.

VII. Environmental Monitoring

Ambient Air Monitoring

Ambient air monitoring is conducted in accordance with the Michigan Part 111 Hazardous Waste Facility Operating Licenses for MDWTP and WDI. The two facilities share an ambient air monitoring network currently consisting of six stations, and a co-located QA/QC station. All six stations are monitored for volatile organic compounds, metals, and PCB's. Three monitoring stations began in 1985. Two more stations were added in 1988. The sixth and co-located QA/QC stations were added in 1997. Results are reported to the MDEQ-AQD.

See Appendix 10 for further information on the Site #2 Ambient Air Monitoring Program.

Surface Water Monitoring

Currently, surface water monitoring is conducted for both the Hazardous Waste Management Area (HWMA) and the Solid Wastes Management Area (SWMA) of the WDI facility. Monitoring is conducted in accordance with the Part 111 and Part 115 Operating License for the HWMA and SWMA respectively. Monitoring for the HWMA is conducted at 3 sampling locations: two points along the perimeter ditches that border the hazardous waste disposal cells and one point at the outlet of the sedimentation basin. The perimeter ditches are tested quarterly and the outlet for the sedimentation basin is tested monthly, following a 24-hour, 0.5

inch precipitation and are analyzed for 7 volatile organic compounds, 14 metals and 9 indicator parameters. The results are analyzed statistically and reported to the Michigan Department of Environmental Quality. Please see Appendix 10 for more information.

Monitoring for the SWMA is conducted at 3 sampling locations: the outlets of the east and west perimeter drains (subsurface drains) and the sedimentation basin. These samples are analyzed semiannually for eight indicator parameters. Monitoring of surface water has been conducted since 1981.

Ground Water Monitoring

Groundwater monitoring is conducted in accordance with the Part 111 and Part 115 Operating Licenses and TSCA Permit for WDI for the HWMA and SWMA. The monitoring network is targeted for the uppermost usable aquifer which is the glacial sand and gravel deposits which underlie the silty clay till. Monitoring is also conducted for the MDWTP facility in accordance with Part 111 license, although with the exception of one unique well, this program is just a subset of the WDI Part 111 monitoring well network. (See Appendix 10)

Currently, there are 50 monitoring wells at the site. Wells 1A-17 are used for the SWMA monitoring program. There are 22 wells dedicated to the HWMA for WDI. All wells included in the numbering scheme from OB-19 through OB-40 are part of this program. Five of these wells are also used for the MDWTP monitoring program as is one additional well, OB-47. Three wells (OB-26, OB-27, and OB-31) are used as piezometers for static water levels only and the other six (OB-41 through OB-46) are dedicated to a special monitoring program for Master Cell IX. A diagram of the monitoring well locations is provided in Appendix 10.

Collection of samples is conducted in accordance with the Sampling and Analysis Plan which is part of each facility's Operating License. Wells monitored for the ground water monitoring program for the WDI and MDWTP HWMA's are currently sampled quarterly and analyzed for 12 volatile organic compounds, 15 indicator parameters, 17 metals and 5 herbicide/pesticide compounds. All but the 15 tertiary parameters are subjected to a statistical test and the results reported to the Michigan Department of Environmental Quality, Wayne County Land Resources Management Division and US EPA Toxics and Pesticides Branch, as appropriate. Monitoring for the HWMA has been conducted since 1981. Both WDI and MDWTP are currently in routing detection monitoring.

Wells monitored in accordance with the Operating License for the SWMA are also sampled quarterly. Each quarterly sample is analyzed for 4 metals and 5 indicator parameters and one annual sample is analyzed for 3 additional metals and 5 additional indicator parameters. The results are evaluated internally by graphical methods and the analytical results are forwarded to the Michigan Department of Environmental Quality.

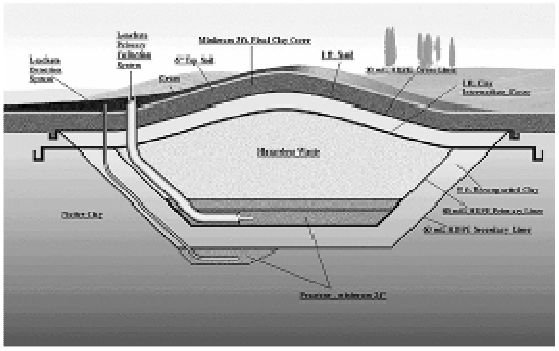
Sedimentation Basin Monitoring Parameters

Sediments in the sedimentation basin are annually sampled and analyzed in accordance with the Part 111 Operating License and TSCA Permit (See Appendix 10). Six samples of sediment within the basin are

collected annually and analyzed for 6 volatile organic compounds and 12 metals. The results are reported to the MDEQ and US EPA Toxics and Pesticides Branch. In accordance with the Part 111 HW Facility Operating Licenses, EQ has submitted a proposed soil monitoring plan for areas along the on-site roads used for waste transportation. So far, the MDEQ has not completed a review of this plan and thus no soil monitoring has taken place.

Leak Detection System Monitoring

Leak detection monitoring is conducted for each Master Cell that is part of the HWMA. Each cell in Master Cell VI is constructed with a double composite liner. Between the primary and secondary liners is a drainage net covered by filter fabric that is sloped to a sump. This structure comprises the leak detection, collection and removal system (LDCRS). LDCRS monitoring is conducted in accordance with WDI's Part 111 HW Facility Operating License and TSCA Permit. Liquids which collect in each sump are pumped out and sampled on a monthly basis.



The volumes removed are recorded and the samples are analyzed for the 35 volatile organic compounds, 26 metals and 10 indicator parameters. Any detectable occurrence of a VOC is evaluated statistically and the results are reported to the MDEQ and US EPA. LDCRS monitoring began in 1985 for any cell that had been constructed at that time and prior to operation of all cells since then.

VIII. EQ Management System and ISO Certification

EQ-The Environmental Quality Company's (EQ) Integrated Management System Framework links ISO 9001, ISO 14001, and OHSAS 18001 into one program. The EQ Management System framework makes it possible for employees to make quality, environment, and occupational health and safety an integral part of their work rather than viewing them as separate add-on programs. The business is integrated through the employee's perspective. Now standards, compliance, and process improvement support the work of these employees. Sustainable business performance is delivered by employees, working as a team in the interests of our customers and the community.

The EQ Management System framework takes into account that people, equipment, resources, and culture are all part of the overall system, as well as the documented policies and practices. These programs have helped develop operational excellence. It is the combination of management standards and business excellence that provides the perfect foundation for integrating all currently formalized systems focusing on quality, environment, and occupational health and safety.

The site received both received ISO 14001:2004 and ISO 9001:2000 certifications in January 2006. This system is an internationally recognized manufacturing standard used to establish, document and maintain

and process and product quality. All of the procedures at EQ have standard operating procedures and meet rigid customer specifications.

The ISO certification process involved accredited, independent registrars who supervised the ISO certification process and reviewed the quality manual to ensure it met ISO standards. These registrars also audited each process to ensure that they were documented in the quality manual and were effectively implemented on a continuous basis. Audits will now be conducted at least once a year to ensure that the quality system is evolving with core processes.

Every employee must play a role in the implementation and maintenance of a quality management system. It is the shared responsibility of EQ associates to maintain the policies of the quality management system. Michigan Disposal Waste Treatment Plant and Wayne Disposal Hazardous Waste Landfill both received ISO 14001:2004, ISO 9001:2000 and OHSAS 18001:2007 certifications (see Appendix 21). This system is an internationally recognized manufacturing standard used to establish, document and maintain and process and product quality. The certification process involved accredited, independent registrars who supervised the ISO certification process and reviewed the quality manual to ensure it met ISO standards. These registrars also audited each process to ensure that they were documented in the quality manual and were effectively implemented on a continuous basis. Unannounced audits are conducted to ensure that the quality system is evolving with core processes.

Appendix 1.

EQ Organization & Expertise

DAVID M. LUSK
President and CEO

David M. Lusk is the president and CEO of EQ – The Environmental Quality Company. He has over 25 years of experience managing hazardous waste operations.

Lusk previously worked for eight years as EQ's vice president of operations at Michigan Disposal Waste Treatment Plant and Wayne Disposal Hazardous Waste Landfill before leaving to join Republic Waste Industries in Cleveland, Ohio. He was vice president of Midwest operations at Republic, supervising all hazardous waste operations.

Lusk rejoined EQ in 1994 and is currently responsible for all aspects of the organization's hazardous waste operations, including EQ's thirteen facilities across the country, transportation services, industrial services, airport services, and remediation services. He also manages research and development efforts to evaluate and develop potential new hazardous waste operations.

Lusk earned Bachelor of Science degrees in Chemistry and Cellular and Molecular Biology from the University of Michigan. He also earned a Masters of Business Administration from Eastern Michigan University.

MICHAEL J. FERRANTINO
Director

Michael J. Ferrantino brings over 25 years of experience in the environmental services industry to his position as director of EQ – The Environmental Quality.

Prior to his appointment as EQ president and CEO in May of 1997, Ferrantino was a member of the EQ board of directors, sat on the corporate development committee and served as operations manager for several related companies.

Ferrantino has served on several boards, including biotechnological, governmental and health care. He has had extensive entrepreneurial experience and investments in real estate, food service and the automotive industry.

A native of Dearborn, Michigan, Ferrantino attended Eastern Michigan University and the Detroit College of Business, majoring in Business Administration.

MICHAEL J. MILLER
Director

Michael J. Miller brings over 30 years of experience working in the chemical manufacturing and environmental services industries to his position as director of EQ – The Environmental Quality Company.

Prior to joining EQ in 1985, Miller's background included 15 years of global marketing and new business development work in the chemical manufacturing and electronics industries of Canada, Western Europe and the United States.

Past employers include CIL Chemicals of Canada, ICI Mond Division in Great Britain and OMI International in Michigan.

Miller earned a degree in Applied Engineering at the Royal Military College of Canada and saw service on torpedo boats and submarines in the British and Royal Canadian navies. Following his military service, he continued with graduate studies in the Master's of Business Administration program at McGill University.

During his tenure at EQ, Miller managed the organization's municipal solid waste and energy recovery businesses. He currently oversees international operations, EQ Airport Services, EQ Resource Management and is responsible for the development and direction of EQ's corporate strategic growth plan. Miller was appointed to the advisory board of Royal Roads University in Victoria, British Columbia, a public university offering specialized undergraduate and masters programs in sustainable development and the environmental sciences.

KENNETH W. WUNDERLICH
Chief Financial Officer

Ken Wunderlich is the Chief Financial Officer of EQ – The Environmental Quality Company and its related entities. In this role, he has responsibility for Finance, Accounting, Human Resources, Information Technology, and Purchasing.

Wunderlich brings 20 years experience as a financial executive with a number of leading global companies. Prior to joining EQ in June 2003, Wunderlich spent 15 years with Procter & Gamble in several of P&G's consumer products business units.

Most recently, he was Global Finance Director of P&G Global Business Systems, where he successfully led a worldwide restructuring of financial systems and work processes. Prior to this he was Controller of P&G's $700M pharmaceutical subsidiary. He also has experience with Hewlett-Packard and M&M/Mars.

Wunderlich brings a wealth of experience at managing large, complex business operations. He has experience in a wide range of business functions, including strategic planning, acquisitions, outsourcing, systems implementation, business unit management, financial analysis, and control.

Wunderlich earned a B. A. in Economics from the College of William and Mary in Virginia, where he graduated with honors, and an M.B.A. in Finance from the University of Chicago.

MARIO ROMERO

Vice President of Operations

Mario Romero is the Vice President of Operations for EQ – The Environmental Quality Company.

Mr. Romero was President and CEO of WOW Energy, Inc. and a co-founder of the company. He previously held executive positions at Energis LLC, a wholly owned subsidiary of Holcim US, Safety-Kleen, Corp., Philip Services, Corp. and The GNI Group, Inc.

Mr. Romero has over 25 years experience in the energy, industrial services and environmental industries, primarily in alternative fuels, renewable energy, recycling, reuse and resource recovery. He has distinguished himself, domestically as well as internationally, through the successful execution of startups; operational turnarounds, business development and integration of acquired businesses.

Mr. Romero holds an MBA from the University of Chicago and an MS and BS in Chemical Engineering from Illinois Institute of Technology. He is a Professional Engineer in the State of Illinois, an Adjunct Professor at Cleary University and a Member of the American Institute of Chemical Engineers. He is proficient in five languages, including Spanish, German, French and Portuguese and has served as Director on several private company Boards. Mr. Romero is a member of Rotary International and has been an officer with clubs in Sugar Land, TX and Ann Arbor, MI.

SCOTT J. MARIS
Vice President of Regulatory Affairs

Scott J. Maris brings 20 years of experience to his position as EQ's vice president of regulatory affairs. Maris joined EQ in 1994 as the Technical Manager and was subsequently promoted to Regulatory Affairs Manager and then to Vice President of Regulatory Affairs.

His responsibilities over this tenure have included: ensuring compliance with applicable environmental, health and safety requirements, writing, negotiating, obtaining and implementing required State, Federal and local air, water and waste management permits, permit modifications, managing the tracking, analysis and implementation of new and developing regulations, the compliance and permitting programs for all EQ operations, EQ's governmental affairs and serving as the company's chief lobbyist and primary contact with State, Federal and local elected officials.

Maris has a Bachelor of Science degree in Environmental Biology from Ohio University with graduate study in Botany. He is a member of the Environmental Technology Council, Cairman of the LDR Committee, Vice Chairman of Permitting and PCB Committees, the Environmental Management Association, and the Air and Waste Management Association.

ROBERT L. WHEATLEY
Vice President of Sales and Marketing

Robert L. Wheatley joined EQ in 1992 as a corporate account executive servicing the automotive industry with a special emphasis on Ford Motor Company.

In two years Wheatley was promoted to senior account executive with responsibilities that included corporate account management and regional accounts. In his third year with the company, Wheatley was promoted to national sales manager and quickly developed a national sales force and supporting customer service group.

In 1998 Wheatley was promoted to his current position as vice president of sales and marketing. Prior to joining EQ, Wheatley worked as a research chemist and pilot plant specialist with Karlshamns USA in Columbus, Ohio, working on specialty resins and coatings.

Wheatley graduated with a Bachelor of Science degree in Chemistry from Ohio State University with a minor in Mathematics. His post graduate studies include a year at Miami University of Ohio for Physical Organic Chemistry and additional studies at Wayne State University for Environmental Management and Eastern Michigan University for Business. Wheatley earned an MBA from Ross School of Business at The University of Michigan.

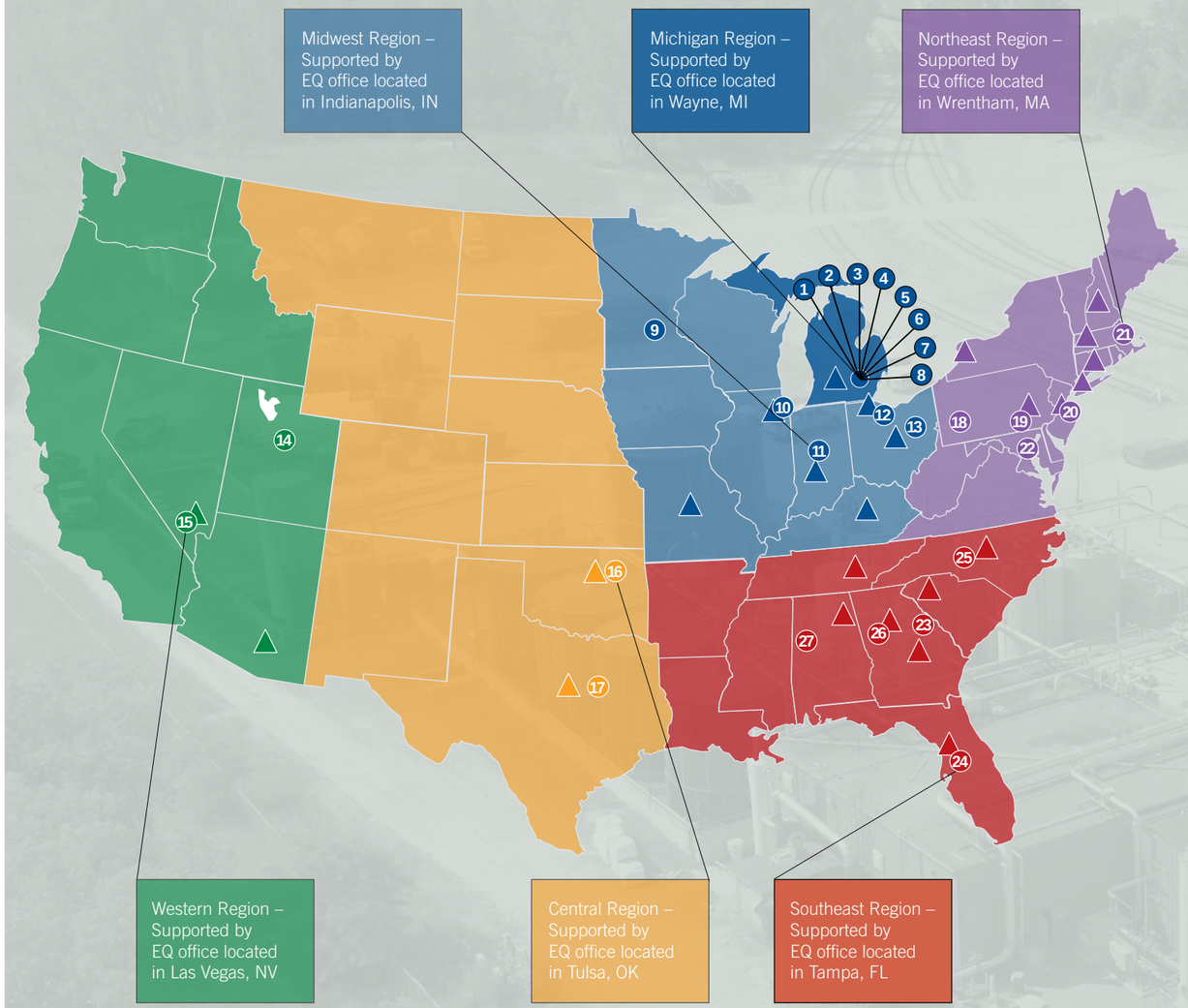
Appendix 2.

EQ Locations and Map

EQ LOCATIONS

EMERGENCY RESPONSE:
(800) 839-3975

Corporate Customer Service Center: **(800) 592-5489**
Fax Number: **(800) 592-5329**
Website: **WWW.EQONLINE.COM**



Michigan and Midwest Facilities and Offices

1 Corporate Office
36255 Michigan Ave.
Wayne, MI 48184
(734) 329-8000
(734) 329-8140 fax

2 Michigan Disposal Waste Treatment Plant (MDWTP)
49350 N. I-94 Service Dr.
Belleville, MI 48111
MID 000 724 831
(800) 592-5489
(800) 592-5329 fax
RCRA Part B Permit, Hazardous and Non-Hazardous Waste Treatment

3 EQ Detroit Transfer and Processing
2000 Ferry St.
Detroit, MI 48211
MIK 939 928 313
(313) 923-0080
(313) 922-8419 fax
10-Day Transfer, Transportation, LTL, Lab Packing

4 Wayne Disposal Inc. Site #2 Landfill (WDI)
49350 N. I-94 Service Dr.
Belleville, MI 48111
MID 048 090 633
(800) 592-5489
(800) 592-5329 fax
RCRA/TSCA Subtitle C Landfill

5 EQ Resource Recovery (EQRR)
36345 Van Born Rd.
Romulus, MI 48174-4057
MID 060 975 844
(734) 727-5500
(734) 326-9375 fax
Waste Water Treatment, Airport Services, Propylene Glycol Recycling

6 EQ Industrial Services (EQIS) - Headquarters
2701 N. I-94 Service Dr.
Ypsilanti, MI 48198
MI0 000 263 871
(734) 547-2500
(734) 547-2501 fax
Industrial Services, Lab Packing, Remediation, HHW, Site Services, Transportation, Total Waste Management

7 EQ Detroit, Inc.
1923 Frederick
Detroit, MI 48211
MID 980 991 566
(800) 495-6059
(313) 923-3375 fax
RCRA Part B Permit, Hazardous and Non-Hazardous Waste Treatment, Waste Water Treatment

8 EQ Industrial Services (EQIS) - Taylor
26705 Northline Road
Taylor MI 48180
MID 985 633 015
(734) 941-4357
(734) 941-4333 fax
Industrial Services, SiteServices, Transportation, Total Waste Management, Emergency Response

9 EQ Airport Services - MSP Minneapolis - St. Paul Airport
2520 Cargo Rd.
Minneapolis, MN 55450
MSN 000 106 658
(612) 727-1582
(612) 727-1790 fax
Storm Water Management, Propylene Glycol Recycling

10 EQ Illinois
16435 Center Ave.
Harvey, IL 60426-6078
ILD 000 666 206
(708) 596-7040
(708) 596-7045 fax
Hazardous Waste Treatment, Delisting, Metals Recovery, On-Site Remediation, Lab Packing, Industrial Services

11 EQ Indianapolis
2650 N. Shadeland
Indianapolis, IN 46219
MI0 000 263 871
INR 000 125 641
(317) 247-7100
(317) 247-7170 fax
10-Day Transfer, Transportation, LTL, Lab Packing, Industrial Services

12 EQ Emergency Response
8699 S. Dixie Hwy
Rudolph, OH 43462
(419) 686-0600
(419) 686-0601 fax
(800) 839-3975
24-Hour Nationwide Emergency Response Services

13 EQ Ohio
2050 Central Ave., SE
Canton, OH 44707
OHD 980 568 992
(330) 456-6238 / 456-0665
(330) 456-2801 fax
Waste Water Treatment, Hazardous Waste Treatment, Delisting, Metals Recovery, On-Site Remediation, Lab Packing, Industrial Services

Western Facilities and Offices

14 EQ Airport Services - SLC Salt Lake City Airport
P.O. Box 16109
Salt Lake City, UT 84116
UTR 000 005 397
(801) 531-4679
(801) 531-4677 fax
Storm Water Management, Propylene Glycol Recycling

15 EQ Las Vegas
5035 Schuster
Las Vegas, NV 89118
(800) 592-5489
(800) 592-5329 fax
Transportation, Industrial Services, On-Site Remediation, Lab Packing

Central Facilities and Offices

16 EQ Oklahoma
2700 South 25th West Ave.
Tulsa, OK 74107
OKD 000 402 396
(918) 582-9595
(918) 582-6618 fax
RCRA Part B Permit, Hazardous and Non-Hazardous Waste Treatment, Transportation

17 EQ Dallas
3228 Skylane
Carrollton, TX 75006
TXR 000 080 145
(214) 735-4800
(734) 405-6068 fax
Industrial Services, Transportation, Lab Packing

Northeast Facilities and Offices

18 EQ Airport Services - PIT Pittsburgh Airport
P.O. Box 12286
Pittsburgh, PA 15231
PAG 000 060 174
(412) 472-1007
(412) 472-1044 fax
Storm Water Management, Propylene Glycol Recycling

19 EQ Pennsylvania
730 Vogelsong Rd.
York, PA 17404
PAD 010 154 045
(717) 846-1900
(717) 854-6757 fax
Hazardous Waste Treatment, Delisting, Metals Recovery, On-Site Remediation, Lab Packing, Industrial Services

20 EQ Terminal Services
4 Hook Rd.
Bayonne, NJ 07002
(201) 436-3500
(201) 436-3545 fax
Industrial Services, Lab Packing, Transportation, Total Waste Management, Terminal Services

21 EQ Northeast
185 Industrial Rd.
P.O. Box 617
Wrentham, MA 02093-0617
MAD 094 814 136
(800) 426-9878
(508) 384-6028 fax
Industrial Services, Lab Packing, Transportation, Total Waste Management Remediation, HHW, LTL

EQ Connecticut Sales Office
One Prestige Dr., Suite 212
Meriden, CT 06450
(203) 630-2472
(203) 630-2530 fax

22 EQ Baltimore
3508-B Fairfield Dr.
Baltimore, MD 21226
(410) 354-2221
(410) 354-2228 fax
Industrial Services, Transportation, Lab Packing

Southeast Facilities and Offices

EQ Augusta
23 3920 Goshen Industrial Blvd.
Augusta, GA 30906-2630
GAR 000 011 817
(706) 771-9100
(706) 771-9124 fax
Waste Water Treatment, Truck Wash, Transportation, Industrial Services

24 EQ Florida
7202 East Eighth Ave.
Tampa, FL 33619
FLD 981 932 494
(800) 624-5302
(813) 628-0842 fax
RCRA Part B Permit, Waste Treatment, Transportation, LTL, Lab Packing, Industrial Services, Remediation, HHW

25 EQ Mobile Recycling
540 W. Independence Blvd.
Mt. Airy, NC 27030
NCR 000 139 741
(336) 719-0058
(336) 719-0057 fax
Mobile Solvent Recycling at the point of generation

26 EQ Atlanta
5600 Fulton Industrial Blvd.
Atlanta, GA 30336
GAR 000 039 776
(404) 494-3520
(404) 494-3560 fax
10-Day Transfer, Non-Haz Processing, Transportation, LTL, Lab Packing, Industrial Services, Remediation

27 EQ Alabama
51328 AL Hwy 17
Sulligent, AL 35586
ALD 983 177 015
(205) 698-8915
(205) 698-8923 fax
RCRA Part B Permit, Waste Treatment, Transportation, LTL, Lab Packing

International Facilities and Offices

Mexico
Environmental Quality Industrial Services de Mexico
S. de R.L. de C.V.
Monterrey, Nuevo Leon

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Appendix 3.

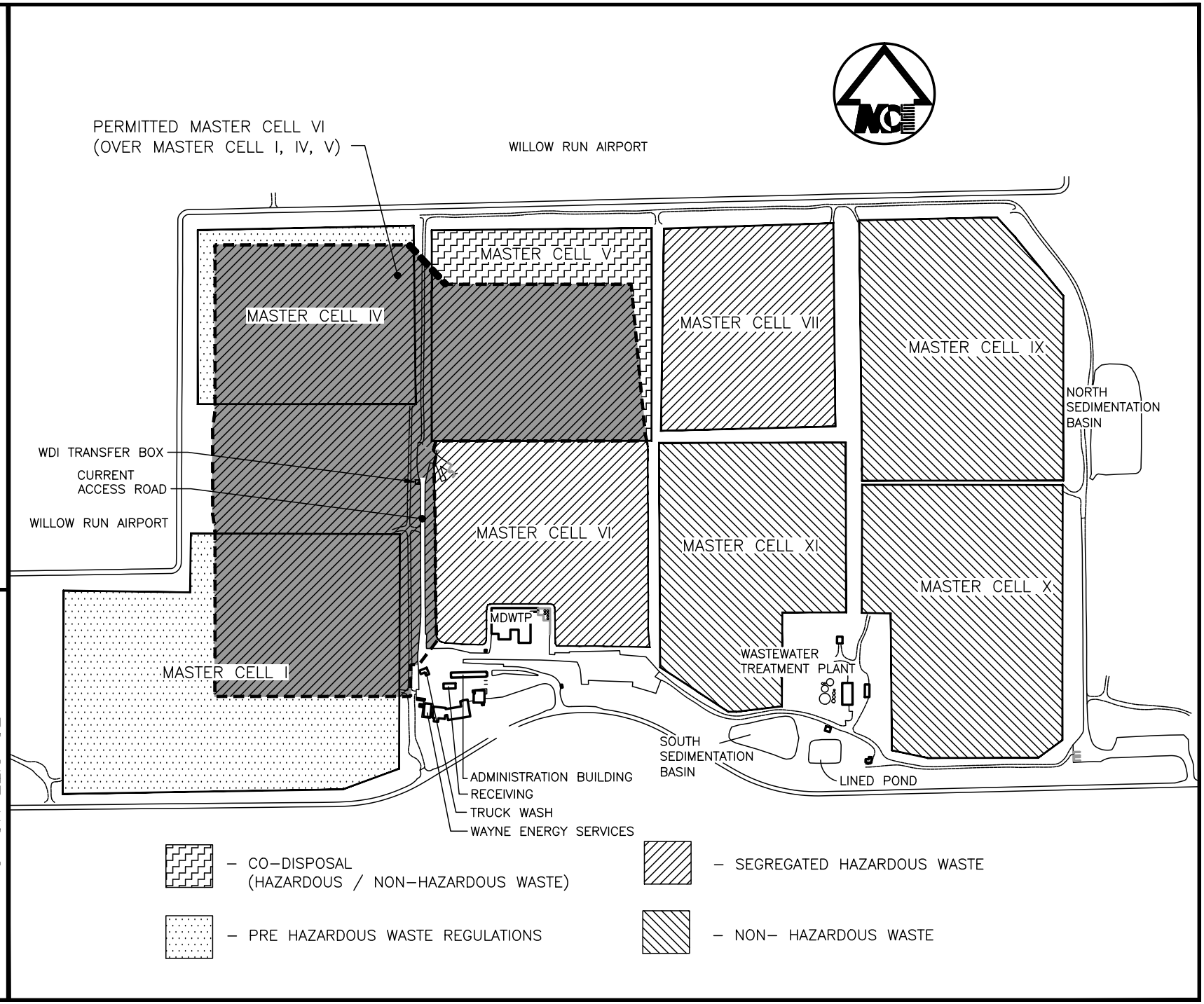
Driving Directions
Facility Layout

Driving Directions

Truck Drivers:
The facility is located on the North I-94 Service Drive between Rawsonville Road (Exit 187) and Belleville Road (Exit 190). From I-94 – exit at **Rawsonville Road (Exit #187)**. Proceed North to the North I-94 Service Drive. Turn Right and proceed East ~1.5 miles, the facility is located on the left. You will notice the flagpoles and the facility sign at the entrance. Check in with Security and you will be directed from there. Trucks must not park on the Service Drive.
There is a Truck Holding Lot located ~ one quarter mile East of facility entrance.

Customer/Vendor:
The facility is located on the North I-94 Service Drive between Rawsonville Road (Exit 187) and Belleville Road (Exit 190). From I-94 – exit at Belleville Road (Exit #190). Proceed North at the exit and make a Left at the first light, which is the North I-94 Service Drive (Wendy's and a BP on the corner). Proceed another ~1.5 miles, the facility is located on the right. Look for the flagpoles and the facility sign at the entrance. Check in with Security and you will be directed from there.

Michigan Disposal Waste Treatment Plant
Wayne Disposal, Inc., Site #2 Landfill
49350 North I-94 Service Drive
Belleville, MI 48111
Toll Free (800) 592-5489
Receiving Department (734) 699-6233



MIDWESTERN CONSULTING

Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects

3815 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734.995.0200
Fax 734.995.0599

EQ SITE NO. 2
FACILITY LAYOUT

DATE: 8/14/12 JOB NO.: **07174**

SCALE: 1"= 800'

SHEET 1 OF 1

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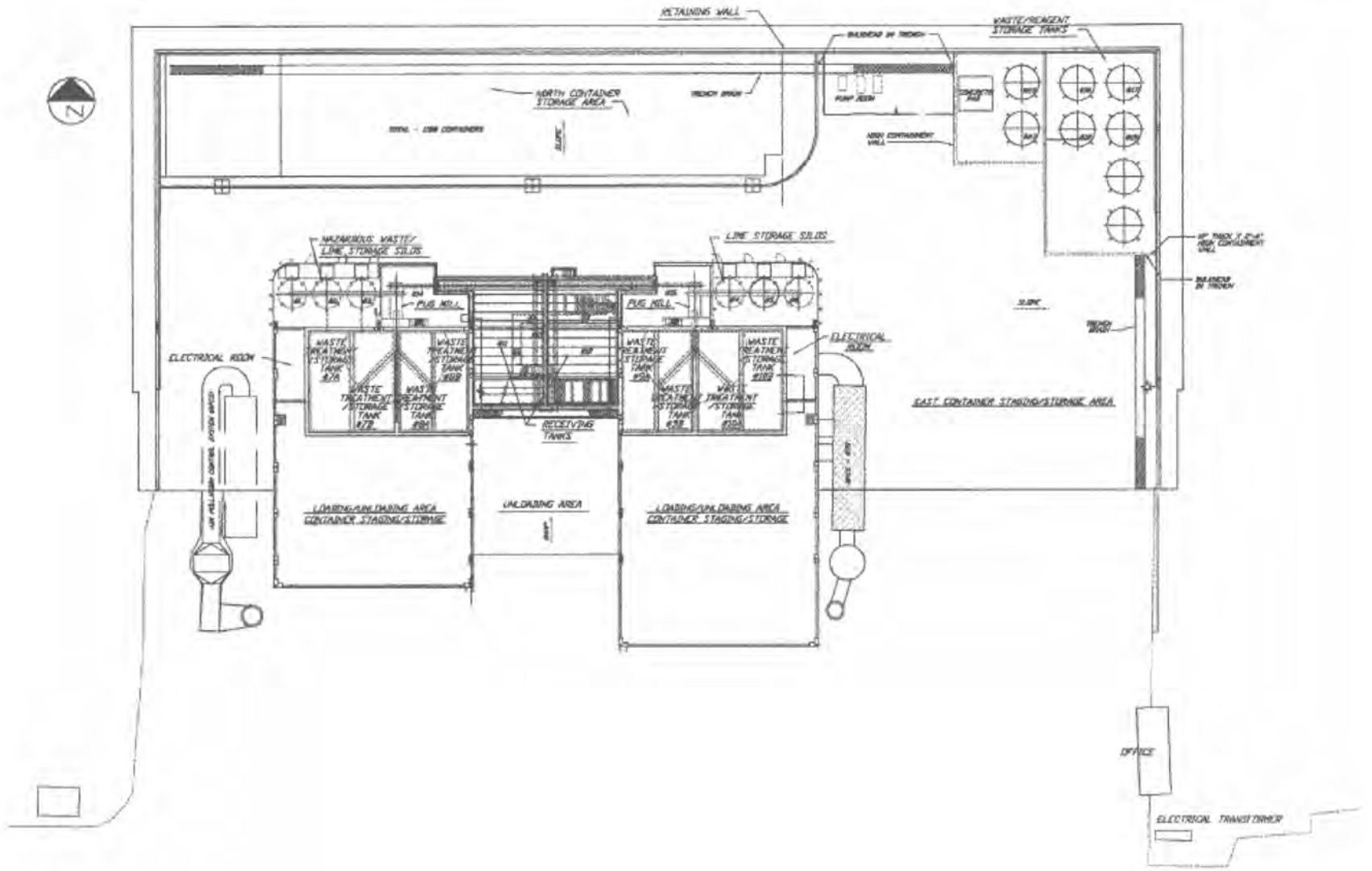
Appendix 4.

MDWTP Plant Diagram

MDWTP Plant Diagram



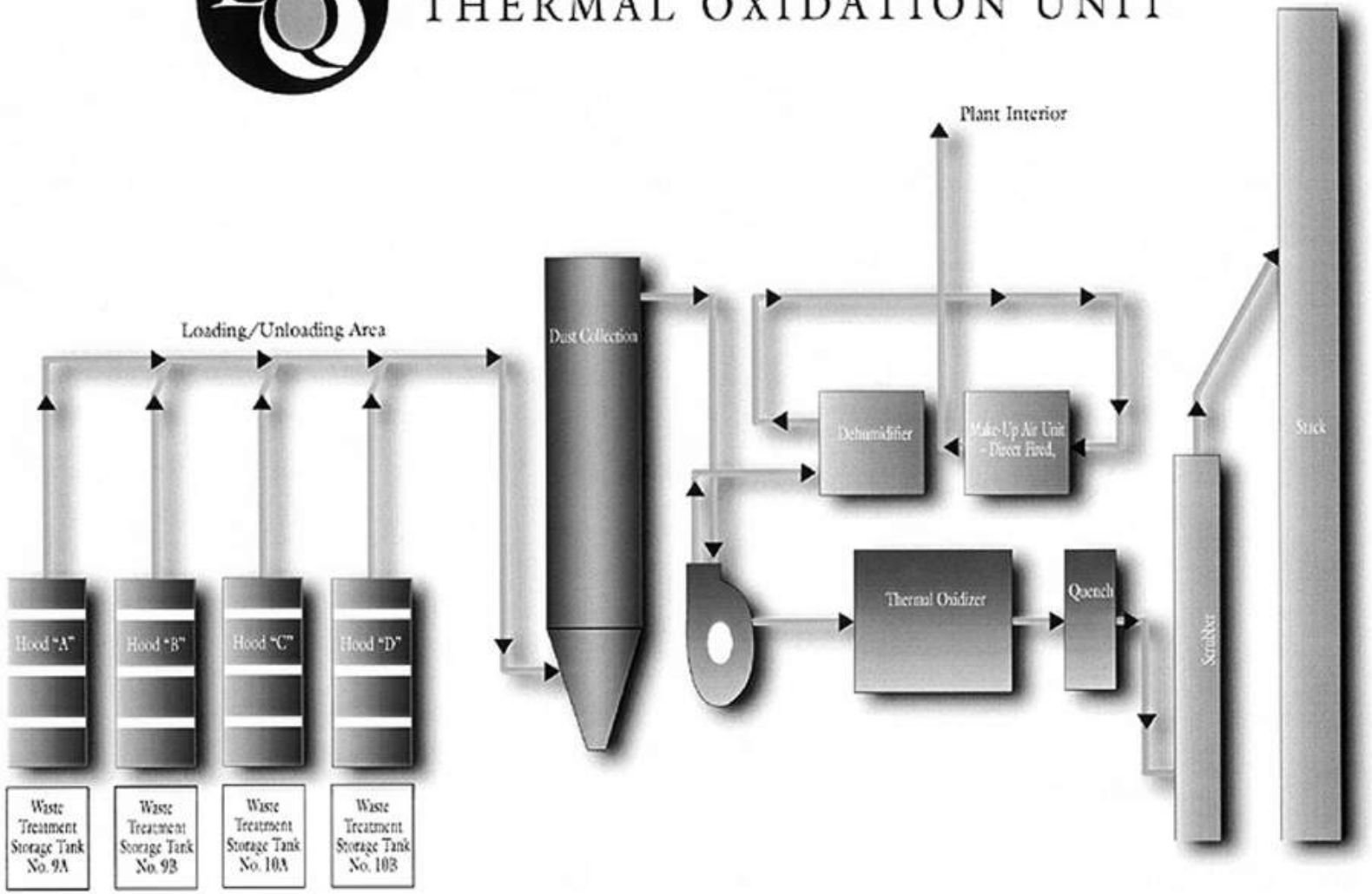
The Thermal Oxidizer at MDWTP

Michigan Disposal Waste Treatment Plant has installed a Thermal Oxidation system to comply with Subpart CC Air Emissions Standards for Tanks, Surface Impoundments and Containers, in addition to National Emissions Standards for Hazardous Air Pollutants (NESHAPs). The Michigan Disposal facility is the first stabilization plant in the country with thermal oxidation technology that complies with these requirements.

The new air treatment system includes four collection hoods where emissions are captured and routed through a bag house to remove particulates. Air is then blown into the thermal oxidation unit, where VOCs are destroyed at temperatures of 1,500-1,800 degrees Fahrenheit. Effluent from the Thermal Oxidizer is routed through a quencher and caustic scrubber prior to exiting the building through a 75 foot stack. A Dehumidifier and Make Up Air Unit are included to control interior humidity and improve system performance.

Thermal Oxidation is a flameless technology that removes 95% or more of air pollutants. It allows EQ to receive hazardous wastes with a VOC content up to 2%, non hazardous wastes with a maximum VOC content of 20% and Benzene NESHAP wastes. Odorous VOCs are contained and thermally destroyed before leaving the building. The east side of the EQ Michigan Disposal plant, which houses the thermal oxidation unit, has been extended by 20 feet to allow for a fully enclosed, negative pressure treatment operation. A new high speed door system is opened and closed only as needed to allow trucks to enter and exit.

THERMAL OXIDATION UNIT



Appendix 5.

MDWTP Treatment Capabilities

MICHIGAN DISPOSAL WASTE TREATMENT PLANT

49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489 Fax: (800) 592-5329

TREATMENT TECHNOLOGY

STABILIZATION (STABL) NEUTRALIZATION (NEUTR) MICROENCAPSULATION (MICRO)

APPLICABLE WASTE TYPES

Wastes and hazardous debris containing leachable metals, high filterable solids, low total organic content, and low oil and grease content. These include residuals from treatment of electroplating wastewater, and characteristic or listed metal wastes. Typical hazardous waste numbers include:
D004 – D011, D018 – D043, F001 – F005, F006 – F009, F011, F012, F019, K061.

PRE-TREATMENT REQUIREMENTS

May require reducing or oxidizing metals to lower solubility states.
May require reducing oil and grease or organic content.

CRITICAL DESIGN PARAMETERS

- Amount and type of stabilizing agent and additives.
- Degree of mixing
- Residence time
- Temperature and humidity
- Form of metals:
  - Oxidation State
  - Solubility

WASTE CHARACTERISTICS AFFECTING PERFORMANCE

- CONCENTRATION OF FINE PARTICLES
  Very FINE particles (<No. 200 mesh) may weaken chemical bonds and increase leachability.

- CONCENTRATION OF OIL AND GREASE
  High OIL and GREASE content coat particles, weaken chemical bonding and increase leachability.

- CONCENTRATION OF ORGANIC COMPOUNDS
  High ORGANIC content (TOC) and organic compounds can inhibit curing and increase leachability

- CONCENTRATION OF SULFATE AND CHLORIDE COMPOUNDS
  High sulfate and chloride content may interfere with chemical reactions, weaken bond strength, affect cure time, and increase leachability

- SOLUBILITY OF METAL COMPOUNDS
  Metals should be present in their most insoluble form.

UNDERLYING PRINCIPLE OF OPERATION

The basic principal of operation for stabilization is that leachable metals and low levels of selected organics are immobilized by the addition of stabilization reagents. The leachability is reduced by the formation of a lattice structure and/or chemical bonds that bind the contaminants into a solid matrix thereby limiting the material. Stabilization of metals is more effective when the metal is in its least soluble state. Typical stabilization reagents include Portland cement, lime and cement kiln dust. Microencapsulation involves stabilization of hazardous debris such that the leachability of hazardous contaminants are reduced.

MICHIGAN DISPOSAL WASTE TREATMENT PLANT

49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489 Fax: (800) 592-5329

TREATMENT TECHNOLOGY

DEACTIVATION (DEACT) NEUTRALIZATION (NEUTR)

APPLICABLE WASTE TYPES

Wastes exhibiting the characteristics of Ignitability, Corrosivity, or Reactivity such as D001, D002, and D003 hazardous waste numbers.

PRE-TREATMENT REQUIREMENTS

Waste Specific

CRITICAL DESIGN PARAMETERS

- Dependent on which characteristic is exhibited
- Deactivation technologies include those recommended in 40 CFR Part 268, Appendix VI

WASTE CHARACTERISTICS AFFECTING PERFORMANCE

- State – solid, liquid, or sludge
- Alkalinity, Acidity, and pH
- Flashpoint
- Concentration of other constituents present
- Deactivation By-products

NOTE: MICHIGAN DISPOSAL DOES NOT ACCEPT REACTIVE WASTES

UNDERLYING PRINCIPLE OF OPERATION

The treatment standard for many subcategories of hazardous D001, D002, and D003 wastes remove the characteristic of Ignitability, Corrosivity, or Reactivity. EPA has determined that many technologies such as those listed below, when used alone, or in combination, can achieve the treatment standard. Example deactivation technologies include:

Chemical Oxidation	(CHOXD)
Chemical Reduction	(CHRED)
Stabilization	(STABL)
Microencapsulation	(MICRO)
Neutralization	(NEUTR)

MICHIGAN DISPOSAL WASTE TREATMENT PLANT

49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489 Fax: (800) 592-5329

TREATMENT TECHNOLOGY

CHEMICAL OXIDATION (CHOXD)

APPLICABLE WASTE TYPES

Wastes containing organics, organo-metallics, cyanides, or sulfides. Oxidize arsenic to insoluble form in wastewater or inorganic sludge from metal plating/finishing.
Typical hazardous waste numbers include:
D018 – D043, F001 – F012, K049 – K051, K169 – K172.

PRE-TREATMENT REQUIREMENTS

Frequently requires raising pH to alkaline range.

CRITICAL DESIGN PARAMETERS

- Oxidation/reduction potential
- Residence time
- Amount and type of oxidizing agent
- Degree of mixing
- pH - optimize (moderately alkaline ~ 10 – 11.5)
- Oxidation temperature
- Amount and type of any catalyst
- TOC may be used as surrogate parameter for organics

WASTE CHARACTERISTICS AFFECTING PERFORMANCE

- CONCENTRATION OF OTHER OXIDIZABLE COMPOUNDS
  Increases demand in reagent; high sulfide may require additional reagent.

- CONCENTRATION OF METAL SALTS (especially Pb and Ag)
  Can cause excess consumption of reagent.
  Metal-cyanide complexes are more difficult to oxidize.

UNDERLYING PRINCIPLE OF OPERATION

The basic principal of chemical oxidation is that inorganic cyanides, selected dissolved organic compounds and sulfides can be chemically oxidized to yield carbon dioxide, nitrogen, water, salts, simple organic acids and in the case of sulfides, sulfates. Typical oxidants and reaction using sodium hypochlorite are:

Cyanide

$$CN + NaOCl - OCN + NaCl$$

$$2OCN + 3NaOCl - CO_3^{-2} + CO_2 + N_2 + 3NaCl$$

Phenol

$$C_6H_5OH + 14NaOCl - 6CO_2 + 3H_2O + 14NaCl$$

Sulfide

$$S^{-2} + 4NaOCl - SO_4^{-2} + 4NaCl$$

MICHIGAN DISPOSAL WASTE TREATMENT PLANT

49350 North I-94 Service Drive Belleville, MI 48111 Phone: (800) 592-5489 Fax: (800) 592-5329

TREATMENT TECHNOLOGY

CHEMICAL REDUCTION (CHRED)

APPLICABLE WASTE TYPES

Reduce hexavalent chromium and selenate ions. Treat oxidizing wastes containing reducible organics, inorganic oxidizers from plating, metal finishing, chromium pigments, mining ore processing, or chemical manufacturing. Typical hazardous waste numbers include:
D007, D010, F006 – F009, F011, F012, and F019.

PRE-TREATMENT REQUIREMENTS

Frequently requires lowering the pH to the acidic range.

CRITICAL DESIGN PARAMETERS

- Oxidation/reduction potential
- Residence time
- Amount and type of reducing agent
- Degree of Mixing
- pH – usually at lower pH: <4
- Reduction temperature

WASTE CHARACTERISTICS AFFECTING PERFORMANCE

- CONCENTRATION OF OTHER REDUCIBLE COMPOUNDS
  Increases demand in reagent. If total organic content (TOC) or inorganic oxidizer concentration is high, may not be applicable technology.

- CONCENTRATION OF OIL AND GREASE
  Causes monitoring problems/fouling. If high, may not be applicable technology.

UNDERLYING PRINCIPLE OF OPERATION

The basic principle of chemical reduction is to reduce the valence of oxidizers and other constituents such as metals through oxidation-reduction reactions. Reducing agents such as ferrous sulfate or sodium sulfite are used to reduce specific constituents such as hexavalent chromium:

$$H_2(Cr^{+6})_2O_7 + 3Na_2SO_3 + 3H_2SO_4 \text{ --- } (Cr^{+3})_2(SO_4)_3 + 3Na_2SO_4 + 4H_2O$$

Appendix 6.

MDWTP Part 111
Hazardous Waste Operating License

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

October 31, 2007

Ms. Melinda Keillor
Regulatory Specialist
The Environmental Quality Company
Michigan Disposal Waste Treatment Plant
49350 North I-94 Service Drive
Belleville, Michigan 48111

Dear Ms. Keillor:

SUBJECT: Final Hazardous Waste Management Facility Operating License (License); Michigan Disposal Waste Treatment Plant (MDWTP), Belleville, Michigan; MID 000 724 831

The Michigan Department of Environmental Quality (MDEQ), Waste and Hazardous Materials Division (WHMD), has completed its review of the MDWTP License Application. Based on that review and the results of the public hearing held on June 6, 2007, the MDEQ has issued a License to the MDWTP pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The License Application review and the public participation procedures were conducted in accordance with Part 111.

Enclosed are copies of the License, Final Fact Sheet, Response to Comments, and Notice of Final Decision. If you have any questions or comments, please contact Ms. Kimberly M. Tyson, Hazardous Waste Section, WHMD, at 517-373-2487.

Sincerely,

George W. Bruchmann, Chief
Waste and Hazardous Materials Division
517-373-9523

Enclosures
cc: Mr. Jae Lee, U.S. Environmental Protection Agency, Region 5
Mr. Dale Meyer, U.S. Environmental Protection Agency, Region 5
Ms. Delores Montgomery, MDEQ
Mr. Steve Buda, MDEQ
Mr. Larry AuBuchon/Mr. Michael Busse, MDEQ
Ms. Connie Pennell, MDEQ
cc/enc: Ms. Kimberly M. Tyson, DEQ
Operating License File

NOTICE OF FINAL DECISION

MICHIGAN DISPOSAL WASTE TREATMENT PLANT
Hazardous Waste Management Facility Operating License
and Federal Resource Conservation and Recovery Act of 1976 (RCRA) Permit

The Michigan Department of Environmental Quality (MDEQ) issued a hazardous waste management facility operating license (License) to the Michigan Disposal Waste Treatment Plant (MDWTP), pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The License was issued on October 31, 2007, and allows the MDWTP to continue to operate a hazardous waste storage and treatment facility at 49350 North I-94 Service Drive, Belleville, Michigan. The MDWTP also received a federal RCRA Permit issued by the U.S. Environmental Protection Agency, Region 5 (U.S. EPA), pursuant to the Hazardous and Solid Waste Amendments to the RCRA. The effective date of the RCRA permit is September 11, 2007. Both the Part 111 License and the RCRA Permit will expire ten years from the date of issuance.

The MDEQ conducted a public participation process. Issues raised during that process have been addressed by the MDEQ in the Response to Comments.

The final Part 111 License, Response to Comments, and Final Fact Sheet may be reviewed at the Fred C. Fischer Library, 167 Fourth Street, Belleville, Michigan 48111; the Van Buren Charter Township Hall, 46425 Tyler Road, Belleville, Michigan 48111; the MDEQ, Southeast Michigan District Office, Waste and Hazardous Materials Division, 27700 Donald Court, Warren, Michigan 48092 (contact Mr. Michael Busse at 586-753-3839); the MDEQ, Waste and Hazardous Materials Division, Constitution Hall, Atrium North, 525 West Allegan Street, Lansing, Michigan 48933 (contact Ms. Kimberly M. Tyson at 517-373-2487); and at the U.S. EPA, Land and Chemical Division, RCRA Programs Section (DU-7J), 77 West Jackson Boulevard, Chicago, Illinois 60604 (contact Mr. Jae Lee at 1-800-621-8431, Extension 63781). Copies of these documents may be obtained for the cost of reproduction by contacting Ms. Lindacarol Leiter, Waste and Hazardous Materials Division, MDEQ, at 517-373-9875. Questions or comments concerning the MDWTP should be directed to Ms. Tyson.

State of Michigan
Department of Environmental Quality

DEQ

HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE

NAME OF LICENSEE: Michigan Disposal Waste Treatment Plant

NAME OF OWNER: EQ – The Environmental Quality Company

NAME OF OPERATOR: EQ – The Environmental Quality Company

NAME OF TITLEHOLDER OF LAND: Wayne Disposal, Incorporated

FACILITY NAME: Michigan Disposal Waste Treatment Plant

FACILITY LOCATION: 49350 North I-94 Service Drive, Belleville, Michigan 48111

EPA IDENTIFICATION NUMBER: MID 000 724 831 EFFECTIVE DATE: October 31, 2007

REAPPLICATION DATE: October 31, 2016 EXPIRATION DATE: October 31, 2017

AUTHORIZED ACTIVITIES

Pursuant to Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§324.11101 to 324.11153 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 *et seq.* of the Michigan Administrative Code, by the Michigan Department of Environmental Quality (MDEQ), an operating license (hereafter called the "license") is issued to Michigan Disposal Waste Treatment Facility (MDWTP) (hereafter called the "licensee") to operate a hazardous waste management facility (hereafter called the "facility") located at latitude 42°13'30"N and longitude 083°31'00"W. The licensee is authorized to conduct the following hazardous waste management activities:

X STORAGE	X TREATMENT	☐ DISPOSAL	☐ POST CLOSURE
X Container	X Container	☐ Landfill	☐ Tank
X Tank	X Tank	☐ Land Application	☐ Surface Impoundment
☐ Waste Pile	☐ Surface Impoundment	☐ Surface Impoundment	☐ Landfill
☐ Surface Impoundment	☐ Incinerator		☐ Waste Pile
☐ Drip Pad	☐ Other:		

APPLICABLE REGULATIONS AND LICENSE APPROVAL

The conditions of this license were developed in accordance with the applicable provisions of the rules, effective December 16, 2004. The licensee shall comply with all terms and conditions of this license. This license consists of the 26 pages of conditions attached hereto (including those in Attachments 1 through 11) and the applicable regulations contained in R 299.9101 through R 299.11008, as specified in the license. For purposes of compliance with this license, applicable rules are those which are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information in the license application submitted on April 30, 2004, and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(11)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, the rules, and this license.

This license is effective on the date of issuance and shall remain in effect for 10 years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306).

Issued this 31st day of October 2007

by _____

George W. Bruchmann, Chief
Waste and Hazardous Materials Division

MICHIGAN DISPOSAL WASTE TREATMENT PLANT

MID 000 724 831

HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE

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PART I

STANDARD CONDITIONS

A. TERMINOLOGY AND REFERENCES

Throughout this license, the term "Division" means the Waste and Hazardous Materials Division within the MDEQ responsible for administering Part 111 of Act 451 and the rules. Throughout this license, "Director" means the Director of the MDEQ or the Director's duly authorized designee such as the Division Chief. All of the provisions of Title 40 of the Code of Federal Regulations (CFR) referenced in this license are adopted by reference in R 299.11003.

B. EFFECT OF LICENSE

Except as otherwise provided by law, any treatment, storage, or disposal of hazardous waste not specifically authorized in this license is prohibited. Issuance of this license does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of federal, state, or local law or regulations {R 299.9516(8)}; nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law. Compliance with the terms of this license does not constitute a warranty or representation of any kind by the MDEQ, nor does the MDEQ intend that compliance with this license constitutes a defense to any order issued or any action brought under Act 451 or any other applicable state statute or Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 1980 PL 96-510 (CERCLA) (Title 42 of the United States Code (U.S.C.), §9606(a)), the Resource Conservation and Recovery Act of 1976, as amended (RCRA), and its rules, or any other applicable federal statute. The licensee, however, does not represent that it will not argue that compliance with the terms of this license may be a defense to such future regulatory actions. Each attachment to this license is a part of, and is incorporated herein, this license and is deemed an enforceable part of the license.

C. SEVERABILITY

The provisions of this license are severable, and if any provision of this license, or the application of any provision of this license to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this license shall not be affected thereby.

D. RESPONSIBILITIES

1. The licensee shall comply with Part 111 of Act 451, the rules, and all conditions of this license, except to the extent authorized by the MDEQ pursuant to the terms of an emergency operating license. Any license noncompliance, except to the extent authorized by the MDEQ pursuant to the terms of an emergency operating license, constitutes a violation of Part 111 of Act 451 and is grounds for enforcement action, license revocation, license modification, or denial of a license renewal application. {R 299.9521(1)(a) and (c) and (3)(a) and (b) and 40 CFR §270.30(a)}

2. If the licensee wishes to continue an activity regulated by this license after the expiration date of this license, the licensee shall submit a complete application for a new license to the Division Chief at least one year before this license expires, October 31, 2016, unless an extension is granted pursuant to R 299.9510(5). To the extent the licensee makes a timely and sufficient application for renewal of this license, this license and all conditions herein will remain in effect beyond the license expiration date and shall not expire until a final decision on the application is made by the MDEQ, and if the application is denied or the terms of the new license are limited, until the last day for applying for judicial review of the new license or a later date fixed by order

of the reviewing court consistent with Section 91(2) of Act 306. {R 299.9521(1)(a) and (c) and (3)(a), and 40 CFR §270.30(b)}

3. The licensee shall comply with the conditions specified in R 299.9521(1)(b)(i) to (iii) and 40 CFR §270.30(c) to (k), (l)(2), (3), (5), (7), and (11), and (m). {§§11123(3), 11146(1) and (2), and 11148(1) of Act 451 and R 299.9501(1), R 299.9516, R 299.9519, R 299.9521(1)(a) and (b) and (3)(a) and (b), R 299.9522, and R 299.9525}

4. The licensee shall give notice to the Division Chief as soon as possible prior to any planned physical alterations or additions to the licensed facility.

E. SUBMITTAL DEADLINES

When the deadline for submittals required under this license falls on a weekend or legal state holiday, the deadline shall be extended to the next regular business day. This extension does not apply to the deadline for financial mechanisms, and associated renewals, replacements, or extensions of financial mechanisms required under this license. The licensee may request extension of the deadlines for submittals required under this license. The licensee shall submit such requests at least five business days prior to the existing deadline for review and approval by the Division Chief. Written extension requests shall include justification for each extension. {R 299.9521(3)(a)}

PART II

GENERAL OPERATING CONDITIONS

A. GENERAL WASTE ANALYSIS

1. The licensee shall ensure that any waste managed at the facility has been properly characterized pursuant to R 299.9302, and comply with the procedures described in the Waste Analysis Plan, Attachment 1, of this license. {R 299.9605(1) and 40 CFR, §264.13}

2. The licensee shall follow the approved Work Plan for Lab Compatibility Test approved by the Division Chief when determining waste or reagent compatibility. A new work plan shall be submitted to the Division Chief for review and approval whenever the licensee proposes to modify the Work Plan. The licensee shall document the use of the approved work plan in the facility operating record (Condition II.I.1). {R 299.9521(3)(b), R 299.9605(1), and 40 CFR, §264.17(b)}

B. SECURITY

The licensee shall comply with the barrier, surveillance, and signage requirements of R 299.9605(1) and 40 CFR, §264.14.

C. GENERAL INSPECTION REQUIREMENTS

1. The licensee shall inspect the facility in accordance with the Inspection Schedule, Attachment 2, of this license, and comply with the inspection requirements of R 299.9605(1) and 40 CFR, §264.15.

2. The licensee shall develop and implement a procedure to ensure compliance with the requirements of R 299.9605(2) regarding transport vehicles and other containers leaving the facility.

D. PERSONNEL TRAINING

The licensee shall comply with the personnel training requirements of R 299.9605 and 40 CFR,§264.16. The training program shall, at a minimum, cover all items in the Personnel Training Program, Attachment 3, of this license.

E. PREPAREDNESS AND PREVENTION

The licensee shall comply with the preparedness and prevention requirements of R 299.9606 and 40 CFR, Part 264, Subpart C.

F. CONTINGENCY PLAN

The licensee shall comply with the contingency plan requirements of R 299.9607 and 40 CFR, Part 264, Subpart D. The Contingency Plan, Attachment 4, of this license and the prescribed emergency procedures shall be immediately implemented by the licensee whenever there is a fire, explosion, or other release of hazardous waste or hazardous waste constituents that threatens or could threaten human health or the environment, or if the licensee has knowledge that a spill has reached surface water or groundwater.

G. DUTY TO MITIGATE

Upon notification from the Division Chief or his or her designee that an activity at the facility may present an imminent and substantial endangerment to human health or the environment, the licensee shall immediately comply with an order issued by the Division Chief pursuant to Section 11148(1) of Act 451 to halt such activity and conduct other activities as required by the Division Chief to eliminate the said endangerment. The licensee shall not resume the halted activity without the prior written approval from the Division Chief. {§11148 of Act 451 and R 299.9521(3)(b)}

H. MANIFEST SYSTEM

The licensee shall comply with the manifest requirements of R 299.9304, R 299.9305, and R 299.9608.

I. RECORDKEEPING AND REPORTING

1. The licensee shall comply with the written operating record and monthly operating report requirements of R 299.9609 and 40 CFR, §264.73 and Part 264, Appendix I, and R 299.9610(3), respectively. The Monthly Operating Report shall report on waste shipped to the Wayne Disposal, Inc., facility and be submitted on a form provided by the Division Chief, or an equivalent form approved by the Division Chief.

2. The licensee shall comply with the biennial report requirements of R 299.9610. {R 299.9521(1)(a) and 40 CFR, §270.30(l)(9)}

3. The licensee shall submit the results of all environmental monitoring required by this license and any additional environmental sampling or analysis conducted beyond that required by this license, in the form of an Environmental Monitoring Report to the Division Chief within 60 days after sample collection. Any increased frequency in sampling or analysis shall be indicated in the Environmental Monitoring Report. In addition, the licensee shall submit air monitoring results to MDEQ, Air Quality Division. {R 299.9521(1)(a), R 299.9521(3)(b), and 40 CFR, §270.30(l)(4)}

4**.** The licensee shall provide environmental monitoring information or data required pursuant to this license to an authorized representative of an environmental or emergency response department of the Charter Township of Van Buren, city of Belleville, and county of Wayne, who requests such information or data and that has jurisdiction over the facility. Such information or data shall be made available on the same day the licensee forwards this information to the Division Chief. {R 299.9521(3)(b)}

5. The licensee shall immediately report to the Division Chief any noncompliance with the license that may endanger human health or the environment by doing both of the following:

   (a) The licensee shall immediately provide verbal notification to the Division Chief at 517-335-2690, if the noncompliance occurs during the period 8:00 a.m. to 5:00 p.m. Monday through Friday, except state holidays, or by calling the MDEQ Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 during all other times. This notice shall include the following:

(i) Information concerning the fire, explosion, release, or discharge of any hazardous waste or hazardous waste constituent that could threaten human health or the environment, that has reached surface water or groundwater, or may endanger public drinking water supplies or the environment.

(ii) A description of the occurrence and its cause, including all of the information outlined in R 299.9607(2)(a) to (i).

(b) The licensee shall followup any verbal notification provided under Condition II.I.5 by providing a written report to the Division Chief within five days after the time the licensee becomes aware of the circumstances. The written "5-Day Report" shall be submitted even if the licensee concludes that the noncompliance did not endanger human health or the environment. The written "5-day Report" shall contain all of the information in Condition II.I.5.(a)(i) and (ii) of this license along with a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected and, if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance and when those activities occurred or will occur. The "5-day Report" shall contain the basis and any supporting documentation for any conclusion by the licensee that the noncompliance did not endanger human health or the environment. The Division Chief may waive the five-day written notice requirement if the licensee submits to a written "15-day Report" containing this information within 15 days after the time the licensee becomes aware of the circumstances.

{R 299.9521(1)(a) and R 299.9607 and 40 CFR, §270.30(l)(6)}

6. The licensee shall report all other instances of noncompliance with this license, Part 111 of Act 451, the rules, and any other applicable environmental laws or rules that apply to the licensed facility, at the time monitoring reports required by this license are submitted or within 30 days, whichever is sooner. The "30-day Report" shall contain the information listed in Condition II.I.5 of this license. {R 299.9521(1)(a) and 40 CFR, §270.30(l)(10)}

7. The licensee may make minor modifications to the forms contained in the attachments to this license. The modifications may include changing the format, updating existing references and information, adding necessary information, and changing certification and notification information in accordance with Part 111 of Act 451 and its rules and RCRA and its regulations. The licensee shall submit the modifications to the Division Chief prior to implementing the use of the modified form(s). If the Division Chief does not reject or require revision of the modified form(s) within 14 days after receipt, the licensee shall implement use of the modified form(s) and the form(s) shall be incorporated herein as a replacement for the existing form(s).

J. CLOSURE

The licensee shall comply with the closure requirements of R 299.9613. The licensee shall close the facility in accordance with the Closure Plan, Attachment 5, of this license, all other applicable requirements of this license, and all other applicable laws. {R 299.9613 and 40 CFR, Part 264, Subpart G, except 40 CFR, §§264.112(d)(1), 264.115, and 264.120}

K. **FINANCIAL ASSURANCE FOR CLOSURE**-

1. On the effective date of this license, the facility closure cost estimate is $709,379**.** The licensee shall keep this estimate current as required under R 299.9702 and 40 CFR, §264.142.

2. The licensee shall continuously maintain financial assurance for the current closure cost estimate as required under R 299.9703.

L. **FINANCIAL ASSSURANCE FOR CORRECTIVE ACTION**

1. On the effective date of this license, no cost has been identified for performing corrective action. No corrective action is being required, at this time, for the waste management units (WMUs), identified in Condition VI.C. of this license. The identified WMUs are currently operating pursuant to the act and its rules with no evidence of a release of any contaminants. Corrective action and financial assurance for corrective action may be required when the WMUs undergo final closure.

2. The licensee shall continuously maintain financial assurance for corrective action, when required, pursuant to R 299.9713.

M. **FINANCIAL REPSONSIBILITY FOR LIABILITY COVERAGE**

The licensee shall continuously maintain liability coverage for sudden and accidental occurrences, as required under R 299.9710.

N. **WASTE MINIMIZATION**

The licensee shall certify, at least annually, that the licensee has a hazardous waste minimization program in place. {R 299.9609(1)(a), 40 CFR, §264.73(b)(9), and §3005(h) of RCRA, 42 U.S.C., §6925(h)}

O. **LAND DISPOSAL RESTRICTIONS**

The licensee shall comply with all of the requirements of 40 CFR, Part 268. {R 299.9627 and 40 CFR, Part 268}

P. **AIR EMISSION STANDARDS**

1. The licensee shall notify the Division Chief of any hazardous WMUs that become subject to the requirements of 40 CFR, Part 264, Subparts AA and BB within 30 days after the start of the regulated activity. {R 299.9630, R 299.9631, and 40 CFR, Part 264, Subparts AA and BB, which are ABR in R 299.11003}

2. The licensee shall comply with the requirements of 40 CFR, Part 264, Subpart CC regarding air emission standards for tanks and containers. {R 299.9634 and 40 CFR, Part 264, Subpart CC, which is ABR in R 299.11003}

3. The licensee shall operate the facility in a manner that minimizes odors emanating from the facility and that prevents odors which violate Part 55, Air Pollution Control, of Act 451 and the rules promulgated pursuant thereto. A violation of Part 55 or its rules, including the issuance of a Violation Notice by the MDEQ, is a violation of this condition.

{R 299.9521(3)(b) and R 299.9602(1)(b)}.

Q. HAZARDOUS WASTE DELIVERY AND ON-SITE WASTE TRANSPORT REQUIREMENTS

1. All deliveries of hazardous waste to the facility shall be made in accordance with the Waste Delivery Procedures, Attachment 6, of this license. {R 299.9521(3)(b)}

2. The licensee shall provide written notification to the transportation companies frequenting the facility that:

   (a) Wastes shipped to the facility must be placed into closed containers or covered during transportation. The structural integrity of the waste containers must prevent leakage while in transit.

   (b) All vehicles transporting hazardous waste to or from the facility shall use Rawsonville Road to enter and exit the facility.

   (c) Vehicles transporting hazardous waste to or from the facility shall neither park nor stand on the North I-94 Service Drive.

   {R 299.9521(3)(b)}

3. All vehicles transporting or holding hazardous or decharacterized waste or waste constituents, treated or untreated, while at the facility, shall be covered at all times except when sampling, loading, or unloading. Vehicles shall be uncovered no more than 15 minutes before such activities and shall be covered no later than 15 minutes after such activities.

4. The licensee shall maintain adequate access for ingress and egress to any portion of the facility to allow unobstructed movement of personnel and equipment in case of an emergency. {R 299.9606 and 40 CFR, §264.34, which is ABR in R 299.11003}

R. GENERAL HOUSEKEEPING

1. If any visible contamination remains on the exterior of a vehicle, the licensee shall decontaminate that vehicle to prevent the vehicle from tracking the contamination through the facility or outside the facility. {R 299.9521(3)(b)}

2. The licensee shall remove any spilled or leaked waste at the facility immediately upon detection and manage it in accordance with the requirements of Part 111 of Act 451 and its rules.

S. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The licensee shall maintain at the facility the following documents and amendments required by this license, until closure is completed unless otherwise allowed by Part 111 of Act 451 and its rules, certified by an independent registered professional engineer, and the facility is released from financial assurance requirements for closure by the Director:

1. Waste Analysis Plan, including Quality Assurance/ Quality Control (QA/QC) Plans.
2. Inspection Schedules and records.
3. Personnel training documents and records.
4. Contingency Plan.
5. Closure Plan.
6. Cost estimates for facility closure and copies of related financial assurance documents.
7. Operating record.
8. Site Security Plan.
9. Facility engineering plans and specifications.
10. Recordkeeping procedures.
11. Environmental Monitoring Plans, including Sampling and Analysis Plans and QA/QC Plans.
12. Environmental monitoring data and statistical records.
13. Preventative procedures (personnel protection plan).
14. Hazardous waste minimization program certification.

{R 299.9521(3)(a)}

T. ENGINEERING PLANS

The licensee shall construct, operate, and maintain the facility in accordance with the plans and specifications included in Attachments 7 and 8 of this license. Any modifications to those plans shall be made in accordance with this license.

PART III

CONTAINER STORAGE AND TREATMENT CONDITIONS

A. COVERAGE OF LICENSE

The hazardous waste container storage areas at the facility shown in drawings entitled Site Plan and Facility Drawing are covered by this license. Any expansion or enlargement beyond the facility boundary shown on the previously referenced drawings or beyond the 264,300 gallon storage design capacity requires a construction permit from the Director. Drawings entitled Surveyed Property Description and Facility Drawing, and Drawings C2, C5, C6, S19, S20, S23, M26, C8, C9, C10, C11, S3, PP10, A10, and A11 are incorporated herein as part of Attachment 7. {R 299.9521(1)(b)}

B. WASTE IDENTIFICATION AND QUANTITY

1. The licensee may store no more than a total volume of 264,300 gallons of the hazardous wastes listed in the Acceptable Waste Types, Appendix A of the Waste Analysis Plan, Attachment 1, of this license in containers at the facility, subject to the terms of this license. For the purposes of converting gallons to pounds, the conversion factor shall be 8.34 pounds equal one gallon of water. {R 299.9521(2)(d)}

2. A maximum of 82,500 gallons or 1500, 55-gallon container equivalents may be stored in the North Container Storage Area subject to the terms of this license. {R 299.9521(3)(b)}

3. A maximum of 33,000 gallons or 600, 55-gallon container equivalents may be stored in the East Container Storage Area subject to the terms of this license. {R 299.9521(3)(b)}

4. The licensee may temporarily store a maximum of 11,000 gallons or 200, 55-gallon container equivalents of untreated waste or 500 cubic yards of treated waste in the West Treatment Bay and East Treatment Bays, subject to the terms of this license. Containers of untreated waste may be stored in this area for no more than one eight-hour shift. {R 299.9521(3)(b)}

5. At no time shall the total number of containers in storage in the North Container Storage Area, the East Container Storage Area, and within the bays of the treatment building exceed a maximum of 82,500 gallons or 1500, 55-gallon container equivalents. {R 299.9521(3)(b)}

6. A maximum of 900 cubic yards of solid hazardous waste in containers may be stored in the Southeast Container Storage Area subject to the terms of this license. {R 299.9521(3)(b)}

7. The licensee may construct a concrete hazardous waste container storage pad to store a maximum of 181,800 gallons of liquid hazardous waste in the Southeast Container Storage Area without a construction permit from the Director provided that the following conditions are complied with:

   (a) Construction of the concrete hazardous waste container storage pad shall be completed within three years from the effective date of this license. {R 299.9516(1)}

   (b) The licensee shall obtain the Division Chief written approval of the engineering design plans and specifications for the concrete hazardous waste container storage pad prior to construction.

(c) Construction of the concrete hazardous waste container storage pad shall occur within the licensed boundaries of the Southeast Container Storage Area.

(d) Within 30 days of construction completion, the licensee shall submit via certified mail or hand delivery a construction certification report to the Division Chief. The construction certification report shall include the following:

(i) As-built drawings of the constructed concrete hazardous waste container storage pad.

(ii) A letter signed by the licensee and a registered professional engineer attesting that:

(1) The facility has been constructed in compliance with the license and approved plans.

(2) The WHMD has inspected the constructed concrete hazardous waste container storage pad and finds it is in compliance with the conditions of the license.

(e) The licensee shall institute a MDEQ approved detection monitoring program for the shallow sand unit as required by Condition V.A.10 of this license prior to operation of the concrete hazardous waste container storage pad.

{R 299.9521(1)(b)(ii)}

C. **WASTE TREATMENT METHODS**

The licensee may treat hazardous debris contaminated with the hazardous waste codes listed in Appendix A of the Waste Analysis Plan, Attachment 1 of this license in macroencapsulation units at the facility, subject to the terms of this license. Placement of hazardous debris directly into a macroencapsulation unit shall occur only inside the treatment building under the confines of the air pollution control equipment. {R 299.9521(2)(d), R 299.9627, and 40 CFR, §268.45, which is ABR in R 299.11003}

D. **WASTE BULKING OR CONSOLIDATION**

1. The licensee shall only bulk or consolidate containers of hazardous waste in the North Container Storage Area in accordance with the procedures described in the attached Waste Analysis Plan, Attachment 1 of this license. {R 299.9605(1) and 40 CFR, §264.13}

2. During waste bulking or consolidating activities, the licensee shall do the following:

(a) Operate the air ventilation system in the North Container Storage Area in accordance with the July 19, 2002, as-built engineering design and specifications.

(b) Operate an odor control system approved by the Division Chief in the air ventilation system to absorb odors from the air prior to discharge to the atmosphere. {R 299.9521(3)(b) and R 299.9602(1)(b)}

3. The licensee shall establish standard operating procedures (SOP) for the operation of the odor control system approved by the Division Chief. The SOP shall be submitted to the Division

Chief within 60 days of the issuance of this license. A new SOP shall be submitted to the Division Chief for review and approval whenever the licensee proposes to use a different odor control technology. The licensee shall follow and document the use of the approved procedures in the facility operating record (Condition II.I.1).{R 299.9521(3)(b) and R 299.9602(1)(b)}

E. USE AND MANAGEMENT OF CONTAINERS

1. The licensee shall manage all containers in compliance with R 299.9521(3)(b), R 299.9614, R 299.9627, and 40 CFR, §§264.171, 264.172, 264.173, and 268.50(a)(2)(i).

2. The licensee shall stack 55-gallon drums no greater than two high or other containers no higher than 72 inches in the hazardous waste container storage areas referenced in Condition III.A. of this license. {R 299.9521(3)(b)}

3. The licensee shall operate and maintain the containment system in accordance with the requirements of R 299.9614 and 40 CFR, §264.175, and the attached plans and specifications in Attachment 7 of this license.

4. The licensee shall not store containers holding liquid hazardous waste in the Southeast Container Storage Area, unless all requirements of Condition III.B.7 are met. {R 299.9614 and 40 CFR, §264.175}

5. The license may store containers of treated hazardous waste in the North Container Storage Area, provided the following conditions are complied with:

   (a) Containers of treated hazardous waste must be covered during storage.

   (b) No manipulation, except for sampling, of the treated waste is allowed during storage.

   (c) Containers of treated hazardous waste must be evaluated in accordance with the odor evaluation and minimization standard operational procedures approved by the Division Chief prior to storage in the North Container Storage Area. The results of this evaluation must be documented in the operating record. {R 299.9521(3)(b) and 40 CFR, §264.73(b)(3)}

   (d) Operate the air ventilation system in the North Container Storage Area in accordance with Conditions III.D.2 and III.D.3.

6. The licensee may store containers of decharacterized waste that meet land disposal restrictions standards in the container storage areas identified in Condition III.B., subject to the terms of this license.

F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

1. The licensee is prohibited from storing D003 Explosives as defined in R 299.9212(3)(f), (g), and (h), and D003 Other Reactives as defined in R 299.9212(3)(a).

2. The licensee may store D003 Water Reactives as defined in R 299.9212(3)(b),(c), and (d) and D003 Reactive Sulfides as defined in R 299.9212(3)(e).

3. The licensee shall locate containers holding ignitable or reactive wastes in accordance with R 299.9614 and 40 CFR, §264.176.

4. The licensee shall take precautions to prevent the accidental ignition or reaction of ignitable or reactive wastes by following the procedures specified in the Waste Analysis Plan, Attachment 1, of this license. The licensee shall document compliance with this Ccndition and place this documentation in the operating record. {R 299.9605 and 40 CFR, §264.17(a) and (c)}

5. Containers holding ignitable hazardous waste shall be stored only in the North or East Container Storage Areas while awaiting transshipment off site.

6. Containers holding D003 Water Reactives shall be stored only in the North Container Storage Area while awaiting transshipment off site.

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES OR MATERIALS

1. The licensee is prohibited from placing incompatible wastes or incompatible wastes and materials in the same container. {R 299.9521(2)(d) and (3)(b)}]

2. The licensee shall prevent the placement of hazardous waste in an unwashed container that previously held an incompatible waste or material. {R 299.9614 and 40 CFR §264.177(b)}

3. The licensee shall document compliance with Conditions III.G.1 and III.G.2 of this license and place this documentation in the operating record. {R 299.9605 and 40 CFR, §264.17(c)}

4. The licensee shall separate containers of incompatible wastes as indicated in the procedures contained in the Waste Analysis Plan, Attachment 1 of this license. {R 299.9614 and 40 CFR, §264.177(c)}

H. DISPOSITION OF ACCUMULATED LIQUIDS AND SOLIDS

The licensee shall remove liquids and pumpable solids from the containment system within 24 hours of detection. Nonpumpable solids shall be removed every 60 days. For high precipitation conditions, where removal cannot be completed within 24 hours, removal of the spilled or leaked waste and accumulated precipitation must begin within 24 hours of detection and continue until that removal is complete. Removed spilled and leaked waste and accumulated precipitation shall be managed in accordance with the requirements of Part 111 of Act 451 and the rules, as specified in Attachment 7 of this license. {R 299.9521(3)(b), R 299.9614(1)(a) and 40 CFR, §264.175(b)(5).

I. COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE IN CONTAINERS

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55 of Act 451. {R 299.9602(1)(b)}

PART IV

TANK SYSTEM STORAGE AND TREATMENT CONDITIONS

A. COVERAGE OF LICENSE

The hazardous waste tank system storage and treatment areas at the facility shown on the Facility Drawing are covered by this license. Any expansion or enlargement beyond the facility boundary shown on the Facility Drawing or beyond the 649,880-gallon tank system storage design capacity or beyond the 576,000-gallon per day treatment design capacity requires a construction permit from the Director. The Facility Drawing and Drawings numbered S1, S5, S6, S9, S10, PP2, PP3, PP4, PP7, PP8, PP10, PP11, PP16, PP19, M3, M5, M7, and M8 are incorporated into this license as Attachment 8. {R 299.9521(1)(b)}

B. WASTE IDENTIFICATION AND QUANTITY

1. The licensee may store no more than a total volume of 649,880 gallons of the hazardous wastes listed in Appendix A of the Waste Analysis Plan, Attachment 1, in the tank systems identified as Tanks 2, 3, 6, A, B, C, D, E, F, G, H, 16, 17, 18, 19, 25, and 27 in Attachment 8, subject to the terms of this license. For the purposes of converting gallons to pounds, the conversion factor shall be 8.34 pounds equal one gallon of water. {R 299.9521(2)(d) and (3)(a) and (b)}

2. The licensee may store a maximum of 60,000 gallons of dry hazardous waste dust in the three hazardous waste lime storage silos designated Tanks 2, 3, and 6. {R 299.9521(2)(d) and (3)(a) and (b)}

3. The licensee may store a maximum of 389,880 gallons of hazardous wastes in the eight waste treatment tanks designated Tanks A, B, C, D, E, F, G, and H. {R 299.9521(2)(d) and (3)(a) and (b)}

4. The licensee may store a maximum of 80,000 gallons of hazardous wastes awaiting treatment in the four waste/reagent storage tanks designated Tanks 16, 17, 18, and 19. {R 299.9521(2)(d) and (3)(a) and (b)}

5. The licensee may store a maximum of 40,000 gallons of hazardous waste or waste regent in the waste/reagent storage tanks designated Tanks 25 and 27. {R 299.9521(2)(d) and (3)(a) and (b)}

6. Two, 40,000 gallon sludge receiving tanks designated as Tanks 11 and 12 were certified closed on October 25, 2004. The 80,000 gallon storage capacity from these tanks is hereby transferred to the Tank Farm located in the northeast corner of the East Container Storage Area. The licensee may install new hazardous waste tanks to store a maximum of 80,000 gallons without a construction permit from the Director provided that the following conditions are complied with:

   (a) Installation of the new hazardous waste storage tanks shall be completed within three years from the effective date of this license. {R 299.9516(1)}

(b) The licensee shall obtain the Division Chief written approval of the engineering design plans and specifications for the new hazardous waste storage tanks prior to installation.

(c) Installation of the new hazardous waste storage tanks shall occur within the licensed boundaries of the Tank Farm located in the northeast corner of the East Container Storage Area.

(d) Within 30 days of installation completion, the licensee shall submit via certified mail or hand delivery an installation certification report to the Division Chief. The installation certification report shall include the following:

(i) As-built drawings of the installed hazardous waste storage tanks.

(ii) Written tank assessments as required by the provisions of R 299.9615(1) and 40 CFR, §264.192.

(iii) A letter signed by the licensee and a registered professional engineer attesting that:

(1) The facility has been constructed in compliance with the license and approved plans.

(2) The WHMD has inspected the installation of the hazardous waste tanks and finds it is in compliance with the conditions of the license.

{R 299.9521(1)(b)(ii)}

C. **WASTE TREATMENT CAPACITY AND METHODS**

1. The licensee may treat no more than a total volume of 576,000 gallons a day of the hazardous wastes listed in Appendix A of the Waste Analysis Plan, Attachment 1, of this license in the tank systems identified as Tanks A, B, C, D, E, F, G, H, 14, and 15 subject to the terms of this license. {R 299.9521(2)(d) and (3)(a) and (b)}

2. The licensee shall treat hazardous wastes listed in Appendix A of the Waste Analysis Plan, Attachment 1, of this license through chemical stabilization. For wastes that require more than one type of treatment, the licensee shall use neutralization, deactivation, chemical oxidation, and/or chemical reduction treatment technologies. Waste treatment shall be conducted in accordance with the methods and procedures specified in Attachments 1 and 8 of this license, subject to the terms of this license. {R 299.9633}

3. The licensee may treat hazardous debris contaminated with waste codes listed in Appendix A of the Waste Analysis Plan, Attachment 1, of this license by using the microencapsulation and macroencapsulation immobilization technologies specified in 40 CFR, §268.45 and the procedures specified in the Waste Analysis Plan, Attachment 1, of this license, subject to the terms of this license. {R 299.9521(2)(d), R 299.9627, and 40 CFR, Part 268, which is ABR in R 299.11003}

4. The licensee may operate the treatment system 24 hours per day, seven days per week. {R 299.9521(3)(b)}

5. The licensee shall operate the air pollution control equipment when waste is stored or treated and maintain negative static pressure in the waste treatment building (pugmill mixer rooms, waste treatment/storage tanks) at all times that waste is stored in the treatment building, excluding air pollution control device malfunctions and routine maintenance as allowed under Part 55 of Act 451 and its rules. Waste treatment shall cease during air pollution control device malfunctions and routine maintenance. The licensee shall not have more than one overhead door open at a time on the east side and the west side of the waste treatment process building. {R 299.9602(1)(b) and R 299.9521(3)(b)}

6. The licensee shall cover hazardous and nonhazardous treated waste loads in the treatment building prior to the load being transported from the treatment building. {R 299.9521(3)(b)}

7. The licensee shall not mix waste during treatment in such a manner that the fire suppression system is damaged or made ineffective. {R 299.9521(3)(b)}

8. Treatment of hazardous waste shall be completed within the confines of the treatment building. Except as specified in this condition, emissions from the treatment of hazardous waste must be controlled with a permitted air pollution control system. {R 299.9602(1)(b) and R 299.9521(3)(b)}

9. Treated hazardous and decharacterized waste shall be directly transferred from the treatment building and stored in the licensed storage areas in accordance with Conditions III.E.5 and III.E.6 of this license. {R 299.9602(1)(b) and R 299.9521(3)(b)}

D. DESIGN, CONTAINMENT, AND ASSESSMENT OF TANK SYSTEMS

The licensee shall operate and maintain all tank systems in accordance with the applicable requirements of R 299.9615 and 40 CFR, §§264.191, 264.193, and 264.194, and in accordance with the attached plans and specifications in Attachment 8 of this license.

E. MANAGEMENT OF TANK SYSTEMS

1. The licensee shall label and manage the tank systems in accordance with the requirements of R 299.9615, R 299.9627, 40 CFR, §§264.194, 264.196, and 268.50(a)(2)(ii), R 29.4101 to R 29.4504 pursuant to the provisions of the Fire Prevention Act, 1941 PA 207, as amended, National Fire Protection Association (NFPA) Standard No. 704, and the spill and overfill prevention procedures specified in Attachment 8 of this license. {R 299.9615}

2. The licensee shall conduct the treatment of hazardous wastes in accordance with the methods and procedures specified in Attachments 1 and 8 of this license. {R 299.9633}

F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES OR MATERIALS

1. The licensee shall not store ignitable waste in a tank system, unless the procedures described in the Waste Analysis Plan, Attachment 1, of this license are followed. The licensee shall document compliance with this condition and place this documentation in the operating record. {R 299.9605, R 299.9609, and R 299.9615 and 40 CFR, §§264.17(c), 264.73(b)(3), and 264.198(a)}

2. The licensee shall maintain the protective distances between the tank systems and any public ways, streets, alleys, or adjoining property lines that can be built upon, as required in Tables 2-1 through 2-6 of the NFPA's "Flammable and Combustible Liquids Code" (1977 or 1981) as specified in Attachment 8 of this license, and as required by R 299.9615 and 40 CFR, §264.198(b).

3. The licensee shall not treat ignitable wastes or materials having a flashpoint less than 90°F in tank systems at the facility. {R 299.9521(2)(d) and (3)(d)}

4. The licensee shall not store or treat D003 reactive wastes or materials, or any wastes or materials that exhibit a characteristic of reactivity as defined in R 299.9212 in tank systems at the facility. {R 299.9521(2)(d) and (3)(d)}

5. The licensee may store or treat deactivated reactive wastes or materials that do not exhibit the characteristic of reactivity as defined in R 299.9212. {R 299.9521(2)(d) and (3)(b)}

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES OR MATERIALS

The licensee shall not place incompatible wastes or incompatible wastes and materials, in the same tank system or place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material. The licensee shall document compliance with this condition in the operating record. {R 299.9609, R 299.9615, and 40 CFR, §§264.17(c), 264.73(b)(3), and 264.199}

H. DISPOSITION OF ACCUMULATED LIQUIDS AND SOLIDS

The licensee shall remove liquids and pumpable solids from the containment system within 24 hours of detection. Nonpumpable solids shall be removed every 60 days. For high precipitation conditions, where removal cannot be completed within 24 hours, removal of the spilled or leaked waste and accumulated precipitation must begin within 24 hours of detection and continue until that removal is complete. Removed spilled and leaked waste and accumulated precipitation shall be managed in accordance with the requirements of Part 111 of Act 451 and its rules, as specified in Attachment 7 of this license. {R 299.9521(3)(b), R 299.9614(1)(a), and 40 CFR, §264.175(b)(5).

I. COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE AND TREATMENT IN TANK SYSTEMS

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55 of Act 451. {R 299.9602(1)(b)}

PART V

ENVIRONMENTAL MONITORING CONDITIONS

A. GROUNDWATER MONITORING PROGRAM

1. The licensee shall conduct a detection monitoring program in the glacial sand and bedrock aquifers for primary and secondary parameters. Under this program, the licensee shall operate and maintain a groundwater monitoring system in accordance with the Groundwater Monitoring Program Sampling and Analysis Plan (SAP), Attachment 9 of this license. {R 299.9611(2)(a) and (b), R 299.9612, R 299.9629, and 40 CFR, Part 264, Subpart F, excluding 40 CFR, §§264.94(a)(2) and (3), 264.94(b) and (c), 264.100, and 264.101}

2. Water removed from each monitoring well shall be managed as specified in Section V of Attachment 9 of this license. {R 299.9521(3)(b)}

3. The licensee shall submit an annual groundwater report to the Division Chief no later than March 1 for the previous calendar year's activities. At a minimum, the report shall include the following information:

   (a) A narrative summary of the previous calendar year’s sampling events, including sampling event dates, the identification of any significant problems with respect to SAP procedures, and copies of field log sheets.

   (b) A determination of the groundwater flow rate and direction in the monitored zones (shallow sand zone, drift aquifer, and bedrock aquifer), including the preparation of a groundwater level contour map from this data.

   (c) A summary of groundwater quality data results, including narrative, tabular, and graphical summaries of results and trends.

   (d) A presentation of the statistical analysis of the data and the identification of any statistically significant increases (and/or pH decreases) pursuant to Condition V.A.5 of this license.

   (e) An analysis and discussion of laboratory and field related QA/QC information. This shall include results of equipment, field, and trip blanks, and a discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements.

   {R 299.9521(3)(b), R 299.9612(1) and 40 CFR, §264.97(j)}

4. The licensee shall establish background groundwater quality values at monitoring wells as specified in Section 3.0 of Attachment L of Attachment 9 of this license. {R 299.9612(1)(c), (d), and (e) and 40 CFR, §264.97(a) and (g)}

5. Within 60 days after each sampling of each monitoring well, the licensee shall determine if a statistically significant increase (or change in pH) has occurred compared to background levels for each primary and secondary parameter listed in Table 3 of Attachment H of Attachment 9 of this license. For the primary parameters, any occurrence above the laboratory detection limit(s) for the parameters shall be considered statistically significant. {R 299.9612(1)(c) and (e) and 40 CFR, §264.97(h) and (i)}

6. If a statistically significant increase (or change in pH) is detected for any primary or secondary parameter, the licensee shall notify the Division, Hazardous Waste Section, Technical Support Unit, by telephone within one working day and arrange a resampling as soon as possible to confirm if a statistically significant increase (or change in pH) exists. Resampling must include not less than four replicate samples at the affected well(s) for the parameter(s) in question. For the primary and any other nonnaturally occurring parameters, a statistically significant increase shall be confirmed if at least two of the four resample results are detected above the laboratory detection limit(s) for the parameter(s), or if at least one of the resample results is detected at five times the laboratory detection limit. For the naturally occurring secondary parameters, a statistically significant increase shall be confirmed using the average concentration of the four confirmation samples as the analytical result in the statistical procedures specified in Attachment L of Attachment 9 of this license. {R 299.9612 and 40 CFR, §264.97(g)}

7. If the licensee determines pursuant to Conditions V.A.5 and V.A.6 of this license that a statistically significant increase has been confirmed for any primary parameter, the licensee shall address the increase in accordance with the requirements specified in R 299.9612 and 40 CFR, §264.98(f) and (g). Additionally, the licensee shall:

   (a) Within one working day, notify the Division Chief or the appropriate Waste and Hazardous Materials Division Supervisor, or if unavailable, the MDEQ PEAS at 1-800-292-4706.

   (b) Immediately take steps to determine the cause of the contamination and eliminate the source of discharge.

   (c) Within 180 days after the determination, submit to the Division Chief detailed description of corrective actions that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR, §264.99.

   (d) Prior to a license modification requiring a compliance monitoring and corrective action program, the licensee shall provide the Division Chief, or his or her designee, with weekly telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination and eliminating the discharge. The written report shall include the results of all samples from environmental monitoring conducted by the licensee. {R 299.9521(3)(b)}

8. If the licensee determines pursuant to Conditions V.A.5 and V.A.6 of this license that a statistically significant increase (or change in pH) has occurred for any secondary parameter, the licensee shall address the increase (or change in pH) in accordance with the requirements specified in R 299.9612. Additionally, the licensee shall:

   (a) If confirmed, immediately take steps to determine the cause of contamination and eliminate the source of the discharge. A report that explains the chronology of events, investigative methods, all laboratory analyses, calculations, field activities, and findings, related to this determination shall be submitted within 60 days after a statistically significant determination under Condition V.A.5 and V.A.6 of this license.

(b) Demonstrate that a source other than the licensed facility, or an error in sampling, analysis, or evaluation solely caused the increase. A report that contains the information in Condition V.A.8(a) of this license shall be submitted within 60 days after a statistically significant determination under Condition V.A.5 and V.A.6 of this license.

9. In the event that the Division Chief determines from the findings of Conditions V.A.5 and V.A.6 of this license that a statistically significant increase (or change in pH) in hazardous constituents has occurred in the groundwater, and the Director finds, in accordance with Section 11148 of Act 451, that the increase (or change in pH) may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 to cease waste receipt, storage, and treatment at the affected units and conduct other activities as required by the Director to eliminate the said endangerment. {R 299.9612(1)(g)}

10. The licensee shall conduct a quarterly hydraulic monitoring program for the shallow sand unit as specified in Attachment 9 of this license. A detection monitoring program must be initiated prior to operation of the concrete hazardous waste storage pad pursuant to Condition III.B.7 of this license, or if the MDEQ determines that groundwater in the shallow sand unit is not flowing to the east and discharging to the South Sedimentation Basin.

11. The licensee shall report all groundwater detection monitoring and hydraulic monitoring results as required by Condition II.I.3 of this license.

B. **AMBIENT AIR MONITORING PROGRAM]**

1. The licensee shall conduct ambient air monitoring in accordance with the program specified in Attachment 10 of this license. {R 299.9611(2)(c)}

2. The licensee shall report ambient air monitoring results as required by Condition II.I.3 of this license.

PART VI

CORRECTIVE ACTION CONDITIONS

A. CORRECTIVE ACTION AT THE FACILITY

1. The licensee shall implement corrective action for all releases of a contaminant from any WMUs at the facility, regardless of when the contaminant may have been placed in or released from the WMU. For the purposes of this license, the term "corrective action" means an action determined by the Division Chief to be necessary to protect the public health, safety, welfare, or the environment, and includes, but is not limited to, investigation, evaluation, cleanup, removal, remediation, monitoring, containment, isolation, treatment, storage, management, temporary relocation of people, and provision of alternative water supplies, or any corrective action allowed under Title II of the federal Solid Waste Disposal Act, or regulations promulgated pursuant to that act. For the purposes of this license, the remedial process associated with the environmental protection standards of Part 201, Environmental Remediation, of Act 451 shall be used to satisfy the corrective action obligations under this license. {§§11102, 11115a, 20120a, and 20120b of Act 451 and R 299.9629(1)(a)}

2. To the extent that a release of a hazardous substance, as defined in Section 20101(t) of Act 451, that is not also a contaminant, as defined in Section 11102(2) of Act 451, is discovered while performing corrective action under this license, the licensee shall take concurrent actions as necessary to address the Part 201 of Act 451 remedial obligations for that release. {R 299.9521(3)(b)}

B. CORRECTIVE ACTION BEYOND THE FACILITY BOUNDARY

The licensee shall implement corrective action beyond the facility in accordance with Section 11115a of Act 451 and R 299.9629(2).

C. IDENTIFICATION OF WASTE MANAGEMENT UNITS

The WMUs and area of concern (AOC) at the facility are identified below and shown on the Facility Drawing and the Michigan Disposal, Inc., Facility Boundaries Layout and Drainage figures in Attachment 11 of this license.

WMU Number 1	The Former Michigan Disposal Waste Processing Facility
WMU Number 2	Lagoon A and Stormwater Retention Basin
WMU Number 3	Lagoon B
WMU Number 4	Lagoon C
WMU Number 5	The Existing Michigan Disposal Waste Treatment Plant *(which includes 4 container storage units, 9 storage tanks, and 8 treatment tanks)*
WMU Number 6	Southeast Container Storage Area
AOC	Truck Dock

1. The following WMUs and AOC, identified in the September 30, 1999, *MDEQ Hazardous Waste*

Management Facility Operating License and in the April 30, 2004, *Michigan Disposal Waste Treatment Plant Part 111 Hazardous Waste Operating License Renewal Application*, require no further corrective action at this time. No further corrective action is required at this time because the units are currently operating pursuant to Part 111 of Act 451 and its rules with no evidence of a release of any contaminants. Corrective action may be required when the WMUs undergo final closure.

(a) WMU Number 5 — The existing Michigan Disposal Waste Treatment Plant *(which includes 4 container storage units, 9 storage tanks, and 8 treatment tanks)*

(b) WMU Number 6 — Southeast Container Storage Area

(c) AOC — Truck Dock

2. The following WMUs, identified in the *Closure Certification Former Processing Plant Report* dated March 19, 1991, but formally submitted to the MDEQ on April 3, 1991, and in the *Overview of Operation, Closure, and Environmental Monitoring Former Michigan Disposal, Inc. Waste Processing Facility Report* dated January 7, 1992, require no further corrective action at this time. The determination that no further corrective action is required at this time is based on the MDEQ's review of the March 19, 1991, and January 7, 1992, Reports which indicates releases from the WMUs have been adequately addressed. The MDEQ accepted the closure certification for the former Michigan Disposal Processing Facility on September 2, 1999.

(a) WMU Number 1 — The Former Michigan Disposal Processing Facility

(b) WMU Number 2 — Lagoon A and Stormwater Retention Basin

(c) WMU Number 4 — Lagoon C

3. The following WMU, identified in the *Overview of Operation, Closure, and Environmental Monitoring Former Michigan Disposal, Inc. Waste Processing Facility Report* dated January 7, 1992, requires no further corrective action at this time. This WMU was reported to have been closed in accordance with Subpart K standards. However, no evidence of verification sampling was provided in the January 7, 1992, Report. Without this information, a final determination on the status of the WMU can not be made at this time. Corrective action may be required for WMU Number 3 when WMU Number 5 undergoes final closure. This approach is necessary since WMU Number 3 is located beneath WMU Number 5 and any further investigations of WMU Number 3 at this time would be disruptive to facility operations.

WMU Number 3 — Lagoon B

4. Within 30 days after discovery of a new release of a contaminant from a WMU, the licensee shall provide written notification to the Division Chief. The written notification shall include all available information pertaining to the release. Based on a review of all of the information, the Division Chief may require corrective action for the newly identified release. The licensee shall

submit a written Remedial Investigation (RI) Work Plan to the Division Chief within 60 days after written notification by the Division Chief that corrective action for the release is required.

{§§11102 and 11115a of Act 451, R 299.9521(3)(b), and R 299.9629}

5. Within 30 days after discovery of a new WMU or a release of a contaminant from a new WMU, the licensee shall provide written notification to the Division Chief. The written notification shall include all of the following information:

   (a) The location of the unit on the facility topographic map.

   (b) The designation of the type of unit.

   (c) The general dimensions and structural description, including any available drawings of the unit.

   (d) The date the unit was operated.

   (e) Specification of all waste(s) that have been managed in the unit.

   (f) All available information pertaining to any release of a contaminant from the unit.

6. Based on a review of all of the information provided in Condition VI.C.5. of this license, the Division Chief may require corrective action for the newly identified WMU. The licensee shall submit a written RI Work Plan to the Division Chief within 60 days after written notification by the Division Chief that corrective action for the unit is required.

{§§11102 and 11115a of Act 451, R 299.9504(1), R 299.9508(1)(b), R 299.9629, and 40 CFR, §270.14(d)}

D. REMEDIAL INVESTIGATION

The licensee shall conduct a RI that conforms with the provisions of Part 201 of Act 451 to determine if a release of a contaminant(s) from any of the WMUs identified in Condition VI.C. of this license has occurred, and if a release(s) has occurred, evaluate the nature and extent of the release(s). The licensee shall submit a written RI Work Plan, RI Final Report, documenting compliance with the approved RI Work Plan and supporting further corrective action at the facility, and RI progress reports to the Division Chief for review and approval in accordance with Condition VI.K. of this license. The Division Chief will approve, modify and approve, or provide a Notice of Deficiency (NOD) for the RI Work Plan and RI Final Report. Upon approval, the RI Work Plan and RI Final Report become enforceable conditions of this license. {§§11102 and 11115a of Act 451, R 299.9629, and Part 201 of Act 451}

E. INTERIM RESPONSE ACTIVITIES

The licensee shall conduct interim response activities (IRA) at the facility, if determined necessary by the licensee or the Division Chief, to clean up or remove a released contaminant or to take other actions, prior to the implementation of a remedial action, as may be necessary to prevent, minimize, or mitigate injury to the public health, safety, or welfare, or to the environment. The licensee shall conduct IRA that conform with the IRA provisions of Part 201 of Act 451. The licensee shall submit written IRA Work Plan, IRA Final Report, documenting compliance with the approved IRA Work Plan and

supporting further corrective action at the facility, and IRA progress reports to the Division Chief for review and approval in accordance with Condition VI.K. of this license. The Division Chief will approve, modify and approve, or provide a Notice of Deficiency (NOD) for the IRA Work Plan and IRA Final Report. Upon approval, the IRA Work Plan and IRA Final Report become enforceable conditions of this license. {§§11102 and 11115a of Act 451, R 299.9629, and Part 201 of Act 451}

F. **DETERMINATION OF NO FURTHER ACTION**

1. The licensee shall continue response activities to the extent necessary to ensure that the applicable environmental protection standards established under Part 201 of Act 451, as adopted in Part 111 of Act 451, are met, if the limits are not less stringent than allowed pursuant to the provisions of RCRA.

2. Based on the results of the RI and other relevant information, the licensee shall submit a written request for a minor license modification to the Division Chief if the licensee wishes to terminate corrective action for a specific WMU identified in Condition VI.C. of this license. The licensee must demonstrate that there have been no releases of a contaminant(s) from the WMU and that the WMU does not pose a threat to public health, safety, welfare, or the environment.

3. Based on the results of the RI and other relevant information, the licensee shall submit a written request for a major license modification to the Division Chief if the licensee wishes to terminate facility-wide corrective action. The licensee must conclusively demonstrate that there have been no releases of a contaminant(s) from any of the WMUs at the facility and that none of the WMUs pose a threat to public health, safety, welfare, or the environment.

4. If, based upon a review of the licensee's request for a license modification pursuant to Condition VI.F.2 or VI.F.3 of this license, the results of the completed RI, and other relevant information, the Division Chief determines that the releases or suspected releases of a contaminant(s) do not exist and that the WMU(s) do not pose a threat to public health, safety, welfare, or the environment, the Division Chief will approve the requested modification.

5. A determination of no further action shall not preclude the Division Chief from requiring continued or periodic monitoring of air, soil, groundwater, or surface water, if necessary to protect public health, safety, welfare, or the environment, when facility-specific circumstances indicate that potential or actual releases of a contaminant(s) may occur.

6. A determination of no further action shall not preclude the Division Chief from requiring further corrective action at a later date, if new information or subsequent analysis indicates that a release or potential release of a contaminant(s) from a WMU at the facility may pose a threat to public health, safety, welfare, or the environment. The Division Chief will initiate the necessary license modifications if further corrective action is required at a later date.

{§§11102, 11115a, and 20120a of Act 451 and R 299.9629(2)}

G. **FEASIBILITY STUDY**

If the Division Chief determines, based on the results of the RI and other relevant information, that response activities are necessary, the Division Chief will notify the licensee in writing that a Feasibility Study (FS) is required. If required by the Division Chief, the licensee shall conduct an FS to develop and evaluate the response activity alternative(s) necessary to address the release(s) of a contaminant(s) or hazardous substances and the WMU(s) that are identified in the approved RI Final

Report as requiring final response activities. The licensee shall conduct an FS that conforms with the FS provisions of Part 201 of Act 451. The licensee shall submit written FS Work Plan, FS Final Report, documenting compliance with the approved FS Work Plan and supporting further corrective action at the facility, and FS progress reports to the Division Chief for review and approval in accordance with Condition VI.K. of this license. The Division Chief will approve, modify and approve, or provide a NOD for the FS Work Plan and FS Final Report. Upon approval, the FS Work Plan and FS Final Report become enforceable conditions of this license. {§§11102 and 11115a of Act 451, R 299.9629, and Part 201 of Act 451}

H. REMEDIAL ACTION PLAN

1. The licensee shall conduct final response activities based on the FS Final Report approved by the Division Chief. The licensee shall submit a written remedial action plan (RAP) that meets the RAP requirements of Part 201 of Act 451. If the final response activities are based on criteria in categories provided for in Section 20120a(1)(a) to (j) or (2) of Act 451, which are adopted by reference in R 299.9629(3)(a)(iii), the licensee shall submit a written RAP that conforms with the RAP provisions in Section 20120b of Act 451 to the Division Chief for review and approval. The licensee shall also submit a written Completion Report, documenting compliance with the completion criteria and providing justification that the remedial actions may cease, and RAP progress reports to the Division Chief for review and approval in accordance with Condition VI.K. of this license. The Division Chief will approve, modify and approve, or provide a NOD for the RAP and Completion Report. Upon approval, the RAP and Completion Report become enforceable conditions of this license.

2. The Division will provide notice of its draft decision on the RAP to persons on the facility mailing list and an opportunity for a public hearing.

3. The licensee shall implement the approved RAP within 60 days after receipt of the Division Chief's written approval of the RAP.

{§§11102, 11115a, 20120a, and 20120b of Act 451 and R 299.9629}

I. CORRECTIVE ACTION MANAGEMENT UNITS

If applicable, the licensee shall comply with the requirements of R 299.9635 in order to designate an area at the facility as a corrective action management unit for implementation of response activities. {R 299.9521(3)(a)}

J. TEMPORARY UNITS

If applicable, the licensee shall comply with the requirements of R 299.9636 in order to designate tank or container storage units used for the treatment or storage of remediation wastes as temporary units for implementation of response activities. {R 299.9521(3)(a)}

K. SUMMARY OF CORRECTIVE ACTION SUBMITTALS

The licensee shall submit the required corrective action documents in accordance with Conditions VI.D., VI.E., VI.G., and VI.H of this license and the schedule below.

CORRECTIVE ACTION DOCUMENT	SUBMITTAL DEADLINE

CORRECTIVE ACTION DOCUMENT	SUBMITTAL DEADLINE
Written notification of a new release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 30 days after discovery
RI Work Plan for a newly identified release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 60 days after receipt of written notification that response activity is required
RI Work Plan for existing WMUs, AOC, and contaminant releases	Within 60 days after the WMUs or AOC undergo final closure
Revised RI Work Plan for WMUs, AOC, and contaminant releases	Within 30 days after receipt of RI Work Plan NOD
RI progress reports	Within 30 days after initiation of the RI and every 30 days thereafter
RI Final Report for WMUs, AOC, and contaminant releases	Within 60 days after completion of RI
Revised RI Final Report for WMUs, AOC, and contaminant releases	Within 30 days after receipt of RI Final Report NOD
IRA Work Plan for WMUs, AOC, and contaminant releases	Within 60 days after receipt of notification that IRA Work Plan is required
Revised IRA Work Plan for WMUs, AOC, and contaminant releases	Within 30 days after receipt of IRA Work Plan NOD
IRA progress reports	Within 30 days after initiation of the IRA and every 30 days thereafter
IRA Final Report for WMUs, AOC, and contaminant releases	Within 60 days after completion of the IRA
Revised IRA Work Plan for WMUs, AOC, and contaminant releases	Within 30 days after receipt of IRA Final Report NOD
FS Work Plan for WMUs, AOC, and contaminant releases	Within 60 days after receipt of notification that FS is required
Revised FS Work Plan for WMUs, AOC, and contaminant releases	Within 30 days after receipt of FS Work Plan NOD
FS progress reports	Within 30 days after initiation of the FS and every 30 days thereafter
FS Final Report for WMUs, AOC, and contaminant releases	Within 60 days after completion of the FS
Revised FS Final Report for WMUs, AOC, and contaminant releases	Within 30 days after receipt of FS Final Report NOD
RAP for WMUs, AOC, and contaminant releases	Within 60 days after approval of the FS Final

CORRECTIVE ACTION DOCUMENT	SUBMITTAL DEADLINE
	Report
Revised RAP for WMUs, AOC, and contaminant releases	Within 30 days after receipt of RAP NOD
RAP progress reports	Within 30 days after implementation of the RAP and every 30 days thereafter, unless otherwise approved
Completion Report for remediated WMUs, AOC, and contaminant releases	Within 60 days after the remedial actions have been completed and cleanup criteria have been met
Revised Completion Report for WMUs, AOC, and contaminant releases	Within 30 days after receipt of Completion Report NOD

L. **CORRECTIVE ACTION DOCUMENTS RETENTION**

The licensee shall maintain all corrective action documents required by this license at the facility. The documents shall be maintained for the operating life of the facility or until the facility is released from financial assurance requirements for corrective action by the Director, whichever is longer. The licensee shall offer such documents to the Division Chief prior to discarding those documents. {§§11102 and 11115a of Act 451, R 299.9521(3)(b), and R 299.9629}

Appendix 7.

MDWTP
RCRA Permit

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 10, 2007

REPLY TO THE ATTENTION OF:

D-8J

7001 0320 0006 1458 8559
CERTIFIED MAIL:
RETURN RECEIPT REQUESTED

Melinda Keillor
EQ-The Environmental Quality Company
49350 North I-94 Service Drive
Belleville, Michigan 48111

RE: Final Federal RCRA Permit
Michigan Disposal Waste Treatment Plant
MID 000 724 831
Belleville, Michigan

Dear Ms. Keillor:

Enclosed is a copy of the final Federal Resource Conservation and Recovery Act (RCRA) permit for Michigan Disposal Waste Treatment Plant (MDWTP), Belleville, Michigan.

Unless review is requested under 40 CFR § 124.19, the Federal permit will become effective on the date which is indicated on the title page of the enclosed Federal RCRA permit. When this Federal permit is effective, MDWTP will have an effective Federal RCRA permit authorizing only those hazardous waste management activities specified in the Federal RCRA permit.

The public was given notice of the draft Federal RCRA permit on May 3, 2007. On that date, the public notice was announced in the *Belleville View and WEMU FM and WWJ* Radios. A copy of the draft Federal RCRA permit and factsheet was made available for review at the Fred C. Fischer Library, 167 Fourth Street, Belleville, Michigan and Van Buren Township Hall, 46425 Tyler Road, Belleville, Michigan. The public comment period extended from May 3 to June 22, 2007. A public hearing was conducted on June 6, 2007, 7:00 p.m. at the Belleville High School in the mini auditorium, 501 West Columbia, Belleville, Michigan.

There is no comment received for the Federal RCRA permit during the public comment period and at the public hearing.

Eligibility to appeal the Federal permit is discussed further in 40 CFR § 124.19. All original documents are to be signed in blue ink with five (5) copies marked as such. The petition for review must be received by U.S. EPA in Washington D.C., via U.S. Postal Service at the address

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indicated below within 30 days after service of notice of the final permit decision.

U.S. Environmental Protection Agency
Clerk of the Board
Environmental Appeals Board (1103B)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0001

Submissions can also be made by hand-delivery or courier, mailed via Federal Express, UPS, or non-U.S. Postal Service at the following address:

U.S. Environmental Protection Agency
Clerk of the Board
Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Suite 600
Washington, D.C. 20005

A copy of the petition should also be sent to:

U.S. Environmental Protection Agency, Region 5
RCRA Branch (DM-7J)
77 West Jackson Boulevard
Chicago, Illinois 60604

The procedures for filing an appeal are found in 40 CFR § 124.19. The administrative appeal procedure must be completed prior to any action seeking judicial review.

If you have questions concerning the final Federal RCRA permit, please contact Jae Lee of my staff at (312) 886-3781.

Sincerely,

Margaret M. Guerriero, Director
Land and Chemicals Division

Enclosures

cc: Kimberly M. Tyson, MDEQ

FINAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT

Facility Name and Location: Michigan Disposal Waste Treatment Plant
49350 North I-94 Service Drive
Belleville, Michigan 48111

Owner: EQ – The Environmental Quality Company
36255 Michigan Avenue
Wayne, Michigan 48184

Operator: Michigan Disposal Waste Treatment Plant
49350 North I-94 Service Drive
Belleville, Michigan 48111

U.S. EPA Identification Number: MID 000 724 831

Effective Date: September 11, 2007

Expiration Date: September 11, 2017

Authorized Activities:

The United States Environmental Protection Agency ("U.S. EPA") hereby issues a Resource Conservation and Recovery Act permit (hereinafter referred to as the "permit") to the Michigan Disposal Waste Treatment Plant (hereinafter referred to as the "Permittee" or addressed in the second person as "you") in connection with the hazardous waste treatment operations at the Michigan Disposal Waste Treatment Plant facility located at 49350 North I-94 Service Drive, Belleville, Michigan.

This permit is issued under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments ("HSWA") of 1984 (42 USC § 6901 *et seq.*) (collectively referred to as "RCRA") and U.S. EPA's regulations promulgated thereunder (codified, and to be codified, in Title 40 of the Code of Federal Regulations ("40 CFR")).

The RCRA permit consists of both this permit, which contains the effective Federal RCRA permit conditions, and the effective State RCRA permit conditions issued by the State of Michigan's RCRA program authorized under 40 CFR Part 271 (hereinafter called the "State RCRA permit"). Any hazardous waste activity, which requires a RCRA permit and is not included in the RCRA permit, is prohibited.

Permit Approval:

On October 30, 1986, the State of Michigan received final authorization pursuant to Section 3006 of RCRA, 42 USC § 6926, and 40 CFR Part 271, to administer the pre-HSWA RCRA hazardous waste program. The State of Michigan also received final authorization to administer certain additional RCRA requirements on several occasions since then.

However, because the U.S. EPA has not yet authorized the State of Michigan to administer some hazardous wastes listed in 40 CFR Part 261, Subpart D, the U.S. EPA Region 5 is issuing this portion of the RCRA permit to cover operations at the facility which manage wastes for which the State of Michigan is not authorized.

You must comply with all terms and conditions contained in this permit. This permit consists of all the conditions contained herein, the documents attached hereto, all documents cross-referenced in these documents, approved submittals (including plans, schedules and other documents), the applicable regulations in 40 CFR Parts 124, 260, 261, 262, 264, 268, 270, and applicable provisions of RCRA.

This permit is based on the assumption that the information submitted in your RCRA Part B Permit Renewal Application dated April 30, 2004 and subsequent responses and modifications (hereinafter referred to as the "Part B Permit Renewal Application") is accurate, and the facility is configured, operated and maintained as specified in the permit and as described in the Part B Permit Renewal Application and other relevant documents.

Any inaccuracies in the submitted information may be grounds for the U.S. EPA to terminate, revoke and reissue, or modify this permit in accordance with 40 CFR §§ 270.41, 270.42 and 270.43; and for enforcement action. You must inform the U.S. EPA of any deviation from, or changes in, the information in the Part B Permit Renewal Application and other pertinent documents that might affect your ability to comply with the applicable regulations or conditions of this permit.

Opportunity to Appeal:

Petitions for review must be submitted within 30 days after the U.S. EPA serves notice of the final permit decision. Any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may file a petition for review only to the extent of the changes from the draft to the final permit decision. The procedures for permit appeals are found in 40 CFR § 124.19.

Effective Date:

This permit is effective as of **September 11, 2007** and will remain in effect until **September 11, 2017**, unless revoked and reissued under 40 CFR § 270.41, terminated under 40 CFR § 270.43, or continued in accordance with 40 CFR § 270.51(a).

Date: August 10, 2007

Margaret M. Guerriero, Director
Land and Chemicals Division

MID 000 724 831
Michigan Disposal Waste Treatment Plant, Belleville, Michigan

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SECTION II—HAZARDOUS WASTE NUMBER 10

SECTION I—STANDARD PERMIT CONDITIONS

I.A EFFECT OF PERMIT

You are hereby allowed to manage hazardous waste at Michigan Disposal Waste Treatment Plant ("facility") in accordance with this permit. Under this permit, the operation of units treating and storing RCRA hazardous waste must comply with all terms and conditions in this permit. Other aspects of the treatment and storage of RCRA hazardous wastes in containers, tanks, and miscellaneous units are subject to the conditions in the State-issued portion of the RCRA permit.

Subject to 40 CFR § 270.4, compliance with the RCRA permit during its term generally constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA.

This permit does not: (1) convey any property rights or any exclusive privilege; (2) authorize any injury to persons or property, or invasion of other private rights; or (3) authorize any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued, or any action brought, under: (1) Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; (2) Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC §§ 9601 *et seq.* (commonly known as CERCLA); or (3) any other law protecting public health or the environment from any imminent and substantial endangerment to human health, welfare, or the environment.
(40 CFR §§ 270.4 and 270.30(g))

I.B PERMIT ACTIONS

I.B.1 Permit Review, Modification, Revocation and Reissuance, and Termination

The U.S. EPA may review, modify, or revoke and reissue this permit, or terminate it for cause, as specified in 40 CFR § 270.41, § 270.42, and § 270.43. The U.S. EPA may also review and modify this permit, consistent with 40 CFR § 270.41, to include any terms and conditions it determines are necessary to protect human health and the environment under Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance on your part will not stay the applicability or enforceability of any permit condition. (40 CFR § 270.30(f))

You may request a modification of this permit under the procedures specified in 40 CFR § 270.42. A class 1 modification is generally allowed without prior approval by U.S. EPA except under certain conditions as described in 40 CFR § 270.42(a)(2). A class 2 modification requires prior approval by U. S. EPA as described in 40 CFR §270.42(b).

However, you may perform construction associated with a Class 2 permit modification request beginning 60 days after submission of the request unless the Director establishes a later date under 40 CFR § 270.42(b)(8). Procedures for a class 3 modification are specified in 40 CFR § 270.42(c). You must not perform any construction associated with a Class 3 permit modification request until such modification request is granted and the modification becomes effective. (40 CFR §§ 270.42(b)(8) and 270.42(c))

I.B.2 Permit Renewal

This permit may be renewed as specified in 40 CFR § 270.30(b) and Section I.E.2 of this permit. In reviewing any application for a permit renewal, the U.S. EPA will consider improvements in the state of control and measurement technology, and changes in applicable regulations. (40 CFR § 270.30(b) and RCRA Section 3005(c)(3))

I.C SEVERABILITY

This permit's provisions are severable; if any permit provision, or the application of any permit provision to any circumstance, is held invalid, such provision's application to other circumstances and the remainder of this permit will not be affected. Invalidation of any statutory or regulatory provision on which any condition of this permit is based does not affect the validity of any other statutory or regulatory basis for that condition. (40 CFR § 124.16(a))

I.D DEFINITIONS

The terms used in this permit will have the same meaning as in 40 CFR Parts 124, 260 through 266, 268 and 270, unless this permit specifically provides otherwise. Where neither the regulations nor the permit define a term, the term's definition will be the standard dictionary definition or its generally accepted scientific or industrial meaning.

I.E DUTIES AND REQUIREMENTS

1.E.1 Duty to Comply

You must comply with all conditions of this permit, except to the extent and for the duration for which an emergency permit authorizes such noncompliance (40 CFR § 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of RCRA and will be grounds for: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 270.30(a))

I.E.2 Duty to Reapply

If you wish to continue an activity this permit regulates after its expiration date, you must apply for and obtain a new permit. You must submit a complete application for a new permit at least 180 days before the permit expires, unless the Director grants permission for a later date. The Director will not grant permission to submit the complete application for a new permit later than the permit's expiration date. (40 CFR § 270.10(h) and § 270.30(b))

I.E.3 Permit Expiration

Unless revoked or terminated, this permit and all conditions herein will be effective for 10 years from this permit's effective date. This permit and all conditions herein will rema in in effect beyond the permit's expiration date if you have submitted a timely, complete application (40 CFR § 270.10 and §§ 270.13 through 270.29), and, through no fault of your own, the Director has not made a final determination regarding permit reissuance. (40 CFR §§ 270.50 and 270.51)

I.E.4 Need to Halt or Reduce Activity Not a Defense

In an enforcement action, you are not entitled to a defense that it would have been necessary to halt or reduce the permitted activity to maintain compliance with this permit. (40 CFR § 270.30(c))

I.E.5 Duty to Mitigate

In the event of noncompliance with this permit, you must take all reasonable steps to minimize releases to the environment resulting from the noncompliance and must implement all reasonable measures to prevent significant adverse impacts on human health or the environment. (40 CFR § 270.30(d))

I.E.6 Proper Operation and Maintenance

You must always properly operate and maintain all facilities and treatment and control systems (and related appurtenances) that you install or use to comply with this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires you to operate back-up or auxiliary facilities or similar systems only when necessary to comply with this permit. (40 CFR § 270.30(e))

I.E.7 Duty to Provide Information

You must provide the Director, within a reasonable time, any relevant information that the Director requests to determine whether there is cause to modify, revoke and reissue, or terminate this permit, or to determine permit compliance. You must also provide the Director, upon request, with copies of any records this permit requires. The information you must maintain under this permit is not subject to the Paperwork Reduction Act of 1995, 44 USC §§ 3501 *et seq.* (40 CFR §§ 264.74(a) and 270.30(h))

I.E.8 Inspection and Entry

Upon the presentation of credentials and other legally required documents, you must allow the Director or an authorized representative to:

I.E.8.a Enter at reasonable times upon your premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.E.8.b Have access to and copy, at reasonable times, any records that you must keep under the conditions of this permit;

I.E.8.c Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.E.8.d Sample or monitor any substances at any location at reasonable times, to assure permit compliance or as RCRA otherwise authorizes.

Notwithstanding any provision of this permit, U.S. EPA retains the inspection and access authority which it has under RCRA and other applicable laws. (40 CFR § 270.30(i))

I.E.9 Monitoring and Records

I.E.9.a Samples and measurements taken for monitoring purposes must be representative of the monitored activity. The methods used to obtain a representative sample of the feed streams, treatment residues, or other hazardous wastes to be analyzed must be the appropriate methods from Appendix I of 40 CFR Part 261, or the methods specified in the Waste Analysis Plan (WAP) which is Section 12 of the Part B Permit Renewal Application, or an equivalent method approved by the Director. Laboratory methods must be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW-846, latest edition), *Methods for Chemical Analysis of Water and Wastes* (EPA

600/4-79-020), or an equivalent method, as specified in the referenced WAP. (40 CFR § 270.30(j)(1))

I.E.9.b You must retain, at the facility, records of all monitoring information as specified in 40 CFR § 264.74.

I.E.9.c You must retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records, or other documents, unless a different period is specified in this permit. These periods may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. (40 CFR §§ 270.30(j) and 270.31)

I.E.10 Reporting Planned Changes

You must notify the Director as soon as possible of any planned physical alterations or additions to the permitted facility. (40 CFR § 270.30(l)(1))

I.E.11 Reporting Anticipated Noncompliance

You must notify the Director, in advance, of any planned changes in the permitted facility or activity that may result in permit noncompliance. Advance notice will not constitute a defense for any noncompliance. (40 CFR § 270.30(l)(2))

I.E.12 Certification of Construction

You must not operate any RCRA air emission control devices completed after the effective date of this permit until you have submitted to the Director, by certified mail or hand-delivery, a letter signed both by your authorized representative and by a registered professional engineer. That letter must state that the portions of the facility covered by this permit have been constructed in compliance with the applicable conditions of this permit. In addition, you must not operate the permitted control devices until either: (40 CFR § 270.30(l)(2))

I.E.12a. The Director or his/her representative has inspected those portions of the facility and finds them in compliance with the conditions of the permit; or

I.E.12b. The Director waives the inspection.

I.E.13 Transfer of Permits

This permit is not transferable to any person, except after notice to the Director. Under 40 CFR § 270.40, the Director may require permit modification, or revocation and reissuance to change the Permittee's name and incorporate other RCRA requirements. Before transferring ownership or operation of the facility during its operating life, you must notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 266, 268, and 270, and must provide a copy of the RCRA permit to the new owner or operator. (40 CFR §§ 264.12(c), 270.30(l)(3), and 270.40(a))

I.E.14 Twenty-Four Hour Reporting

I.E.14.a You must report to the Director any noncompliance with this permit that may endanger human health or the environment. Any such information must be promptly reported orally, but no later than 24 hours after you become aware of the circumstances.

I.E.14.b The report must include the following (40 CFR §§ 270.30(l)(6) and 270.33): (1) Information concerning release of any hazardous waste that may endanger public drinking water supplies; (2) Information of a release or discharge of hazardous waste; or (3) Information of a fire or explosion from the hazardous waste management facility, that could threaten the environment or human health outside the facility. You must include the following information:

(1) Name, title and telephone number of the person making the report;

(2) Name, address and telephone number of the facility owner or operator;

(3) Facility name, address and telephone number;

(4) Date, time and type of incident;

(5) Location and cause of incident;

(6) Identification and quantity of material(s) involved;

(7) Extent of injuries, if any;

(8) Assessment of actual or potential hazards to the environment and human health outside the facility, where applicable;

(9) Description of any emergency action taken to minimize the threat to human health and the environment; and

(10) Estimated quantity and disposition of recovered material that resulted from the incident.

I.E.14.c In addition to the oral notification required under Sections I.E.14.a and I.E.14.b of this permit, a written report must also be provided within 5 calendar days after you become aware of the circumstances. The written report must include, but is not limited to, the following:

(1) Name, address and telephone number of the person reporting;

(2) Incident description (noncompliance and/or release or discharge of hazardous waste), including cause, location, extent of injuries, if any, and an assessment of actual or potential hazards to the environment and human health outside the facility, where applicable;

(3) Period(s) in which the incident (noncompliance and/or release or discharge of hazardous waste) occurred, including exact dates and times;

(4) Whether the incident's results continue to threaten human health and the environment, which will depend on whether the noncompliance has been corrected and/or the release or discharge of hazardous waste has been adequately cleaned up; and

(5) If the noncompliance has not been corrected, the anticipated period for which it is expected to continue and the steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance.

The Director may waive the requirement that written notice be provided within 5 calendar days; however, you will then be required to submit a written report within 15 calendar days of the day on which you must provide oral notice, in accordance with Sections I.E.14.a and I.E.14.b of this permit. (40 CFR § 270.30(1)(6)) (40 CFR § 270.30(h))

I.E.15 Other Noncompliance

You must report all instances of noncompliance not reported under Section I.E.14 of this permit, when any other reports this permit requires are submitted. The reports must contain the information listed in Section I.E.14 of this permit.
(40 CFR § 270.30(l)(10))

I.E.16 Other Information

I.E.16.a Whenever you become aware that you failed to submit or otherwise omitted any relevant facts in the Part B Permit Renewal Application or other submittal, or submitted incorrect information in the Part B Permit Renewal Application or other submittal, you must promptly notify the Director of any incorrect information or previously omitted information, submit the correct facts or information, and explain in writing the circumstances of the incomplete or inaccurate submittal. (40 CFR § 270.30(l)(11)) (40 CFR § 270.30(h))

I.E.16.b All other requirements contained in 40 CFR § 270.30 not specifically described in this permit are incorporated into this permit and you must comply with all those requirements.

I.F SIGNATORY REQUIREMENT

You must sign and certify all applications, reports, or information this permit requires, or which are otherwise submitted to the Director, in accordance with 40 CFR § 270.11.
(40 CFR § 270.30(k))

I.G REPORTS, NOTIFICATIONS AND SUBMITTALS TO THE DIRECTOR

Except as otherwise specified in this permit, all reports, notifications, or other submittals that this permit requires to be sent or given to the Director should be sent by certified mail or express mail, or hand-delivered to the U.S. Environmental Protection Agency Region 5, RCRA Branch, at the following address:

RCRA Branch, DM-7J
Land and Chemicals Division
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

I.H CONFIDENTIAL INFORMATION

In accordance with 40 CFR Part 2, Subpart B, you may claim any information this permit requires, or otherwise submitted to the Director, as confidential. You must assert any such claim at the time of submittal in the manner prescribed on the application form or instructions or, in the case of other submittals, by stamping the words "Confidential Business Information" on each page containing such information. If you made no claim at the time of submittal, the Director may make the information available to the public without further notice. If you assert a claim, the information will be treated in accordance with the procedures in 40 CFR Part 2. (40 CFR § 270.12)

I.I DOCUMENTS TO BE MAINTAINED AT THE FACILITY

You must maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and all amendments, revisions, and modifications to them.

I.I.1 Operating Record

You must maintain in the facility's operating record the documents required by this permit, and by the applicable portions of 40 CFR § 266.102, § 264.13, and § 264.73 (as they apply to the equipment used to comply with this permit).

I.I.2 Notifications

You must maintain notifications from generators that are required by 40 CFR § 268.7 to accompany an incoming shipment of hazardous wastes subject to 40 CFR Part 268, Subpart C, that specify treatment standards, as required by 40 CFR §§ 264.73, 268.7, and this permit.

I.I.3 Copy of Permit

You must keep a copy of this permit on site, and you must update it as necessary to incorporate any official permit modifications.

I.J ATTACHMENTS AND DOCUMENTS INCORPORATED BY REFERENCE

I.J.1 All attachments and documents that this permit requires to be submitted, if any, including all plans and schedules are, upon the Director's approval, incorporated into this permit by reference and become an enforceable part of this permit. Since required items are essential elements of this permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject you to enforcement

action under Section 3008 of RCRA. This may include fines, or permit suspension or revocation.

I.J.2 This permit also includes the documents attached hereto, all documents cross-referenced in these documents, and the applicable regulations contained in 40 CFR Parts 124, 260, 261, 262, 264, 266, 268, and 270, and applicable provisions of RCRA, all of which are incorporated herein by reference.

I.J.3 Any inconsistency or deviation from the approved designs, plans and schedules is a permit noncompliance. The Director may grant written requests for extensions of due dates for submittals required in this permit.

I.J.4 If the Director determines that actions beyond those provided for, or changes to what is stated herein, are warranted, the Director may modify this permit according to procedures in Section I.B of this permit.

I.J.5 If any documents attached to this permit are found to conflict with any of the conditions in this permit, the condition will take precedence.

I.K COORDINATION WITH THE CLEAN AIR ACT

You must fully comply with all applicable Clean Air Act (CAA) and RCRA permit limits. Where two or more operating limitations apply, the most stringent operating limitations take precedence.

SECTION II— HAZARDOUS WASTE CODES

In addition to the hazardous waste numbers listed in the state-issued portion of the RCRA permit, you may handle the following newly listed hazardous waste, promulgated under the HSWA, at your facility. All handling of this waste must comply with the applicable provisions of both the State-issued portion and the federally-issued portion of the RCRA permit. Management of any hazardous waste not listed in the RCRA permit is prohibited except as provided in 40 CFR § 270.42(g) which describes the procedures for managing newly listed hazardous wastes.

Listed U.S. EPA Hazardous Waste Number	Description of Hazardous Waste
K181	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes)

revocation and reissuance proceeding under § 124.5; and

(2) To the extent conditions of any new permit are stayed under this section, comply with the conditions of the existing permit which correspond to the stayed conditions, unless compliance with the existing conditions would be technologically incompatible with compliance with other conditions of the new permit which have not been stayed.

§ 124.17 Response to comments.

(a) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* At the time that any final permit decision is issued under § 124.15, the Director shall issue a response to comments. States are only required to issue a response to comments when a final permit is issued. This response shall:

(1) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(2) Briefly describe and respond to all significant comments on the draft permit or the permit application (for section 404 permits only) raised during the public comment period, or during any hearing.

(b) For EPA-issued permits, any documents cited in the response to comments shall be included in the administrative record for the final permit decision as defined in § 124.18. If new points are raised or new material supplied during the public comment period, EPA may document its response to those matters by adding new materials to the administrative record.

(c) *(Applicable to State programs, see §§ 123.25 (NPDES), 145.11 (UIC), 233.26 (404), and 271.14 (RCRA).)* The response to comments shall be available to the public.

§ 124.18 Administrative record for final permit when EPA is the permitting authority.

(a) The Regional Administrator shall base final permit decisions under § 124.15 on the administrative record defined in this section.

(b) The administrative record for any final permit shall consist of the administrative record for the draft permit and:

(1) All comments received during the public comment period provided under § 124.10 (including any extension or reopening under § 124.14);

(2) The tape or transcript of any hearing(s) held under § 124.12;

(3) Any written materials submitted at such a hearing;

(4) The response to comments required by § 124.17 and any new material placed in the record under that section;

(5) For NPDES new source permits only, final environmental impact statement and any supplement to the final EIS;

(6) Other documents contained in the supporting file for the permit; and

(7) The final permit.

(c) The additional documents required under paragraph (b) of this section should be added to the record as soon as possible after their receipt or publication by the Agency. The record shall be complete on the date the final permit is issued.

(d) This section applies to all final RCRA, UIC, PSD, and NPDES permits when the draft permit was subject to the administrative record requirements of § 124.9 and to all NPDES permits when the draft permit was included in a public notice after October 12, 1979.

(e) Material readily available at the issuing Regional Office, or published materials which are generally available and which are included in the administrative record under the standards of this section or of § 124.17 ("Response to comments"), need not be physically included in the same file as the rest of the record as long as it is specifically referred to in the statement of basis or fact sheet or in the response to comments.

§ 124.19 Appeal of RCRA, UIC, and PSD permits.

(a) Within 30 days after a RCRA, UIC, or PSD final permit decision (or a decision under § 270.29 to deny a permit for the active life of a RCRA hazardous waste management facility or unit) has been issued under § 124.15, any person who filed comments on that draft permit or participated in the public hearing may petition the Environmental

Administrative Record Index
Michigan Disposal Waste Treatment Plant
Belleville, Michigan
MID 000 724 831

	Title	Date	Prepared by
1.	Part B Application	April 30, 2004	MDWTP
2.	Class 1 permit mod request (K-181)	August 1, 2005	MDWTP
3.	Part B NOD Response	September 2, 2005	MDWTP
4.	Part B NOD	December 14, 2005	MDEQ
5.	Part B NOD Response	January 27, 2006	MDWTP
6.	Class 2 Permit mod request (K-181)	February 17, 2006	MDWTP
7.	Class 1 mod approval (K-181)	March 7, 2006	U.S. EPA
8.	Class 2 Mod Approval (K-181)	May 11, 2006	U.S. EPA
9.	EJ Analysis	January 9, 2007	U.S. EPA
10.	Draft State RCRA Permit	May 2007	MDEQ
11.	Draft Federal RCRA Permit	May 2007	U.S. EPA

*** Above Documents are on file in the Waste Management Branch, U.S. EPA, Chicago, IL

EJ: Environmental Justice
MOD: Modification
NOD: Notice of Deficiency
MDWTP: Michigan Disposal Waste Treatment Plant
RCRA: Resource Conservation Resource Act
MDEQ: Michigan Department Environmental Quality
U.S. EPA: United States Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 10, 2007

REPLY TO THE ATTENTION OF:
DM-7J

Delores Montgomery, Acting Chief
Hazardous Waste Section
Waste and Hazardous Materials Division
Michigan Department of Environmental Quality
Constitution Hall, Atrium North
P.O. Box 30241
Lansing, Michigan 48909

Re: Final Federal RCRA Permit
Michigan Disposal Waste Treatment Plant
Belleville, Michigan
MID 000 724 831

Dear Ms. Montgomery:

Enclosed please find a copy of the final Federal Resource Conservation and Recovery Act Permit and cover letter to the above referenced facility.

If you have any questions, please contact Jae Lee of my staff at (312) 886-3781.

Sincerely,

Willie H. Harris

Willie H. Harris, P.E.
Chief, RCRA Branch
Land and Chemicals Division

Enclosure

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 10, 2007

REPLY TO THE ATTENTION OF:
DU-7J

Reference Desk Clerk
Van Buren Township Hall
46425 Tyler Road
Belleville, Michigan 48111

Re: Final Federal RCRA Permit
Michigan Disposal Waste Treatment Plant
Belleville, Michigan
MID 000 724 831

Dear Madam or Sir:

Enclosed is a copy of the final Federal Resource Conservation and Recovery Act (RCRA) permit for Michigan Disposal Waste Treatment Plant (MDWTP) located in Belleville, Michigan.

Unless review is requested under 40 CFR § 124.19, the Federal permit will become effective on the date which is indicated on the title page of the enclosed Federal RCRA permit. When this Federal permit is effective, MDWTP will have an effective Federal RCRA permit authorizing only those hazardous waste management activities specified in the Federal RCRA permit.

The public was given notice of the draft Federal RCRA permit on May 3, 2007. On that date, the public notice was announced in the *Belleville View and WEMU FM and WWJ* Radios. A copy of the draft Federal RCRA permit and factsheet was made available for review at the Fred C. Fischer Library, 167 Fourth Street, Belleville, Michigan and Van Buren Township Hall, 46425 Tyler Road, Belleville, Michigan. The public comment period extended from May 3 to June 22, 2007. A public hearing was conducted on June 6, 2007, 7:00 p.m. at the Belleville High School in the mini auditorium, 501 West Columbia, Belleville, Michigan.

There is no comment received for the Federal RCRA permit during the public comment period and at the public hearing.

Please make available for public examination this letter and the enclosed documents for at least seventy-five (75) days. The following items are enclosed;

-- Final Federal Permit;
-- 40 CFR § 264.19; and
-- Cover Letter to MDWTP

There is no need to return these documents.

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The administrative record is on file in the RCRA Branch, U.S. EPA, Region 5, 8th floor, 77 West Jackson Boulevard, Chicago, Illinois, and may be inspected and copied at any time between 8:30 a.m. and 4:00 p.m., Monday through Friday, except for Federal holidays.

Thank you for your assistance. If you have any questions, please contact me at (312) 886-3781.

Sincerely,

Jae B. Lee, Permit Writer
RCRA Branch
Land and Chemicals Division

Enclosures

cc: Kimberly M. Tyson, MDEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 10, 2007

REPLY TO THE ATTENTION OF:
DU-7J

Reference Desk Librarian
Fred C. Fischer Library
167 Fourth Street,
Belleville, Michigan 48111

Re: Final Federal RCRA Permit
Michigan Disposal Waste Treatment Plant
Belleville, Michigan
MID 000 724 831

Dear Madam or Sir:

Enclosed is a copy of the final Federal Resource Conservation and Recovery Act (RCRA) permit for Michigan Disposal Waste Treatment Plant (MDWTP) located in Belleville, Michigan.

Unless review is requested under 40 CFR § 124.19, the Federal permit will become effective on the date which is indicated on the title page of the enclosed Federal RCRA permit. When this Federal permit is effective, MDWTP will have an effective Federal RCRA permit authorizing only those hazardous waste management activities specified in the Federal RCRA permit.

The public was given notice of the draft Federal RCRA permit on May 3, 2007. On that date, the public notice was announced in the *Belleville View and WEMU FM and WWJ* Radios. A copy of the draft Federal RCRA permit and factsheet was made available for review at the Fred C. Fischer Library, 167 Fourth Street, Belleville, Michigan and Van Buren Township Hall, 46425 Tyler Road, Belleville, Michigan. The public comment period extended from May 3 to June 22, 2007. A public hearing was conducted on June 6, 2007, 7:00 p.m. at the Belleville High School in the mini auditorium, 501 West Columbia, Belleville, Michigan.

There is no comment received for the Federal RCRA permit during the public comment period and at the public hearing.

Please make available for public examination this letter and the enclosed documents for at least seventy-five (75) days. The following items are enclosed:

-- Final Federal Permit;
-- 40 CFR § 264.19; and
-- Cover Letter to MDWTP

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The administrative record is on file in the RCRA Branch, U.S. EPA, Region 5, 8th floor, 77 West Jackson Boulevard, Chicago, Illinois, and may be inspected and copied at any time between 8:30 a.m. and 4:00 p.m., Monday through Friday, except for Federal holidays.

Thank you for your assistance. If you have any questions, please contact me at (312) 886-3781.

Sincerely,

Jae B. Lee, Permit Writer
RCRA Branch
Land and Chemicals Division

Enclosures

cc: Kimberly M. Tyson, MDEQ

Appendix 8.

MDWTP
Part 115 Permit

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

August 6, 2009

Ms. Melinda Keiller, Environmental Manager
Michigan Disposal, Inc.
49350 North I-94 Service Drive
Belleville, Michigan 48111

Dear Ms. Keiller:

SUBJECT: Application for a Solid Waste Disposal Area License, Michigan Disposal, Inc., Michigan Disposal Waste Treatment Plant (MDWTP); Waste Data System Number 392708; License Number 91223

Staff of the Department of Environmental Quality (DEQ) has reviewed your application for a license for Michigan Disposal, Inc., MDWTP, located in Van Buren Township, Wayne County, Michigan. This review was conducted under the provisions of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Based upon our review of your application, your operating license is hereby granted. Enclosed is your license with operating stipulations.

If you have any questions, please contact Mr. Lawrence AuBuchon, Southeast Michigan District Supervisor, Waste and Hazardous Materials Division, at 586-753-3840.

Sincerely,

Steven R. Sliver, Chief
Storage Tank and Solid Waste Section
Waste and Hazardous Materials Division
517-373-1976

Enclosure
cc: Wayne County Department of Environment
Van Buren Township Clerk
Mr. Lawrence AuBuchon, DEQ-Southeast Michigan
Mr. Gregory Morrow, DEQ-Southeast Michigan
Facility File

DEQ

Michigan Department of Environmental Quality
Waste and Hazardous Materials Division

SOLID WASTE DISPOSAL AREA OPERATING LICENSE

This license is issued under the provisions of Part 115, Solid Waste Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.11501 et seq., and authorizes the operation of this solid waste disposal area (Facility) in the state of Michigan. This license does not obviate the need to obtain other authorizations as may be required by state law.

FACILITY NAME: Michigan Disposal Waste Treatment Plant (MDWTP)

LICENSEE/OPERATOR: Michigan Disposal, Inc.

FACILITY OWNER: Michigan Disposal, Inc.

PROPERTY OWNER: Wayne Disposal, Inc.

FACILITY TYPE(S): Solid Waste Transfer Facility and Processing Plant

FACILITY ID NUMBER: 392708

COUNTY: Wayne

LICENSE NUMBER: 9223

ISSUE DATE: August 6, 2009

EXPIRATION DATE: August 6, 2014

FACILITY DESCRIPTION: Michigan Disposal Waste Treatment Plant, a solid waste transfer facility and processing plant, consists of 7.66 acres located in the southwest quarter of Section 17, Township 3 South, Range 8 East, Van Buren Township, Wayne County, Michigan, as identified in Attachment A and fully described in this license.

AREA AUTHORIZED FOR DISPOSAL OF SOLID WASTE: As identified in Attachment A and the documents referenced in Item 5 of this license.

RESPONSIBLE PARTY: Ms. Melinda Keiller, Environmental Manager
Michigan Disposal, Inc.
49350 North I-94 Service Drive
Belleville, Michigan 48111
734-699-6287

RENEWAL OPERATING LICENSE: This License Number 9223 supersedes and replaces Solid Waste Disposal Area License Number 9024 issued to EQ - The Environmental Quality Company on June 7, 2004.

This license is subject to revocation by the Director of the Michigan Department of Environmental Quality (Director) if the Director finds that this Facility is not being constructed or operated in accordance with the approved plans, the conditions of a permit or license, Part 115, or the rules promulgated under Part 115. Failure to comply with the terms and provisions of this license may result in legal action leading to civil and/or criminal penalties pursuant to Part 115. This license shall be available through the licensee during its term and remains the property of the Director.

THIS LICENSE IS NOT TRANSFERABLE.

Steven R. Sliver, Chief, Storage Tank and Solid Waste Section
Waste and Hazardous Materials Division

Revised 09/2005

The licensee shall comply with all terms of this license and the provisions of Part 115 and its administrative rules. This license includes the license application and any attachments to this license.

1. The licensee shall operate the Facility in a manner that will prevent violations of any state or federal law.

2. The attached map (Attachment A) shows the area licensed for the handling, storage and processing of solid waste, site roads, the processing building, and other related appurtenances.

3. Issuance of this license is conditioned on the accuracy of the information submitted by the Operator/Applicant in the Application for License to Operate a Solid Waste Disposal Area (Application) received by the Michigan Department of Environmental Quality (MDEQ) on April 13, 2009, and any subsequent amendments. Any material or intentional inaccuracies found in that information is grounds for the revocation or modification of this license, and may be grounds for enforcement action. The licensee shall inform the MDEQ's Waste and Hazardous Materials Division, Southeast Michigan District Supervisor, of any inaccuracies in the information in the Application upon discovery.

4. This license is issued based on the MDEQ's review of the Application, submitted by Michigan Disposal, Inc., for the Michigan Disposal Waste Treatment Plant, dated March 27, 2009, and revised on May 7, 2009. The Application consists of the following:

   a. Application Form EQP 5507.

   b. Application fee in the amount of $500.00.

   c. Certification of construction by NA.

   d. Financial Assurance.

      Financial Assurance Required:

      The amount of financial assurance required for this Facility was calculated based on the requirements of Section 11523(1)(c), is indicated on the form EQP 5507A entitled, "Form A Financial Assurance Required," and is $16,500.00.

      The Facility has provided financial assurance totaling $16,500.00, based on the requirements of Section 11523 of Part 115. The financial assurance mechanism used by the Facility is summarized below.

      The following financial assurance has been received from the licensee to meet the amount of financial assurance required:

Irrevocable Letter of Credit	$16,500.00
Total Amount Received:	$16,500.00

5. The Facility was first licensed pursuant to the repealed Garbage and Refuse Act, 1965 PA 87, as amended, with the issuance of Solid Waste Disposal Area License Number 4673 on June 15, 1978; it does not have a construction permit. The following documents are incorporated in this license by reference:

   a. Engineering Plans dated October 27, 1981.

   b. Engineering Plans dated March 30, 1990.

   c. Engineering Plans received by the MDEQ on March 18, 1992.

   d. Waste Solidification Operation Site Plan dated January 30, 1995.

   e. Engineering Plan dated July 23, 1999.

e. As-built drawings for the enclosure of the North Container Storage Area dated March 3, 2004 (Drawing S-5), June 3, 2002 (Drawings S-19 through S-23), and June 6, 2001 (Drawing S-24) and received by the MDEQ on March 10, 2004.

6. The following additional documents, approved since the issuance of the construction permit(s) referenced in Item 5, are incorporated in this license by reference: N/A.

7. Consent Order: N/A.

8. The licensee shall conduct hydrogeological monitoring in accordance with the approved hydrogeological monitoring plan, dated N/A. The sampling analytical results shall be submitted to the MDEQ's Waste and Hazardous Materials Division, Southeast Michigan District Office.

9. Modifications to approved engineering plans that constitute an upgrading, as defined in R 299.4106a(e), may be approved, in writing, by the Waste and Hazardous Materials Division, Southeast Michigan District Supervisor.

10. **SPECIAL CONDITIONS**:

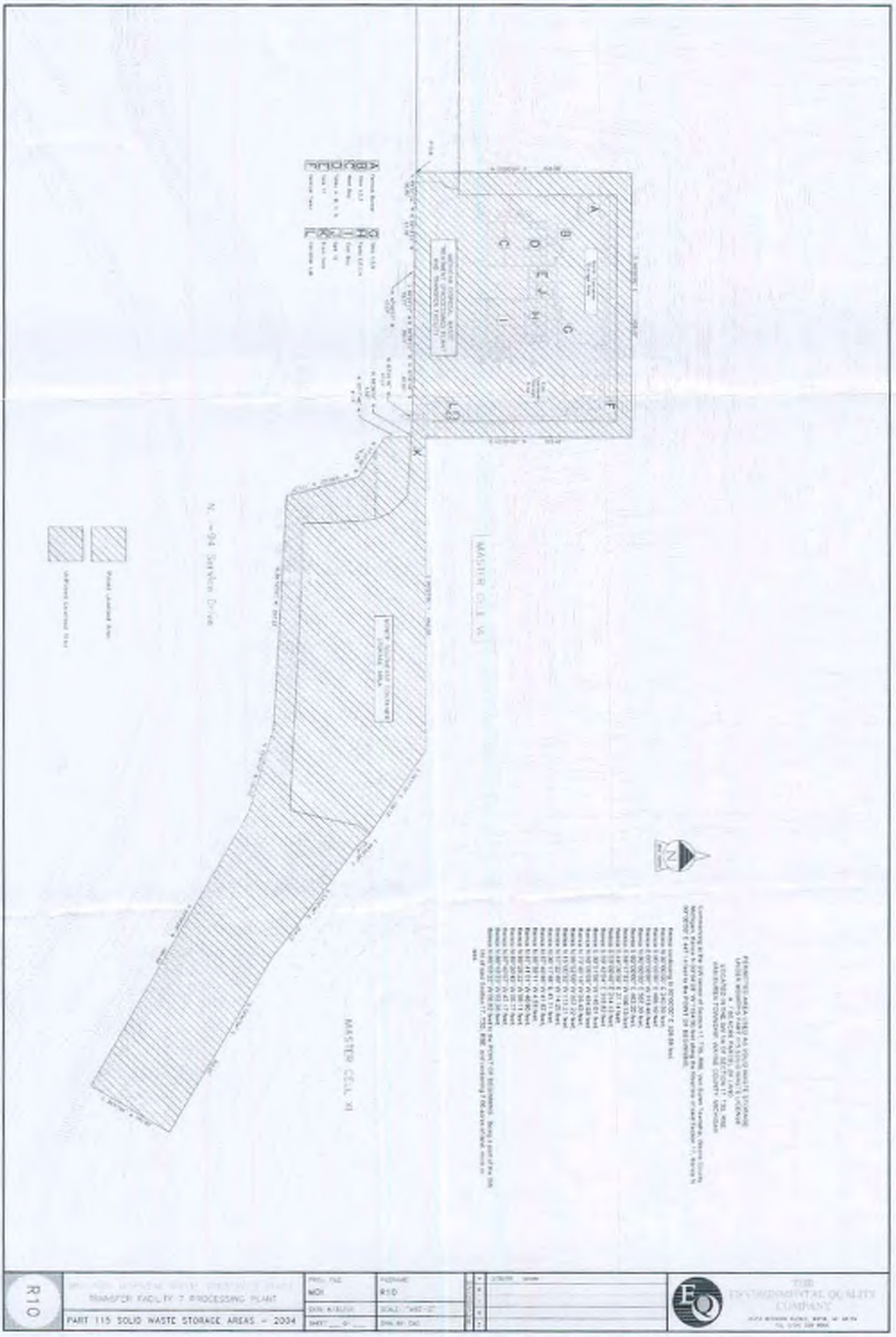
a. The applicant shall immediately report any fire incidents at the Facility to the MDEQ.

b. At the time of issuance of this license, the applicant is not required to conduct groundwater monitoring under Part 115 for the solid waste processing and transfer operations at the Facility based on the fact that all solid waste processing operations are conducted in an enclosed building with a properly sloped/contained concrete floor and the fact that the Facility is located within a larger parcel of land that includes a solid waste/hazardous waste landfill that is required to have a groundwater monitoring program.

11. **TERM**: This license shall remain in effect until its expiration date, unless revoked or continued in effect, as provided by the Administrative Procedures Act, 1969 PA 306, as amended, or unless superseded by the issuance of a subsequent license.

END OF LICENSE

ATTACHMENT A



Appendix 9.

Air Permit

Michigan Department of Natural Resources & Environment
Air Quality Division

EFFECTIVE DATE: September 1, 2010

ISSUED TO

EQ - The Environmental Quality Company (Michigan Disposal Waste Treatment Plant), Wayne Energy Recovery, Inc. Partnership (Wayne Energy Recovery, Inc.), and Wayne Disposal, Inc. (Site 1, Site 2, Old Wayne, and Fons Landfills)

State Registration Number (SRN): M4782

LOCATED AT

49350 I-94 Service Drive, Belleville, Michigan 48111

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-M4782-2010

Expiration Date: September 1, 2015

Administratively Complete ROP Renewal Application Due Between March 1, 2014 and March 1, 2015

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Article II, Chapter 1, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Michigan Air Pollution Control Rule 210(1), this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to PA 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-M4782-2010

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Article II, Chapter 1, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Michigan Air Pollution Control Rule 214a, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to PA 451 and the federal Clean Air Act.

Michigan Department of Natural Resources & Environment

_____

Teresa Seidel, Southeast Michigan District Supervisor

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Section 1 – EQ - The Environmental Quality Company

Michigan Department Of Natural Resources & Environment
Air Quality Division

ISSUED TO

EQ - The Environmental Quality Company (Michigan Disposal Waste Treatment Plant)

State Registration Number (SRN): M4782

LOCATED AT

49350 I-94 Service Drive, Belleville, Michigan 48111

AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The department is defined in Rule 104(d) as the Director of the Michigan Department of Natural Resources & Environment (MDNRE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a source-wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements will be identified for each ROP term or condition. All terms and conditions that are included in a Permit to Install (PTI), are streamlined or subsumed, or are state-only enforceable will be noted as such.

In accordance with Section 5507 of Article II, Chapter 1, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

Appendix 10.

Environmental Monitoring Parameters

Ambient Air Monitoring Program

MDWTP and WDI monitor ambient air quality at six locations, plus a QA/QC stations, around the perimeter of the site. High volume particulate samplers are located at each location. The high volume and organic samplers are operated every 6th day for a 24-hour period. Samples are analyzed for the following:

Cadmium
Chromium
Lead

Samples collected from the organic samplers are analyzed for the following:

Chloroform
Methylene Chloride
1,1,1 – Trichloroethene
Ethylbenzene
1,4 Dichorobenzene
Trichloroethene
Carbon Tetrachloride
Tetrachloroethene
Benzene
Toluene
Total Xylenes
Total PCBs

All data collected is reported to the
Michigan Department of Environmental Quality - Air Quality Management Division.

Sedimentation Basin Monitoring Parameters

Each year the sedimentation basin is sampled. Results are sent to the MDEQ.
Six samples are taken from the basin and tested for the following * parameters.
A composite sample is created from the six grab samples and analyzed for the remaining parameters.

Organic Parameters

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethene
1,1-Dichloroethane*
1,1-Dichloroethene
1,2-Dichlorobenzene*
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Chloroethylvinyl Ether
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis 1,3-dichloropropene
Dibromochloromethane
Ethylbenzene*
Methylene Chloride
PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248
PCB-1254
PCB-1260
Tetrachloroethene
Toluene*
Total Phenolics*
Total Xylene
trans 1,2-Dichloroethene
trans 1,3-Dichloropropene
Trichloroethene
Trichlorofluoromethane
Vinyl Chloride

Inorganic Parameters

Arsenic*
Barium*
Cadmium*
Calcium*
Chromium, Total*
Chromium, Hexavalent*
Cyanide, Total*
Cyanide, Amenable*
Iron*
Lead*
Mercury*
Selenium*
Silver*
Zinc*

Conventional Parameters

pH
Specific Conductivity

Surface Water Monitoring Program

Wayne Disposal, Inc. Site #2 Landfill quarterly samples surface water at three locations at the facility.

Organic Parameters

1,1,1-Trichloroethane	Bromomethane	PCB-1221
1,1,2,2-Tetrachloroethane	Carbon Tetrachloride	PCB-1232
1,1,2-Trichloroethene	Carbonate	PCB-1242
1,1-Dichloroethane	Chloride	PCB-1248
1,1-Dichloroethene	Chlorobenzene	PCB-1254
1,2-Dichlorobenzene	Chloroethane	PCB-1260
1,2-Dichloroethane	Chloroform	Total Phenolics
1,2-Dichloropropane	Chloromethane	Tetrachloroethene
1,3-Dichlorobenzene	cis 1,3-dichloropropene	Toluene
1,4-Dichlorobenzene	Dibromochloromethane	trans 1,2-Dichloroethene
2-Chloroethylvinyl Ether	Ethylbenzene	trans 1,3-Dichloropropene
Benzene	Methylene Chloride	Trichloroethene
Bromodichloromethane	Nitrate	Trichlorofluoromethane
Bromoform	PCB-1016	Vinyl Chloride

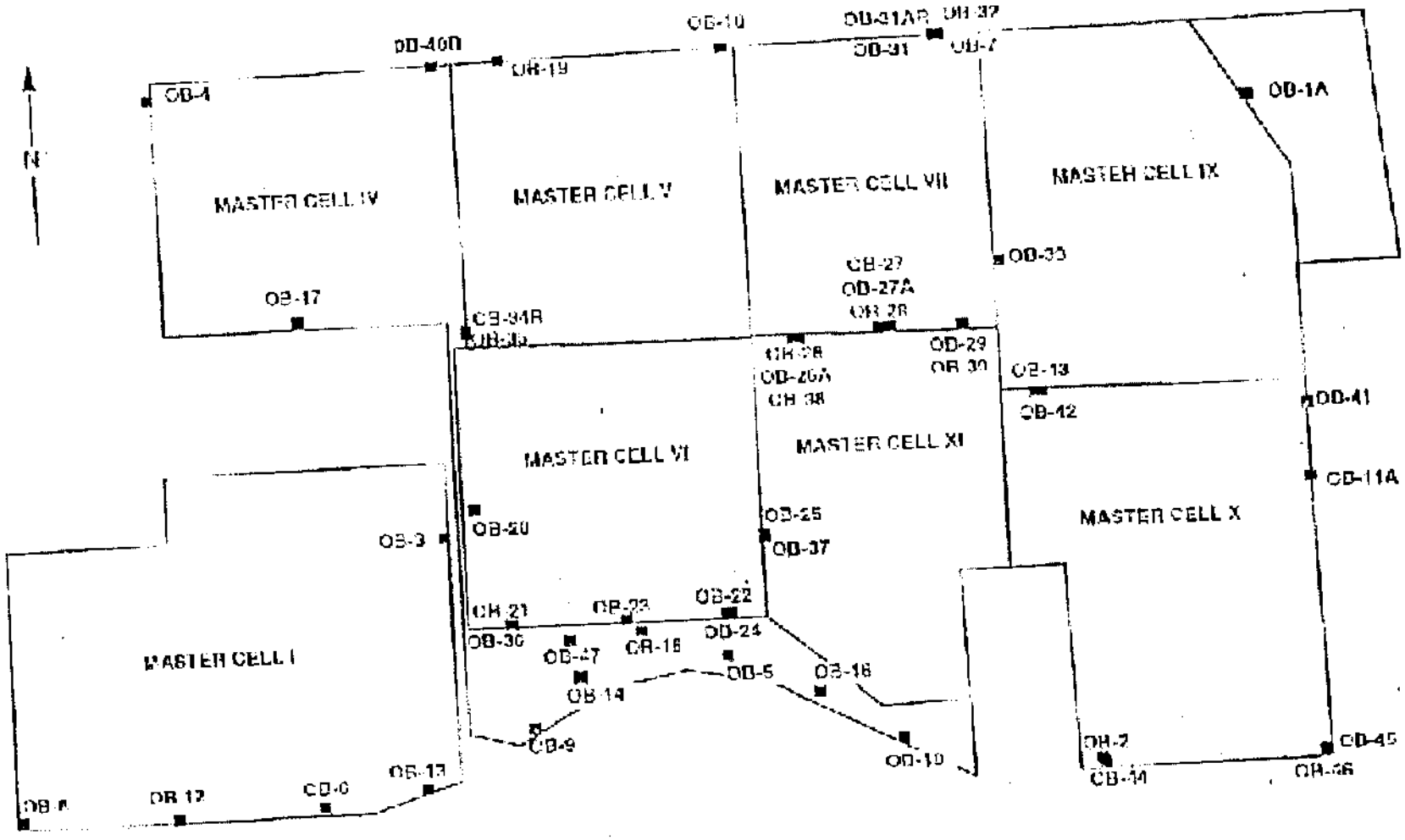
Inorganic Parameters

Arsenic	Iron	
Barium	Magnesium	
Bicarbonate	Manganese	
Cadmium	Mercury	Conventional Parameters
Calcium	Nitrate	Alkalinity, Total
Carbonate	Selenium	Fecal Colliform
Chloride	Silver	pH
Chromium, Hexavalent	Sodium	Specific Conductance
Chromium, Total	Sulfate	Total Suspended Solids (4 mg/L)
Cyanide, Amenable	Zinc	
Cyanide, Total		

Groundwater Monitoring Program

Organic Parameters	Inorganic Parameters	Conventional Parameters
1,2-Dichlorobenzene	Arsenic	Alkalinity as CA CO3
1,1-Dichloroethane	Barium	pH
1,2-Dichloroethane	Bicarbonate	Specific Conductivity
1,2-Dichloroethene	Cadmium	Temperature
1,1,1-Trichloroethane	Calcium	
2,4-D	Carbonate	
Benzene	Chloride	
Endrin	Chromium, Total	
Ethylbenzene	Copper	
Methoxychlor	Cyanide, Total	
Methylene Chloride	Fluoride	
PCB-1016	Iron	
PCB-1221	Lead	
PCB-1232	Magnesium	
PCB-1242	Manganese	
PCB-1248	Mercury	
PCB-1254	Molybolenum	
PCB-1260	Nickel	
Toluene	Nitrate	
Total Organic Carbon	Nitrite	
Total Phenolics	Potassium	
Toxaphene	Selenium	
Trichloroethene	Silver	
Vinyl Choride	Silvex	
Xylene	Sodium	
	Sulfate	
	Zinc	

Monitoring Well Location Plan



Appendix 11.

Waste Characterization Report

Profile Tracking # _____

WASTE CHARACTERIZATION REPORT

For assistance in completing this document or for additional information on EQ's service offerings, please visit our website at www.eqonline.com, or call 800-592-5489.

EQ – The Environmental Quality Company will choose the appropriate facility and method of waste management for your waste from the technologies offered at each EQ operation.

If you wish to direct this waste to a specific EQ facility(s) or treatment technology please indicate here:

Waste Common Name:

Section 1 – Generator & Customer Information

Generator EPA ID # _____

Generator _____

Facility Address _____

City _____ State ____ Zip _____

24-hour Emergency Response Number _____

_____

Mailing Address _____

City _____ State ____ Zip _____

Generator Contact _____

Title _____

Phone _____ Fax _____

E-mail _____

Internal Use Only: EQ Division _____

EQ Customer No._____

Invoicing Company _____

Address _____

City _____ State ____ Zip _____

Country _____

Invoicing Contact _____

Phone _____ Fax _____

Technical Contact _____

Phone _____ Fax _____

Cell Phone _____

E-mail _____

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:

a) Volume of Waste to be Shipped: ❑_____Tons ❑_____Yard ❑_____Gallon ❑_____Pallet

❑_____Cubic Yard Box/Bag ❑_____DM55 ❑_____DM30 ❑_____DM15

❑_____DM10 ❑_____DM05 ❑ Tote, Size: _____ ❑ Other: _____

b) Frequency: ❑ One time ❑ Week ❑ Month ❑ Year ❑ Other: _____

2.2) DOT Information

a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ❑ Yes ❑ No

b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:

_____

_____

Section 3 – Special Properties

3.1) Color _____

3.2) Odor ❑ Ammonia ❑ Amines ❑ Mercaptans ❑ Sulfur ❑ Organic Acid

❑ Other: _____

3.3) Consistency at 70^0F: ❑ Solid ❑ Dust/Powder ❑ Debris ❑ Sludge ❑ Liquid ❑ Gas/Aerosol

3.4) What is the pH? ❑ ≤2 ❑ 2.1-4.9 ❑ 5 – 10 ❑ 10.1 – 12.4 ❑ ≥12.5 ❑ N/A

3.5) What is the flash point? ❑ <90^{0}F ❑ 90-139^{0}F ❑ 140-199^{0}F ❑ >200^{0}F ❑ N/A

3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

❑ **None**	❑ Free Liquids	❑ Metal Fines	❑ Water Reactive	❑ Biohazard
❑ Shock Sensitive	❑ Oily Residue	❑ Dioxins	❑ Furans	❑ Aluminum
❑ Asbestos – non-friable	❑ Asbestos – friable	❑ Radioactive	❑ Air Reactive	❑ Isocyanates
❑ Biodegradable Sorbents	❑ Pyrophoric	❑ Reactive Sulfide	❑ Reactive Cyanide	❑ Explosives
❑ Temperature Controlled Organic Peroxide		❑ NORM / TENORM		

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

_____ ____ to ____ % _____ ____ to ____ %

_____ ____ to ____ % _____ ____ to ____ %

_____ ____ to ____ % _____ ____ to ____ %

4.2) Provide a description of the generating process. ***Remediation & IDW Sites: please provide a site history.***

_____

_____

_____

4.3) Are there any known previous handling or treatment issues involving this waste? ❑ Yes* ❑ No

*If yes, describe: _____

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ❑ Yes, please provide exemption: _____ ❑ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ❑ Yes: _____ ❑ No

a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ❑Yes ❑No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ❑ Yes: _____ ❑ No

a) If this is a D001, is it: ❑ Flammable ❑ Oxidizer

5.4) Do any State Specific Hazardous Waste Codes apply? ❑ Yes: _____ ❑ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ❑ Generator Knowledge ❑ Analysis ❑ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ❑ Yes ❑ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ❑ WW ❑ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ❑ Yes ❑ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ❑ Yes ❑ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

_____

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ❑ Yes* ❑ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 – Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ❑ Yes ❑ No _____

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG)? ❑ UNIV ❑ RG ❑ N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ❑ Yes ❑ No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ❑ Yes ❑ No

b) If yes, what is the source of the halogen content?

- ❑ This is a metalworking oil/fluid containing chlorinated paraffins.
- ❑ This is used oil contaminated with chlorofluorocarbons from refrigeration units.
- ❑ This oil contains halogenated solvents. List specific solvents: _____
- ❑ Other, describe: _____

Section 7 – TSCA Information

7.1) What is the concentration of PCBs in the waste? ❑ None ❑ 0-49 ppm ❑ 50-499 ppm ❑ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ❑ Yes ❑ No

If you answered "none" to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ❑ Yes* ❑ No

*If yes, what was the concentration of PCBs prior to processing? ❑ 0-499 ppm ❑ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ❑ Yes ❑ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ❑ Yes ❑ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ❑ N/A ❑ Yes ❑ No

Section 8 – Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ❑ Yes ❑ No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ❑ Yes ❑ No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ❑ Yes* ❑ No

*If Yes this document serves as notification that this waste contains chemicals _____ , _____

required to be managed in accordance with Part ❑ 61 ❑ 62 ❑ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ❑ Yes ❑ No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)?

❑ Yes, please provide the SIC/NAICS code: _____ ❑ No

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site?

❑ Yes, please specify: _____ ❑ No

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ❑ Yes ❑ No

If you answered "no" to questions 8.5, 8.6 and 8.7, please proceed to Section 9.

8.8) Does the waste contain >10% water? ❑ Yes ❑ No

8.9) What is the TAB quantity for your facility? _____ Mg/Year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

Generator Signature _____ Printed Name _____

Company _____ Title _____ Date _____

The generator's signature MUST appear on the EQ Waste Characterization Report. If the generator has authorized a third party to certify this document, a written notice must accompany this submittal.

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ – The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Characterization Report, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

The following definitions shall apply for purposes of this Agreement:

"**Acceptable Waste"** shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"**Delivered Wastes"** shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Characterization Report and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Characterization Report (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Characterization Report containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Characterization Report, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Characterization Report.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Characterization Report. The information set forth in the Waste Characterization Report or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Characterization Report, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

Appendix 12.

Closure and Post-Closure Financial Assurance

Comerica Bank

GMM

COMERICA BANK
411 WEST LAFAYETTE (MC 3341)
DETROIT, MI 48226

FAX NO: (313) 222-9324
SWIFT: MNBDUS33

AMENDMENT TO LETTER OF CREDIT

CREDIT NUMBER OF
ISSUING BANK: 657196-04

FEBRUARY 14, 2013

APPLICANT:

MICHIGAN DISPOSAL INC.
49350 NORTH I-94 SERVICE DR.
BELLEVILLE, MI 48111

BENEFICIARY:
DEPARTMENT OF ENVIRONMENTAL QUALITY
C/O RESOURCE MANAGEMENT DIVISION
HAZARDOUS WASTE SECTION
P.O. BOX 30241
LANSING, MI 48909-7741

AMENDMENT NUMBER: 01

THIS AMENDMENT IS TO BE CONSIDERED
AS PART OF THE ABOVE CREDIT AND MUST
BE ATTACHED THERETO.

GENTLEMEN:

IN ACCORDANCE WITH INSTRUCTIONS RECEIVED FROM OUR PRINCIPALS, THE ABOVE CAPTIONED CREDIT HAS BEEN AMENDED AS FOLLOWS:

THE AMOUNT OF THIS CREDIT HAS INCREASED BY 18,428.00 USD.

THE AMOUNT OF THIS CREDIT ISSUED NOW TOTALS USD 786,365.00

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

VERY TRULY YOURS,

AUTHORIZED SIGNATURE

Comerica Bank

COMERICA BANK
411 WEST LAFAYETTE (MC 3341)
DETROIT, MI 48226

FAX NO: (313) 222-9324
SWIFT: MNBDUS33

AMENDMENT TO LETTER OF CREDIT

FEBRUARY 21, 2013

CREDIT NUMBER OF
ISSUING BANK: 650496 -04

APPLICANT:

WAYNE DISPOSAL, INC.
49350 N. I-94 SERVICE DRIVE
BELLEVILLE, MI 48111

AMENDMENT NUMBER: 03

BENEFICIARY:
DIRECTOR, DEPARTMENT OF NATURAL
RESOURCES AND ENVIRONMENT,
C/O ENVIRONMENTAL RESOURCE MANAGEMENT
DIVISION, HAZARDOUS WASTE SECTION
P.O. BOX 30241
LANSING, MICHIGAN 48909-7741

THIS AMENDMENT IS TO BE CONSIDERED
AS PART OF THE ABOVE CREDIT AND MUST
BE ATTACHED THERETO.

GENTLEMEN:

IN ACCORDANCE WITH INSTRUCTIONS RECEIVED FROM OUR PRINCIPALS, THE ABOVE CAPTIONED CREDIT HAS BEEN AMENDED AS FOLLOWS:

THE AMOUNT OF THIS CREDIT HAS INCREASED BY 329,694.10 USD.

THE AMOUNT OF THIS CREDIT ISSUED NOW TOTALS USD 19,539,598.58

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

VERY TRULY YOURS,

M. Jane Moore

AUTHORIZED SIGNATURE

CP00027 (05/07)

Appendix 13.

Insurance Certificate

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 12/29/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies)must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Willis of Michigan, Inc.
c/o 26 Century Blvd.
P. O. Box 305191
Nashville, TN 37230-5191

CONTACT NAME:
PHONE (A/C, NO, EXT): 877-945-7378 FAX (A/C, NO): 888-467-2378
E-MAIL ADDRESS: certificates@willis.com

INSURER(S)AFFORDING COVERAGE	NAIC #
INSURER A: Chartis Specialty Lines Insurance	26883-001
INSURER B: New Hampshire Insurance Company	23841-002
INSURER C: Chartis Specialty Lines Insurance	26883-002
INSURER D: Illinois National Insurance Company	23817-001
INSURER E: Commerce and Industry Insurance Company	19410-006
INSURER F:	

INSURED

EQ The Environmental Quality Co
36255 Michigan Avenue
Wayne, MI 48184

COVERAGES **CERTIFICATE NUMBER: 19177396** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADD'L INSRD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			PROP57666391	8/1/2012	8/1/2013	EACH OCCURRENCE	$ 1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurence)	$ 300,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$ 25,000
	X XCU Included						PERSONAL & ADV INJURY	$ 1,000,000
	X $100,000 Deductible						GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
	POLICY X PRO-JECT LOC							$
B	AUTOMOBILE LIABILITY			CA1955437	8/1/2012	8/1/2013	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
B	X ANY AUTO			CA7557770	8/1/2012	8/1/2013	BODILY INJURY(Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY(Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
C	X UMBRELLA LIAB X OCCUR			PROU57666618	8/1/2012	8/1/2013	EACH OCCURRENCE	$ 25,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 25,000,000
	DED X RETENTION $ 10,000							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N	N/A		WC006506646	1/1/2013	8/1/2013	X WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
E	Pollution Legal Liability			PLS2673560	8/1/2012	8/1/2015	$35,000,000 Each Incident $35,000,000 Aggregate	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach Acord 101, Additonal Remarks Schedule, if more space is required)

See Attached

CERTIFICATE HOLDER

For Information Purposes Only
.
.

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Coll:3960252 Tpl:1579685 Cert:19177396

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AGENCY CUSTOMER ID: 142350

LOC#:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Willis of Michigan, Inc.	EQ The Environmental Quality Co 36255 Michigan Avenue Wayne, MI 48184
POLICY NUMBER See First Page	
CARRIER: See First Page / NAIC CODE	EFFECTIVE DATE: See First Page

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

Excess Pollution Legal Liability
Policy No: EXCG24881209002
Policy Period: 08/01/2012 - 08/01/2015
Carrier: ACE American Insurance Company
Limits:
$15,000,000 Each Claim
$15,000,000 Each Aggregate

Contractors Pollution and Professional Liability are included under General Liability.

Umbrella is excess over Contractors Pollution and Professional Liability.

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Appendix 14.

WDI
Landfill Design and Cell Layout

Landfill Cell Status

Cell/ Unit	Status (Open/Closed)	Date (Open/Closed)	Approximate Area (Acres)
I	Closed	Fall ‘75 - Winter ‘ 78	65
IV	Closed	1/79 - 1/81	33
V	Closed	1/81 - 8/83	40
VI	Open	9/86 - Present	54.3
VII	Closed	8/83 - 9/86	32
IX	Closed	4/85 - 8/92	46
X	Closed	3/88 - 6/93	39
XI	Closed	9/82 - 4/85	37

Active Landfill Cell Design

Sub-Cell	Liner	Leachate Collection
A and B	10’ native clay 60 mil HDPE 5’ compacted clay 80 mil HDPE	1’ sand perforated pipe geosynthetics
C and D	10’ native clay 80 mil HDPE 5’ compacted clay 80 mil HDPE	1’ sand perforated pipe geosynthetics
E[1]	10’ (minimum) native clay waste (Master cell V) intermediate cover geogrid embedded in structural fill 3’ (minimum) compacted clay 80 mil HDPE geocomposite 5’ minimum compacted clay 80 mil HDPE	geocomposite perforated pipe in 1’ of sand

Volume[2]	Description
273,992 CY	Remaining waste capacity in VI A, B, C, and D as of September 2009
319,921 CY	Remaining waste capacity in VI E-Phase 1 as of September 2009
16,141 CY	Remaining waste capacity in VI E-Phase 2 Southeast as of September 2009
317,372 CY	Remaining waste capacity in VI E-Phase 2 West as of September 2009
290,471 CY	Approximate capacity to be added by VI E-Phase2 Northeast

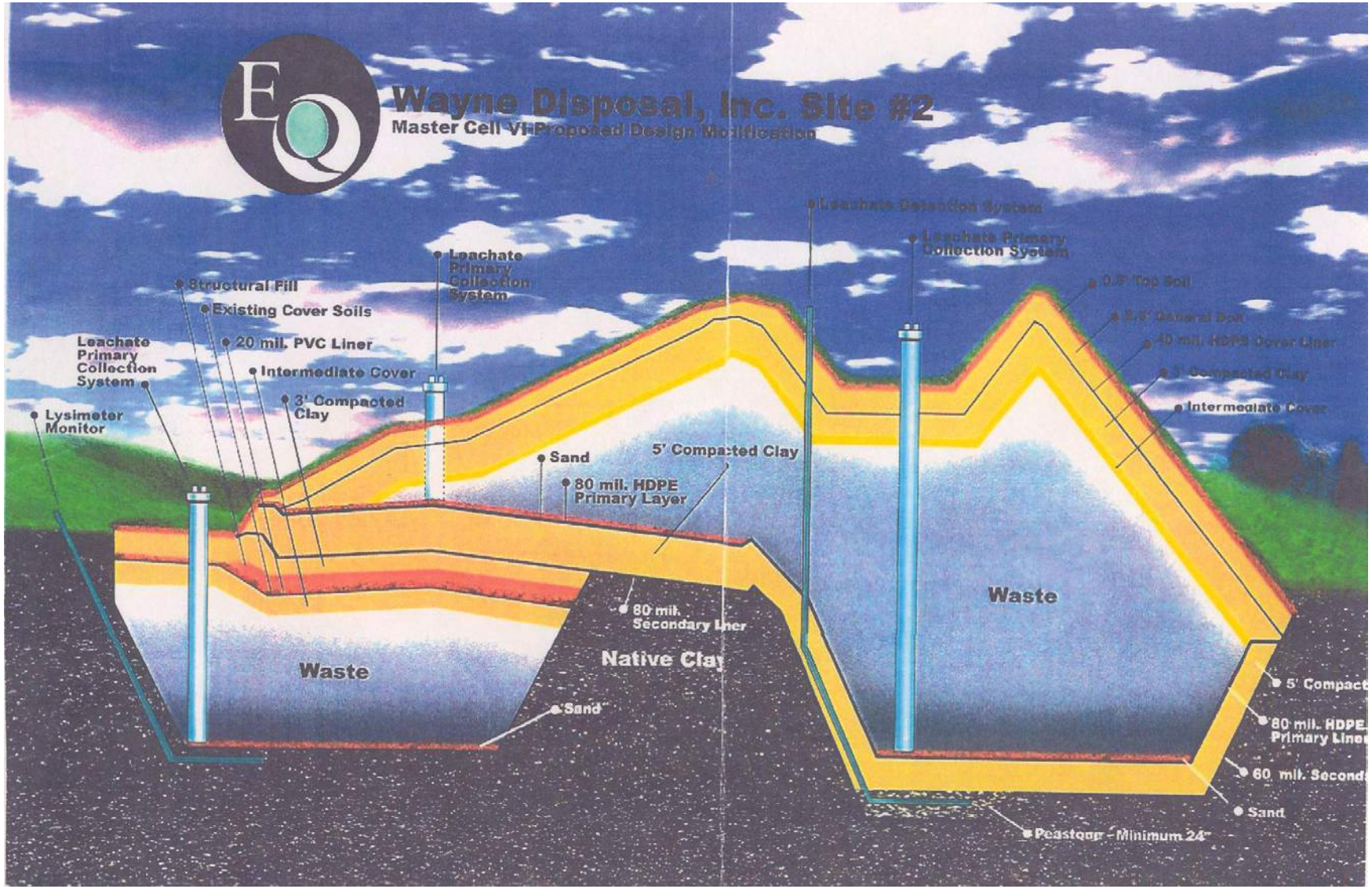
[1] Sub-cell E is being constructed in over the top of Master Cell V. Sub-cell E will be constructed in two phases; with Phase 2 being further subdivided into Phase 2-Southeast, Phase 2-West, and Phase 2-Northeast. Phases 1, 2-Southeast, and 2-West have been completed and as-built certified by the MDEQ, and are currently part of the active fill operations. WDI anticipates construction of the Phase 2-Northeast portion in 2011.

[2] Volumes include waste and daily cover.

Closed Landfill Design

Cell	Total Waste Inventory *	Liner	Leach Coll.	Cover
I	3,820,000 CY	10’ native clay	none	4’ comp. clay
IV	1,710,000 CY	10’ native clay	none	4’ comp. clay
VA, C, D	2,100,000 CY(total V)	10’ native clay	perforated pipe	1’ sand & 20 mil PVC/ 5’ comp. clay
VB, E		15’ native clay	perforated pipe	1’ sand & 20 mil PVC/ 5’ comp. clay
VIIA, B	1,840,000 CY (total VII)	15’ native clay	perforated pipe	1’ sand & 30 mil HDPE/ 3’ comp. clay
VIIC		15’ native clay/	2 layers perforated 60 mil HDPE pipe/tires	1’ sand/30 mil HDPE/ 3’ comp. clay
IX	3,300,000 CY	10’ native clay	perforated pipe	1’ sand & 40 mil HDPE/ 3’ comp. clay
XI	2,100,000 CY	10’ native clay	perforated pipe	1’ sand & 30 mil HDPE/ 2’ comp. clay
X	2,400,000 CY	10’ native clay	perforated pipe	1’ sand & 40 mil HDPE/ 2’ comp. clay

* Volumes include waste and daily cover.


Wayne Disposal, Inc. Site #2
Master Cell VI Proposed Design Modification
Structural Fill
Existing Cover Soils
20 mil. PVC Liner
Intermediate Cover
3' Compacted Clay
Leachate Primary Collection System
Lysimeter Monitor
Leachate Primary Collection System
Leachate Detection System
Leachate Primary Collection System
0.5' Top Soil
Intermediate Cover
Sand
5' Compacted Clay
80 mil. HDPE Primary Layer
80 mil. Secondary Liner
Native Clay
Waste
Waste
Sand
5' Compact
80 mil. HDPE Primary Liner
60 mil. Second
Sand
Peastone - Minimum 24"

Appendix 15.

WDI
NPDES Permit

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

April 23, 2009

Wayne Disposal, Incorporated
49350 North I-94 Service Drive
Belleville, Michigan 48111

Dear Sir or Madam:

SUBJECT: National Pollutant Discharge Elimination System (NPDES); Permit No. MI0056413
Designated Name: Wayne Disposal Inc LF

Your NPDES Permit has been processed in accordance with the appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

The issuance of this permit does not authorize the violation of any federal, state, or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environmental Quality (DEQ) permits, or approvals from other units of government as may be required by law.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the DEQ and the United States Environmental Protection Agency (USEPA), and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If required by the permit, self-monitoring data shall be reported via the Michigan DEQ Electronic Environmental Discharge Monitoring Reporting (e2-DMR) system. Other reports, notifications, or questions regarding the enclosed permit or the NPDES program should be directed to the following address:

Ms. Hae-Jin Yoon, District Supervisor
Southeast Michigan District Office, Water Bureau, DEQ
27700 Donald Court
Warren, Michigan 48092-2793
Telephone: 586-753-3700, Fax: 586-753-3751

Sincerely,

Daniel Dell (sea)

Daniel Dell, Chief
Permits Section
Water Bureau
517-241-1346

dd/sea

Enclosure: Permit No. MI0056413
cc/enc: USEPA-Region 5
208 Agency – Southeast Michigan Council of Governments
Mr. Ken Weber, WWTP Manager, Wayne Disposal Incorporated
Mr. Michael Takacs, Environmental Manager, Wayne Disposal Incorporated
Ms. Hae-Jin Yoon, Southeast Michigan District Supervisor, Water Bureau (electronic)
Mr. Joseph Rogers, Waste and Hazardous Materials Division, DEQ
PCS Unit, Water Bureau
File

PERMIT NO. MI0056413

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq.*) (the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4, and 1995-18,

Wayne Disposal, Incorporated
49350 North I-94 Service Drive
Belleville, Michigan 48111

is authorized to discharge from **Wayne Disposal, Incorporated** located at

49350 North I-94 Service Drive
Belleville, Michigan 48111

designated as **Wayne Disposal Inc LF**

to the receiving waters named Quirk Drain and Willow Run Creek in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit is based on a complete application submitted on June 27, 2008, as amended through December 8, 2008.

This permit takes effect on May 1, 2009. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0056413, expiring October 1, 2008.

This permit and the authorization to discharge shall expire at midnight, **October 1, 2013.** In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information, forms, and fees as are required by the Department by **April 4, 2013.**

Issued April 22, 2009.

Daniel Dell

Daniel Dell, Chief
Permits Section
Water Bureau

PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the Michigan Act, the permittee shall make payment of an annual permit fee to the Michigan Department of Environmental Quality (Department) for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by January 15 for notices mailed by December 1. The fee is due no later than 45 days after receiving the notice for notices mailed after December 1.

Annual Permit Fee Classification: Industrial-Commercial Minor, high-flow (Individual Permit)

In accordance with Section 324.3118 of the Michigan Act, the permittee shall make payment of an annual storm water fee to the Department for each January 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by March 15 for notices mailed by February 1. The fee is due no later than 45 days after receiving the notice for notices mailed after February 1.

CONTACT INFORMATION

Unless specified otherwise, all contact with the Michigan Department of Environmental Quality (the "Department") required by this permit shall be made to the Southeast Michigan District Supervisor of the Water Bureau. The Southeast Michigan District Office is located at 27700 Donald Court, Warren, Michigan 48092-2793, Telephone: 586-753-3700, Fax: 586-753-3751.

CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the State Office of Administrative Hearings and Rules of the Michigan Department of Energy, Labor, and Economic Growth, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Energy, Labor, and Economic Growth may reject any petition filed more than 60 days after issuance as being untimely.

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 001A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of 4 MGD of treated storm water from Monitoring Point 001A through Outfall 001. Outfall 001 discharges to Quirk Drain. Such discharge shall be limited and monitored by the permittee as specified below.

Parameter	Maximum Limits for Quantity or Loading Monthly	Daily	Units	Maximum Limits for Quality or Concentration Monthly	Daily	Units	Frequency of Analysis	Sample Type
INFLUENT MONITORING AND REPORTING								
Total Polychlorinated Biphenyls (PCBs)	---	---	---	---	(report)	(report) µg/l	Weekly	Grab
Total Phosphorus	---	---	---	---	(report)	mg/l	Quarterly	Grab
INTERMEDIATE STAGE MONITORING AND REPORTING								
Total PCBs								
Primary Treatment System	---	---	---	(report)	(report)	µg/l	Weekly	Grab
Add-on Treatment System	---	---	---	(report)	(report)	µg/l	Weekly	Grab
DISCHARGE LIMITATIONS, MONITORING AND REPORTING								
Flow	(report)	(report)	MGD	---	---	---	Daily	Report Total Daily Flow
Total PCBs	6.7×10^{-7}	---	lbs/day	0.00002	(report)	µg/l	Weekly	24-Hr Composite
Total Selenium	---	---	---	---	(report)	µg/l	Quarterly	Grab
Total Phosphorus	---	---	---	---	(report)	mg/l	Quarterly	Grab
Equipment Inspection	(report)	---	yes/no	---	---	---	3 X Weekly	Visual
Outfall Observation	(report)	---	yes/no	---	---	---	Weekly	Visual

a. Narrative Standard
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.

b. Monitoring Location
Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to a treatment system for all influent monitoring, between each carbon stage for intermediate stage monitoring, and after the waste streams from both treatment systems have been combined after treatment but prior to mixing with any other waste streams for all discharge monitoring. If only one treatment system is in use, the permittee shall enter "G in the Discharge Monitoring Reporting system for the intermediate stage samples for the treatment system not in use.

c. Best Available Technology (BAT) Treatment
This permit is based on the permittee providing a bag filter followed by two-stage activated carbon treatment. The permittee may use one or two such systems in parallel. If treatment other than this is proposed, the permittee shall amend the application. The permit may then be modified to include additional effluent limitations to protect water quality in accordance with applicable rules and regulations.

PART I

Section A. Limitations and Monitoring Requirements

d. Proper Operation and Maintenance
The permittee shall operate the two-stage activated carbon treatment system so that the rotation of carbon stages and the replacement of spent carbon shall occur immediately upon detection of Total PCBs at the intermediate stage.

e. Outfall Observation
Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Department followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

f. Water Treatment Additives
This permit does not authorize the discharge of water additives without approval from the Department. Approval of water additives is authorized under separate correspondence. Water additives include any material that is added to water used at the facility or to a wastewater generated by the facility to condition or treat the water. In the event a permittee proposes to discharge water additives, including an increased discharge concentration of a previously approved water additive, the permittee shall submit a request to the Department for approval. See Part I.A.3. for information on requesting water treatment additive use.

g. Analytical Method and Quantification Level for Total Selenium
The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring for Total Selenium shall be in accordance with EPA approved methods. The quantification level for Total Selenium shall be 1 µg/l unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Department within 30 days of such determination. Upon approval of the Department, the permittee may use alternate analytical methods (for parameters with methods specified in 40 CFR 136, the alternate methods are restricted to those listed in 40 CFR 136).

h. Limits below the Quantification Level
The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring for Total PCBs shall be in accordance with EPA Method 608. The quantification level shall be 0.1 µg/l unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Department within 30 days of such determination.

The water quality-based effluent limitations for Total PCBs are less than the quantification level; therefore, control requirements are established consistent with R 323.1213. Any discharge of Total PCBs at or above the quantification level specified in this permit is a specific violation of this permit. If an effluent sample is less than the quantification level, the permittee will be considered to be in compliance with the Total PCBs final effluent limitations set forth in Part I.A.1. for the period that the sample represents, provided that the permittee is also in full compliance with providing treatment consisting of a bag filter followed by two-stage activated carbon treatment system specified in Parts I.A.1.c. and I.A.1.d. and the Pollutant Minimization Program for Total PCBs set forth in Part I.A.4. For the purpose of determining if an effluent sample is less than the quantification level, Total PCBs shall be defined as the sum of the individual analytical results for each of the aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 with any aroclor result less than the quantification level being treated as a zero. For the purpose of reporting on the Discharge Monitoring Reports, the permittee shall calculate concentration and loading levels of Total PCBs in this same manner; however, the result of any individual aroclor measurement less than the quantification level but greater than the detection level shall be reported on the Daily Discharge Monitoring Reports (see Part II.C.2.). This paragraph does not authorize the discharge of Total PCBs at levels which are injurious to the designated uses of the waters of the state or which constitute a threat to the public health or welfare.

PART I

Section A. Limitations and Monitoring Requirements

2. Final Effluent Limitations, Monitoring Point 002A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge an unspecified amount of uncontaminated storm water from Monitoring Point 002A through Outfall 002. Outfall 002 discharges to Willow Run Creek. Such discharge shall be limited and monitored by the permittee as specified below.

	Maximum Limits for Quantity or Loading			Maximum Limits for Quality or Concentration			Frequency	Sample
Parameter	Monthly	Daily	Units	Monthly	Daily	Units	of Analysis	Type
Total PCBs	---	---	---	---	(report)	µg/l	Annually	Grab

a. Monitoring Location and Reporting Months
Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken at Monitoring Point 002A prior to discharge to Willow Run Creek. Annual samples shall be taken in April. If no discharge occurs April, sample shall be taken as soon as possible during May or June. *E shall be entered in the Discharge Monitoring Reporting system for each month (April, May and/or June) that sampling did not occur.

b. Analytical Methods and Quantification Levels for Total PCBs
The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring for Total PCBs shall be in accordance with EPA Method 608. The quantification level for Total PCBs shall be 0.1 µg/l unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Department within 30 days of such determination.

3. Request for Discharge of Water Treatment Additives

In the event a permittee proposes to discharge water additives, the permittee shall submit a request to discharge water additives to the Department for approval. Such requests shall be sent to the Surface Water Assessment Section, Water Bureau, Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909, with a copy to the Department contact listed on the cover page of this permit. Instructions to submit a request electronically may be obtained via the Internet (http://www.michigan.gov/deq and on the left side of the screen click on Water, Water Quality Monitoring, and Assessment of Michigan Waters; then click on the Water Treatment Additive List which is under the Information banner). Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water additive usage and discharge information:

a. Material Safety Data Sheet;
b. the proposed water additive discharge concentration;
c. the discharge frequency (i.e., number of hours per day and number of days per year);
d. the monitoring point from which the product is to be discharged;
e. the type of removal treatment, if any, that the water additive receives prior to discharge;
f. product function (i.e. microbiocide, flocculant, etc.);
g. a 48-hour LC_{50} or EC_{50} for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp., Daphnia sp., or Simocephalus sp.*); and
h. the results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2) of the Water Quality Standards.

Prior to submitting the request, the permittee may contact the Surface Water Assessment Section by telephone at 517-335-1180 or via the Internet at the address given above to determine if the Department has the product toxicity data required by items g. and h. above. If the Department has the data, the permittee will not need to submit product toxicity data.

PART I

Section A. Limitations and Monitoring Requirements

4. Pollutant Minimization Program for Total PCBs

This requirement establishes the program necessary to comply with the final effluent limitations for Total PCBs. The goal of the Pollutant Minimization Program is to maintain the effluent concentration of Total PCBs at or below the water quality-based effluent limitation set forth in Part I.A.1. The permittee shall continue to implement the Pollutant Minimization Program approved on May 27, 2003, and modifications thereto, to proceed toward the goal. The Pollutant Minimization Program includes the following:

a. an annual review and semi-annual monitoring of potential sources of Total PCBs entering the wastewater collection system;

b. implementation of reasonable cost-effective control measures when sources of Total PCBs are discovered. Factors to be considered include significance of sources, economic considerations, and technical and treatability considerations.

The Pollutant Minimization Program shall be implemented upon approval by the Department.

On or before April 1 of each year, the permittee shall submit a status report to the Department that includes 1) the monitoring results for the previous year, 2) an updated list of potential sources, and 3) a summary of all actions taken to reduce or eliminate identified sources of Total PCBs.

Any information generated as a result of the Pollutant Minimization Program set forth in this permit may be used to support a request to modify the approved program or may demonstrate that the Pollutant Minimization Program requirement has been completed satisfactorily.

A request for modification of the approved program and supporting documentation shall be submitted in writing to the Department for review and approval. The Department may approve modifications to the approved program (approval of a program modification does not require a permit modification).

The permittee may choose to demonstrate that the program is complete and request removal of the program from the permit. Such request and supporting documentation demonstrating that the water quality-based effluent limits are being achieved shall be submitted in writing to the Department. If the Department determines that the request is approvable, this permit may be modified in accordance with applicable laws and rules to remove this requirement.

This permit may be modified in accordance with applicable laws and rules to include additional conditions and/or limitations as necessary.

5. Notice of Termination

In the event the permittee requests termination of this permit, the permittee shall submit a copy of the request to the Southeast Michigan District Supervisor, Waste and Hazardous Materials Division, Michigan Department of Environmental Quality, 27700 Donald Court, Warren, Michigan 48092-2793,

PART I

Section A. Limitations and Monitoring Requirements

6. Storm Water Pollution Prevention Plan

The permittee is authorized to discharge storm water associated with industrial activities as defined in 40 CFR 122.26(b)(14). These storm water discharges shall be controlled in accordance with the requirements of this special condition. The permittee has developed and implemented a Storm Water Pollution Prevention Plan (plan). The permittee shall continue implementation of the plan for maximum control of significant materials (as defined in Part II.A.) so that storm water discharges will not cause a violation of the Water Quality Standards. The plan shall be routinely reviewed and updated in accordance with the requirements of this section.

a. Source Identification

To identify potential sources of significant materials that can enter storm water and subsequently be discharged from the facility, the plan shall, at a minimum, include the following:

1) A site map identifying the following: buildings and other permanent structures; storage or disposal areas for significant materials; secondary containment structures; storm water discharge outfalls (numbered for reference); location of storm water inlets contributing to each outfall; location of NPDES permitted discharges other than storm water; outlines of the drainage areas contributing to each outfall; structural runoff controls or storm water treatment facilities; areas of vegetation; areas of exposed and/or erodible soils; impervious surfaces (roofs, asphalt, concrete); name and location of receiving water(s); and areas of known or suspected impacts on surface waters as designated under Part 201 (Environmental Response) of the Michigan Act.

2) A list of all significant materials that could enter storm water. For each material listed, the plan shall include the following descriptions:

a) ways in which each type of material has been or has reasonable potential to become exposed to storm water (e.g., spillage during handling; leaks from pipes, pumps, and vessels; contact with storage piles; waste handling and disposal; deposits from dust or overspray, etc.);

b) identification of the outfall or outfalls through which the material may be discharged if released;

c) a listing of spills and leaks of polluting materials in quantities reportable under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code) that occurred at areas that are exposed to precipitation or that otherwise discharge to a point source at the facility. The listing shall include spills and leaks that occurred over the three (3) years prior to the completion of the plan or latest update of the plan; the date, volume and exact location of release; and the action taken to clean up the material and/or prevent exposure to storm water runoff or contamination of surface waters of the state. Any release that occurs after the plan has been developed shall be controlled in accordance with the plan and is cause for the plan to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss; and

d) If there is a Total Maximum Daily Load (TMDL) established by the Department for the receiving waters, which restricts the discharge of any of the identified significant materials or constituents of those materials, then the SWPPP shall identify the level of control for those materials necessary to comply with the TMDL, and an estimate of the current annual load of those materials via storm water discharges to the receiving stream.

3) An evaluation of the reasonable potential for contribution of significant materials to runoff from at least the following areas or activities: loading, unloading, and other material handling operations; outdoor storage, including secondary containment structures; outdoor manufacturing or processing activities; significant dust or particulate generating processes; discharge from vents, stacks and air emission controls; on-site waste disposal practices; maintenance and cleaning of vehicles, machines and equipment; sites of exposed and/or erodible soil; sites of environmental contamination listed under Part 201 (Environmental Response) of the Michigan Act; areas of significant material residue; and other areas where storm water may contact significant materials.

PART I

Section A. Limitations and Monitoring Requirements

4) a summary of existing storm water discharge sampling data (if available) describing pollutants in storm water discharges associated with industrial activity at the facility. This summary shall be accompanied by a description of the suspected source(s) of the pollutants detected.

b. Preventive Measures and Source Controls, Non-Structural
To prevent significant materials from contacting storm water at the source, the plan shall, at a minimum, include the following non-structural controls:

1) Description of a program for routine preventive maintenance which includes requirements for inspection and maintenance of storm water management and control devices (e.g., cleaning of oil/water separators and 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. A log of the inspection and corrective actions shall be maintained on file by the permittee, and shall be retained in accordance with Record Keeping, below.

2) A schedule for comprehensive site inspection to include visual inspection of equipment, plant areas, and structural pollution prevention and treatment controls to be performed at least once every six (6) months. A report of the results of the comprehensive site inspection shall be prepared and retained in accordance with Record Keeping, below. The report shall identify any incidents of non-compliance with the plan. If there are no reportable incidents of non-compliance, the report shall contain a certification that the facility is in compliance with this plan.

3) A description of good housekeeping procedures to maintain a clean, orderly facility.

4) A description of material handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The procedures shall identify measures to prevent the spilled materials or material residues on the outside of containers from being discharged into storm water. The plan may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the Michigan Act; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.

5) Identification of areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall also identify measures used to control soil erosion and sedimentation.

6) A description of employee training programs which will be implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the plan. The plan shall identify periodic dates for such training.

7) Identification of actions to limit the discharge of significant materials in order to comply with TMDL requirements.

8) Identification of significant materials expected to be present in storm water discharges following implementation of non-structural preventative measures and source controls.

c. Structural Controls for Prevention and Treatment
Where implementation of the measures required by Preventive Measures and Source Controls, Non-Structural; above; does not control storm water discharges in accordance with Water Quality Standards, below, the plan shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment. Structural controls may be necessary:

1) to prevent uncontaminated storm water from contacting or being contacted by significant materials, and/or

PART I

Section A. Limitations and Monitoring Requirements

2) if preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse or otherwise manage storm water in a manner that reduces the level of significant materials in the storm water and provides compliance with the Water Quality Standards, below.

d. Keeping Plans Current

1) The permittee shall review the plan on or before June 1 of each year, and maintain written summaries of the reviews. Based on the review, the permittee shall amend the plan as needed to ensure continued compliance with the terms and conditions of this permit.

2) The plan shall also be updated or amended whenever changes or spills at the facility increase or have the potential to increase the exposure of significant materials to storm water, or when the plan is determined by the permittee or the Department to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Updates based on increased activity at the facility shall include a description of how the permittee intends to control any new sources of significant materials or respond to and prevent spills in accordance with the requirements of Source Identification; Preventive Measures and Source Controls, Non-Structural; and Structural Controls for Prevention and Treatment; above.

3) The Department or authorized representative may notify the permittee at any time that the plan does not meet minimum requirements. Such notification shall identify why the plan does not meet minimum requirements. The permittee shall make the required changes to the plan within 30 days after such notification from the Department or authorized representative, and shall submit to the Department a written certification that the requested changes have been made.

e. Certified Storm Water Operator Update

If the certified operator has changed or an additional certified storm water operator is added, the permittee shall provide the name and certification number of the new operator to the Department. The new operator shall review and sign the plan.

f. Signature and Plan Review

1) The plan shall be signed by the certified storm water operator and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The plan shall be retained on site of the facility that generates the storm water discharge.

2) The permittee shall make plans, reports, log books, runoff quality data, and supporting documents available upon request to the Department or authorized representative.

g. Record Keeping

The permittee shall maintain records of all inspection and maintenance activities. Records shall also be kept describing incidents such as spills or other discharges that can affect the quality of storm water runoff. All such records shall be retained for three (3) years.

h. Water Quality Standards

At the time of discharge, there shall be no violation of the Water Quality Standards in the receiving waters as a result of this discharge. This requirement includes, but is not limited to, the following conditions:

1) In accordance with Rule 323.1050 of the Water Quality Standards, the receiving waters shall not have any of the following unnatural physical properties in quantities which are or may become injurious to any designated use: unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge.

PART I

Section A. Limitations and Monitoring Requirements

2) Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Department followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

3) Any pollutant for which a level of control is specified to meet a Total Maximum Daily Load (TMDL) established by the Department shall be controlled at the facility so that its discharge is reduced by the amount specified in the waste load allocation of the TMDL. Any reduction achieved through implementation of the non-structural controls or structural controls in accordance with Preventive Measures and Source Controls, Non-Structural; and Structural Controls for Prevention and Treatment; above; shall count toward compliance with the TMDL.

i. Prohibition of Non-storm Water Discharges
Discharges of material other than storm water shall be in compliance with an NPDES permit issued for the discharge. Storm water shall be defined to include the following non-storm water discharges provided pollution prevention controls for the non-storm water component are identified in the plan: discharges from fire hydrant flushing, potable water sources including water line flushing, fire system test water, irrigation drainage, lawn watering, routine building wash down which does not use detergents or other compounds, pavement wash water where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material have been removed) and where detergents are not used, air conditioning condensate, springs, uncontaminated groundwater, and foundation or footing drains where flows are not contaminated with process materials such as solvents. Discharges from fire fighting activities are authorized by this permit, but do not have to be identified in the plan.

7. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

a. The facility contact shall be (or a duly authorized representative of this person):
- for a corporation, a principal executive officer of at least the level of vice president, or a designated representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates,
- for a partnership, a general partner,
- for a sole proprietorship, the proprietor, or
- for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.

b. A person is a duly authorized representative only if:
- the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
- the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

PART II

Section A. Definitions

This list of definitions may include terms not applicable to this permit.

Acute toxic unit (TU_A) means $100/LC_{50}$ where the LC_{50} is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Biosolids are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

Bulk biosolids means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

Chronic toxic unit (TU_C) means 100/MATC or $100/IC_{25}$, where the maximum acceptable toxicant concentration (MATC) and IC_{25} are expressed as a percent effluent in the test medium.

Class B Biosolids refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

Daily concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations (except for pH and dissolved oxygen). When required by the permit, report the maximum calculated daily concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the Discharge Monitoring Reports (DMRs).

For pH, report the maximum value of any individual sample taken during the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs and the minimum value of any individual sample taken during the month in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. For dissolved oxygen, report the minimum concentration of any individual sample in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Department means the Michigan Department of Environmental Quality.

Detection Level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

PART II

Section A. Definitions

EC_{50} means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Fecal coliform bacteria monthly is the geometric mean of the samples collected in a calendar month (or 30 consecutive days). The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

Fecal coliform bacteria 7-day is the geometric mean of the samples collected in any 7-day period. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Flow Proportioned sample is a composite sample with the sample volume proportional to the effluent flow.

Grab sample is a single sample taken at neither a set time nor flow.

IC_{25} means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference.]

Land Application means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

LC_{50} means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

MGD means million gallons per day.

Monthly frequency of analysis refers to a calendar month. When required by this permit, an analytical result, reading, value or observation must be reported for that period if a discharge occurs during that period.

Monthly concentration is the sum of the daily concentrations determined during a reporting month (or 30 consecutive days) divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

PART II

Section A. Definitions

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined in the reporting month (or 30 consecutive days). The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMRs.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

Net Concentration means the difference between the intake concentration of a pollutant and the final effluent concentration of the same pollutant. (i.e. Final Effluent Concentration – Intake Concentration = Net Concentration) as allowed for in Title 40 of the Code of Federal Regulations, Part 132, Appendix F, Procedure 5, Subsection D.

No observed adverse effect level (NOAEL) means the highest tested dose or concentration of a substance that results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Partially treated sewage is any sewage, sewage and storm water, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's National Pollutant Discharge Elimination System permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

POTW is a publicly owned treatment works.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Quarterly frequency of analysis refers to a three month period, defined as January through March, April through June, July through September, and October through December. When required by this permit, an analytical result, reading, value or observation must be reported for that period if a discharge occurs during that period.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

PART II

Section A. Definitions

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Significant Materials Significant Materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111 of the Michigan Act; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Total Maximum Daily Loads (TMDL) are required by the federal Clean Water Act for waterbodies that do not meet Water Quality Standards. They represent the maximum daily load of a pollutant that a water body can assimilate and meet Water Quality Standards and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

Toxicity Reduction Evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Water Quality Standards means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

Weekly frequency of analysis refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value or observation must be reported for that period if a discharge occurs during that period.

Yearly frequency of analysis refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation must be reported for that period if a discharge occurs during that period.

24-Hour Composite sample is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations.

7-day loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during any 7 consecutive days in a reporting month. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Permits Section, Water Bureau, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

PART II

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

2. Submittal Requirements for Self-Monitoring Data

Part 31 of Act 451 of 1994, as amended, specifically Section 324.3110(3) and Rule 323.2155(2) of Part 21 allows the department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self Monitoring" the permittee shall submit self-monitoring data via the Michigan DEQ Electronic Environmental Discharge Monitoring Reporting (e2-DMR) system.

The permittee shall utilize the information provided on the e2-Reporting website @ **https://secure1.state.mi.us/e2rs/** to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the department no later than the **20th day of the month** following each month of the authorized discharge period(s).

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Water Bureau, Michigan Department of Environmental Quality. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous years monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the Michigan Act or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

PART II

Section C. Reporting Requirements

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-hour reporting - Any noncompliance which may endanger health or the environment (including maximum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.

b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit, or if the notice is provided after regular working hours call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventative measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

8. Upset Noncompliance Notification

If a process "upset" (defined as an 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) has occurred, the permittee who wishes to establish the affirmative defense of upset, shall notify the Department by telephone within 24-hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

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

b. that the permitted wastewater treatment facility was, at the time, being properly operated; and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

PART II

Section C. Reporting Requirements

9. Bypass Prohibition and Notification

a. Bypass Prohibition - Bypass is prohibited unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.

c. Notice of Unanticipated Bypass - The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated on the first page of this permit (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

d. Written Report of Bypass - A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.

e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.10. of this permit.

f. Definitions

1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

PART II

Section C. Reporting Requirements

10. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

11. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under Rule 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.12.; and 4) the action or activity will not require notification pursuant to Part II.C.10. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

12. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of Rules 323.1098 and 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

PART II

Section D. Management Responsibilities

1. Duty to Comply

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

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the Michigan Act. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the Michigan Act.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

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

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

PART II

Section D. Management Responsibilities

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code). For a Publicly Owned Treatment Work (POTW), these facilities shall be approved under Part 41 of the Michigan Act.

7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the Michigan Act, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

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

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground or marina shall be from the Water Bureau, Michigan Department of Environmental Quality. Approval for such construction for a hospital, nursing home or extended care facility shall be from the Division of Health Facilities and Services, Michigan Department of Consumer and Industry Services upon request.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. 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 violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environmental Quality permits, or approvals from other units of government as may be required by law.

Appendix 16.

WDI
WWTP Discharge Permit

SOUTH HURON VALLEY UTILITY AUTHORITY
34001 WEST JEFFERSON AVE
BROWNSTOWN TOWNSHIP, MI 48173
(734) 379-3855
INDUSTRIAL PRETREATMENT PROGRAM
CLASS D WASTEWATER DISCHARGE PERMIT

Permit No.: D-11201
Expiration Date: 5/29/13
Effective Date: 5/30/08
Modification Date 7/30/09

In accordance with the provisions of Article V, Section 4.02 of the South Huron Valley Utility Authority (SHVUA) Rules and Regulations and pursuant to the requirements of the Industrial Pretreatment Program as specified in 40 CFR 403.8 (f),

Wayne Disposal, Inc.(WDI)
49350 N. I 94 Service Drive
Belleville, MI 48111

Contact Person(s):

Ken Weber	Phone No.	(734) 699-6280
		(734) 576-0153 (Cell)
Kerry Durnen		(734) 699-6265
		(734) 576-0189

is hereby authorized to discharge industrial wastewater from the above identified facility and through the outfalls identified herein into the sanitary sewer system tributary to the South Huron Valley Wastewater Treatment Plant in accordance with the conditions set forth in this permit. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all applicable Pretreatment regulations, standards, or requirements, or laws that may become effective during the term of this permit.

Noncompliance with any term or condition of this permit shall constitute a violation of the South Huron Valley Utility Authority Rules and Regulations.

If the permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for permit reissuance in accordance with the requirements of Article V, Section 4 of the Rules and Regulations, a minimum of 90 days prior to the expiration date.

The permittee shall pay an ANNUAL SURVEILLANCE FEE OF $4,095.00, in accordance with the conditions of Part II.A.4 of this permit.

Authorization of Permit: South Huron Valley Utility Authority

Signature of Official: _____

Printed Name: Mark Houle

Title: Operations Manager – SHVUA WWTP

Date: 7-30-09

MEMBER COMMUNITIES

Brownstown Township • City of Flat Rock • City of Gibraltar • Huron Township • City of Romulus • Village of South Rockwood • Van Buren Charter Township • City of Woodhaven

PART I

A. DISCHARGE LIMITATIONS

1. Discharge Limitations

The permittee is authorized to discharge pretreated:

1. Landfill leachate from closed hazardous landfills (identified as Cells V and VII) and closed municipal solid waste (non-hazardous) landfills (identified as Cells I, IV, IX, X and XI).
2. Leachate and storm water runoff (i.e. contact water) from the active hazardous waste landfill (identified as Cell VI).
3. Runoff from roadways and truck parking areas that collects in the Lined Pond (see the WWTP Figure in Attachment D), pretreated when necessary. Options for managing runoff collected in the lined pond include: direct discharge to sewer; pretreat by activated carbon adsorption (See Attachment D-1); transfer into the Wastewater Treatment Plant and pretreat; transfer into Compliance Tanks A or B and direct discharge.
4. Wash water from equipment wash stations.
5. Runoff from the drum storage area "blind trench" and collection dikes.
6. Condensate from the Wayne Energy facility.
7. Runoff from the non-paved portions of the facility that collects in the sedimentation basin may be transferred into the lined pond, pretreated when necessary. Options for managing runoff collected in the Sedimentation Basin include: direct discharge to sewer; transfer to the Lined Pond and then direct discharge; transfer into Lined Pond and pretreat; transfer into the Wastewater Treatment Plant and pretreat; Transfer into Compliance Tanks A or B and direct discharge.
8. No water may be discharged that contains detectable levels (i.e. > 0.0001 mg/l) of PCBs. Potential sources of PCB contaminated water include leachate and contact water from Cell VI, Lined Pond water, and wheel wash water. These potential sources will be tested and managed in accordance with the WDI PCB Standard Operating Procedures (Attachment B). If it is not possible to achieve compliance with the PCB discharge limit (i.e. < 0.0001 mg/l), the water will be transported off site for disposal at an approved TSDF.
9. Leak Detection water, pretreated when necessary.
10. Landfill leachate from WDI Site 1 non-hazardous waste cell, pretreated as necessary.

Sample Points	Description
001	Manhole located 42.7 feet south of the southeast corner and 92.5 feet east of the southwest corner of the Small Vehicle Maintenance Garage, see attachment C-1.
A	Water surface of Compliance Tank A during mixing, see attachment D-1.
B	Water surface of Compliance Tank B during mixing, see attachment D-1.
Tank 3	The tee/ball valve off the pipeline that conveys untreated leachate from Master Cell VI landfill into Tank 3, see attachment D-1.
Lined Pond	Water surface of the lined pond, see attachment D-1. This sample point will be used only if a direct discharge of untreated water is released from the lined pond.
Carbon Influent	Ball valve on influent line to carbon filter system, see attachment D-1.
Carbon Midpoint	Tee/ball valve on primary carbon vessel discharge pipe, see attachment D-1.

MEMBER COMMUNITIES

Brownstown Township ♦ City of Flat Rock ♦ City of Gibraltar ♦ Huron Township ♦ City of Romulus ♦ Village of South Rockwood ♦ Van Buren Charter Township ♦ City of Woodhaven

Carbon Effluent	Tee/ball valve on polish carbon vessel discharge pipe, see attachment D-1. This sample point will be used for treated discharge from the lined pond.
Master Cell VI	The tee/ball valve off the pipeline that conveys contact water from Master Cell VI landfill into the Wastewater Treatment Plant. See Attachment D-2.
Sedimentation Basin	Water surface of the sedimentation basin near discharge pump intake, see attachment D-3.
Leak Detection Water Holding Tank	Sampling port located on the designated holding tank.

2. Summary Table

All regulations regarding wastewater discharges to the South Huron Valley Utility Authority Sewerage System, set forth in Article V and Appendix A, of the Rules and Regulations, shall be conditions of this permit.

User shall be in compliance with parameter limitations set forth in Appendix A (Attachment #1 of this permit). Where a user is subject to regulation under Categorical Pretreatment Standards, the most stringent limit shall apply.

The pollutants listed under "Local Limitations" of the Rules and Regulations are reasonably expected to be present in the facility discharge at levels of concern. Therefore, the user is required to implement a self-monitoring program, as described in the Summary Table, to ensure compliance.

a. Local limitations per South Huron Valley Utility Authority Rules and Regulations.

	Discharge Limitations – Sample Point 001			
	mg/liter	Self Monitoring Requirements		
Effluent Characteristic	Average Daily Concentration	Measurement Frequency	Sample Type	Sampling Point
Arsenic (Total)	1.0	Monthly	Composite	001
Cyanide (Total)	2.0	Monthly	Grab	001
Chromium (Total)	15.0	Monthly	Composite	001
Copper (Total)	0.58	Monthly	Composite	001
Lead (Total)	1.0	Monthly	Composite	001
Mercury (Total)	D.L. (0.0002)[1]	Quarterly	Composite	001
Nickel (Total)	12.0	Monthly	Composite	001
Phenolics (Total)	1.0	Monthly	Grab	001
Zinc (Total)	5.0	Monthly	Composite	001
Bromodichloromethane	Monitor Only	Quarterly	Grab	001
Bromoform	Monitor Only	Quarterly	Grab	001
Bromomethane	Monitor Only	Quarterly	Grab	001
Cloroform	Monitor Only	Quarterly	Grab	001
Chloromethane	Monitor Only	Quarterly	Grab	001
Dibromochloromethane	Monitor Only	Quarterly	Grab	001
Volatiles (624)	Monitor Only	Annually	Grab	001
Semi-Volatiles (625)	Monitor Only	Annually	Composite	001
Pesticides (608, excluding PCBs)	Monitor Only	Annually	Composite	001
PCB's	D.L. (0.0001)[2]	Monthly	Composite	001

[1] The Detection Limit shall not exceed 0.0002 mg/l, unless higher levels are appropriate due to matrix interference.
[2] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

Discharge Limitations – Sample Point 001(Continued)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
BOD (Biochemical Oxygen Demand)	4,000[3]	Quarterly	Composite	001
TSS (Total Suspended Solids)	10,000[4]	Quarterly	Grab	001
FOG (Fats, Oil & Grease)	100	Monthly	Grab	001
Phosphorus (Total)	25.0[5]	Quarterly	Composite	001

	Daily Minimum	Daily Maximum			
pH (Standard Units)	5.0	11.5	Monthly	Grab	001

Discharge Limitations – Sample Point A

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[6]	Each Batch Discharge	Grab	A

Discharge Limitations – Sample Point B

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[7]	Each Batch Discharge	Grab	B

Discharge Limitations – Sample Point Tank #3

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[8]	Monthly	Grab	Tank #3

[3] Surchargeable Parameter.

[4] Surchargeable Parameter.

[5] Surchargeable Parameter at concentrations above 12.0 mg/l

[6] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

[7] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

[8] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

Discharge Limitations – Sample Point Lined Pond (Direct Discharge)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	D.L. (0.0001)[9]	Prior to each Withdrawal and Daily during withdrawal	Grab	Lined Pond

Discharge Limitations – Sample Point Lined Pond (Treated Discharge)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[10]	Monthly during Withdrawal	Grab	Carbon Effluent

Discharge Limitations – Sample Point MCVI Contact

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[11]	Prior to Pumping Withdrawal	Grab	MCVI Contact

Discharge Limitations – Sample Point Sedimentation Basin (Direct Discharge from Lined Pond)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[12]	Prior to each Withdrawal	Grab	Sedimentation Basin
Total Suspended Solids	Monitor Only	Prior to each Withdrawal	Grab	Sedimentation Basin

Discharge Limitations – Sample Point Sedimentation Basin (Treated Discharge from Lined Pond)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only[13]	Monthly during Withdrawal	Grab	Sedimentation Basin
Total Suspended Solids	Monitor Only	Monthly during Withdrawal	Grab	Sedimentation Basin

[9] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.
[10] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.
[11] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.
[12] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.
[13] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

Discharge Limitations – Sample Point Leak Detection Water Holding Tank

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's Water	D.L (0.0001)[14]	Prior to Discharge	Grab	Leak Detection Holding Tank

Discharge Limitations – Sample Point Sedimentation Basin (Direct Discharge)

Effluent Characteristic	mg/liter Average Daily Concentration	Self Monitoring Requirements Measurement Frequency	Sample Type	Sampling Point
PCB's	Monitor Only.[15]	Prior to each Withdrawal and Daily during withdrawal	Grab	Sedimentation Basin
Total Suspended Solids	Monitor Only	Prior to each Withdrawal and Daily during withdrawal	Grab	Sedimentation Basin

3. Special Conditions

1. **Discharge Timing/Duration:**
   a. **Compliance Tanks A or B** – Permittee may commence discharge from Compliance Tanks A or B any day of the week. Permittee shall notify the South Huron Valley Utility Authority – Industrial Pretreatment Program (SHVUA-IPP) personnel by phone or FAX at least four (4) hours prior to a planned discharge or by 3:00 PM, which ever is earliest. If the discharge is cancelled as a result of laboratory analysis or any other reason, SHVUA-IPP shall be notified of cancellation as soon as possible. WDI will diligently attempt to discharge compliance tanks during the week to minimize the inconvenience caused by weekend discharge sampling. SHVUA-IPP will provide "after-hours or weekend" phone contacts for discharge notification. WDI will make every effort to contact SHVUA-IPP prior to a discharge.
   b. **Treated Lined Pond/Sedimentation Basin Water** - Permittee may commence treated discharge from the lined pond or sedimentation basin any day of the week, but for sampling purposes must notify SHVUA-IPP personnel by phone or Fax prior to the commencement of discharge.
   c. **Direct Discharge from Lined Pond/Sedimentation Basin:** Direct discharge (untreated) shall not commence until a representative sample has been collected and analyzed for PCBs. Permittee shall notify SHVUA-IPP prior to the commencement of direct discharge from the lined pond or sedimentation basin. No direct discharge from the lined pond or sedimentation basin shall occur if PCBs are in concentrations greater than the detection limit (0.0001 mg/l).
2. **PCB Management Procedures:**
   a. All batches of Potentially PCB contaminated wastewater shall be managed in accordance with the permittee's prevailing Standard Operating Procedure (SOP), Attachment B. Permittee may modify the SOP, as necessary. However, the permittee shall notify SHVUA-IPP prior to implementation of the proposed changes and submit the revised SOP for inclusion as Attachment B to this permit. All PCB analytical reports shall be kept on file for SHVUA review during inspections.
   b. For each full Compliance Tank,, at least one grab sample of effluent from the leachate system carbon adsorber

[14] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.
[15] The Detection Limit shall not exceed 0.0001 mg/l unless higher levels are appropriate due to matrix interference.

shall be collected. This grab sample must be representative of the lowest possible carbon effluent quality that is received in the Compliance Tank while it is filling (see Attachment B for details). If the treated carbon effluent is shown to contain detectable PCBs, the entire contents of the Compliance Tank shall be retreated and retested or hauled to off-site treatment. The permittee shall include in the Quarterly Periodic Compliance Report (PCR), a signed statement that no PCBs were detected in the discharge during the reporting period. All PCB analytical reports shall be kept on file for SHVUA review during inspections.

3. **Lined Pond and/or Sedimentation Basin Contents**
   a. Lined Pond contents may only consist of runoff water for potential discharge to the SHVUA sewer system. No other wastewaters are authorized for discharge.
   b. Sedimentation Basin contents may consist of runoff water for potential discharge to the SHVUA sewer system. No other wastewaters are authorized for discharge.
4. **Compliance Monitoring**
   a. Monthly grab and composite samples from Sample Point 001 shall be collected only while discharging treated leachate from the WDI WWTP.
   b. Permittee shall self-monitor runoff in the Lined Pond, testing for all parameters in Summary Table A. 2. a. above, excluding the organic parameter scans required annually. Representative grab samples shall be collected at a frequency of once per month. In addition, a representative sample shall be collected for PCB analysis before every direct discharge to the sewer and daily during discharge. Monthly and PCB Lined Pond (batches discharged directly) analytical reports shall be included in the quarterly PCR.
   c. When discharging from the Sedimentation Basin without pretreatment (i.e. direct to sewer; to Lined Pond and then direct to sewer; to Compliance Tanks A or B and then directly to sewer), Permittee shall self-monitor runoff in the Sedimentation Basin, testing for all parameters in Summary table A.2.a above, excluding the organic parameter scans required annually. Representative samples shall be collected at a frequency of once per month.
5. **Leak Detection System**

   a. WDI's Hazardous Waste Facility Operating License requires quarterly testing of the Leak Detection System water. If a statistically significant increase is detected by the quarterly sampling, The LDS water from the affected sump will not be discharged until the increase is proved to be a false positive or the cause of the increase

B. MONITORING

1. Definitions

a. Maximum Monthly Average Limit - The maximum allowable value for the arithmetic average of all samples collected during one calendar month.

b. Four Day (4-day) Average Limit - The arithmetic average of daily discharge values for four consecutive monitoring days. A monitoring day cannot be counted toward a four day average more than once. Any data below the approved level of analytical detection shall be treated as zero for the purposes of averaging.

c. Daily Maximum Limit - The maximum allowable discharge of a pollutant during a calendar day. Where daily maximum limitations are expressed in mass units, the daily discharge is the total mass discharged during the course of a day. Where daily maximum limitations are expressed in units of concentration, the limitation is the arithmetic average value of all samples collected during that day.

d. Daily Minimum Limit = The minimum allowable concentration of a pollutant, allowed to be discharged in a calendar day. This term usually applies to pH, where it is the lowest pH measurement determined from the analysis of a number of grab samples collected, independent of the industrial flow rate and the duration of the sampling event, in a calendar day.

e. Daily Minimum Limit - The minimum allowable concentration of a pollutant, allowed to be discharged in a calendar day. This term usually applies to pH, where it is the lowest pH measurement determined from the analysis of a number of grab samples collected, independent of the industrial flow rate and the duration of the sampling event, in a calendar day.

2. Analytical Procedures

A. Analytical procedures for all analyses of pollutants to determine compliance shall be in accordance with 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act" and amendments, or any other test procedures approved by EPA as appropriate for wastewater analysis.

B. pH analysis shall be conducted in accordance with 40 CFR Part 136. The permittee shall determine the pH as soon as possible after sample collection. Every quarterly Periodic Compliance Report ((PCR) shall include the following pH sampling and analysis information – date and time of sampling, date and time of analysis and signature or initials of the analyst.

3. Representative Sampling

The samples and measurements that are taken as a result of requirements in this permit, must be representative of the effluent being discharged during a typical workday.

4. Sample Type

Grab - an individual sample collected over a period of time not to exceed 15 minutes, which reasonably reflects the characteristics of the wastestream at the time of sampling.

Composite - a sample comprised of individual grab samples collected at regular intervals, either on a time or flow proportional basis, over a specified period which provides a representative sample of the average stream during the sampling period. For categorical process samples, a composite is required to be a minimum of four (4) samples per 24 hours as specified in 403.12 (b)(5).

5. Sampling Points

Samples shall be taken as described in Part A.1. and Attachments "C-1", "C-2", "D-1" and "D-2". Sample locations are not to be change without prior written approval from the South Huron Valley Utility Authority.

6. Sampling Frequency

The effluent must be monitored and sampled at the frequency indicated in the Summary Table above. This applies for all the parameters shown in the table.

C. ADDITIONAL MONITORING

1. Greater Sampling Frequency

If the permittee samples and monitors any pollutant using EPA approved procedures, at the sampling point(s) described in this permit, more frequently than required, then the results of this sampling and monitoring must be included in the Periodic Compliance Report. Permittee must calculate and report average values in the Report, taking the additional sampling and monitoring into account.

2. Surcharge

Biochemical Oxygen Demand, 5 Day (BOD5), Total Suspended Solids (TSS), and Total Phosphorus (P) are surchargeable parameters. If the discharge contains concentrations of these compatible pollutants in excess of the allowable concentrations (BOD = 275, TSS = 350 and P = 12, all in mg/l) the permittee must pay a surcharge on the excess amount. The permittee may elect to do monthly self-monitoring of these parameters and have the results included in the determination of the surcharge and must then comply with the Surcharge Policy of the system.

3. Non-Compliance Additional Sampling

If a permittee is in non-compliance and subject to enforcement actions, additional self-monitoring may be required. The additional self-monitoring may be required until such time as the permittee can demonstrate compliance.

D. REPORTING

1. Periodic Compliance Reports

The permittee shall summarize, report and submit their self-monitoring results on a quarterly basis. The Periodic Compliance Reports shall be received by the 15th day of the month following the end of the period. The Periodic Compliance Reports must include wastewater flow rate data for each quarterly period.

2. Organic Pollutant Report

The permittee is required to self-monitor annually, at Sampling Point 001, for volatiles, semi-volatiles and pesticides (but not PCBs), during the second quarter to correspond with the second quarter Periodic Compliance Report.

3. Signatory Requirements for Reports

All applicable reports, required by this Permit, including but not limited to the Periodic Compliance Report shall include the certification statement pursuant to 40 CFR 403.6 (a)(2)(ii) and shall be signed by an authorized representative of the industrial user per Article 1 Section 1 definition 4 of the Rules and Regulations.

4. Volume Reporting

Permittee shall report the volume discharged, for billing purposes, on a monthly basis to Van Buren Township Water Department, on a quarterly basis to the South Huron Valley Utility Authority.

E. COMPLIANCE SCHEDULE

1. Progress Reports on Compliance

The permittee shall submit written notification within 14 calendar days of every compliance milestone date, or any other requirement date as specified in this permit, or as a part of a Compliance Schedule resulting from enforcement action. These reports shall indicate whether or not the milestone date or other requirement was achieved.

If the milestone or other requirement was not achieved, the notification must include an explanation of the failure to achieve the milestone or other requirement, actions taken or planned to correct the situation, and must give an estimate of when the milestone or other requirement will be achieved.

If the milestone is a written report and the permittee submits the report by the due date, no progress report is required.

A. GENERAL TERMS AND CONDITIONS

1. Entry

The permittee shall allow SHVUA-IPP personnel or their designated agents, upon the presentation of credentials, access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records, examination, copying or the performance of any of their duties related to the administration of this permit and/or the Industrial Pretreatment Program. Denial of entry shall constitute a violation of the Rules and Regulations and subject the User to enforcement action.

2. Retention of Records

a. The permittee shall keep records for at least three (3) years of the following:

i. all monitoring information - includes all calibration and maintenance records
ii. all original strip chart recordings
iii. copies of all reports required by this permit
iv. records of all data used to complete the Industrial-Commercial Waste Questionnaire, which serves as the application for this permit.
v. All correspondence related to monitoring, sampling and analyses related to its discharge.

Note: The three (3) year time period is 3 years from date of the sample, measurement, report, or submission of the Industrial-Commercial Waste Questionnaire, to SHVUA. This period may be extended by request of SHVUA at any time.

b. All records that apply to matters that are the subject of special orders or any other enforcement or litigation activities shall be kept and preserved by the permittee until all enforcement activities have concluded. Also, until all periods of limitation regarding appeals have expired.

3. Penalties for Violations of Permit Conditions

The Authority's Rules and Regulations provide that any person who violates a permit condition is subject to a civil penalty of not more than $1,000.00, plus actual damages incurred by the POTW per violation per day for as long as the violation continues.

A person who willfully or negligently violates permit conditions is subject to criminal penalties, as per Article V, Section 6.10.3 of the Rules and Regulations and may be punished by a fine of not more than $500.00, or by imprisonment for not more than ninety (90) days or both.

Additional monthly penalties in excess of $500 may also be assessed pursuant to the local Sewer Use Ordinance adopted by the community in which the discharger is located.

4. Fee and Charges

The permittee shall agree to pay applicable annual surveillance fees and surcharges as established and billed by SHVUA.

5. Additional Sewer Information

The permittee shall agree to furnish SHVUA, upon request, any additional information relating to the installation or use of the sewer.

6. Operate Pretreatment Facilities

a. Operation: The permittee shall operate and maintain any industrial wastewater pretreatment facilities, as may be required by this permit, in an efficient manner at all times, and at no expense to SHVUA.

b. Plans for new pretreatment facilities must be submitted for approval, prior to commencing construction. Submit plans to SHVUA, at the address on the cover sheet of this permit.

B. NOTIFICATION REQUIREMENTS

1. Non-compliance Notification and Resampling. If the results of the permittee's self-monitoring indicates that a violation of this permit has occurred, the permittee must, in accordance with 40 CFR 403.12 (g)(2):

a. Inform SHVUA-IPP by telephone of the violation within 24 hours, of becoming aware of the violation, and

b. Repeat the sampling and analysis and submit, in writing the results of this second analysis within thirty (30) days of becoming aware of the violation.

2. By-Pass Notification

By-pass of pretreatment facilities necessary to maintain compliance with all the requirements of this permit is prohibited, unless

a. By pass was unavoidable to prevent loss of life, personal injury, or severe property damage.

b. There were no feasible alternatives to the by-pass.

c. The permittee submitted notices as required under paragraph (c) of 40 CFR Part 403.17.

d. The SHVUA may approve an anticipated by-pass discharge, after considering its adverse effects in accordance with 40 CFR 403.17 (d)(2).

3. Slug Discharge and Spill Control Plan

Industrial Users shall provide protection from accidental discharges of substances which may cause interference at the wastewater treatment plant(s) pursuant to Article V. Section 2.04 of the SUO. Where necessary spill prevention or slug control plans shall be developed by the user to address notification, slug or spill prevention, containment spill cleanup and employee training and submit it for approval prior to construction. Approval of such plans shall not relieve the industrial user from complying with laws and regulations governing handling of hazardous substances. Any required facilities shall be provided and maintained at the users expense.

Spill Notification

The permittee must immediately report any spill which may cause increased pollution of normal industrial and/or sanitary wastewater. Call SHVUA-IPP at (734) 379-3855 and report the:

1) location of discharge, 2) date and time of discharge spill, 3) type of waste, 4) concentration and volume of the spill, and 5) describe the corrective actions taken to prevent future spills.

If a major spill occurs which might affect storm sewers or open waterways, call the Michigan Department of Environmental Quality (MDEQ), at 1-800-292-4706 and report the spill.

Written notification is required to SHVUA within five (5) days pursuant to 40 CFR 403.8 (f)(2)(v).

Slug Notification

The permittee must immediately report any slug (a slug is defined as a non-routine batch discharge of wastewater which is four (4) times the average 24 hour concentration or is four (4) times over the flow limit for at least 15 minutes) to the sewer system.

This slug could be at a flow rate and/or pollutant concentration that will cause interference with the POTW operations or a passthrough. Call the SHVUA-IPP at the phone number given for spill notification. Report the: 1) location of slug discharge, 2) date and time of slug discharge, 3) type of waste in the slug discharge, 4) concentration and volume of the slug discharge, and 5) describe the corrective actions taken to prevent future slug discharges.

Written notification is required within five (5) days, pursuant to 40 CFR 403.8 (f)(2)(v).

4. Upset Noncompliance

The permittee shall notify the SHVUA-IPP by phone, within 24 hours of first becoming aware, that a process upset has occurred. "Upset" is defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit discharge limitations because of factors beyond the reasonable control of the Industrial User. The permittee shall submit a written notification within five days, which includes the following information:

a. A description of the discharge to sanitary sewer and cause of noncompliance;

b. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;

c. Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.

5. Notification of Changed Discharge

In accordance with 40 CFR 403.12 (j), the permittee shall promptly notify SHVUA in advance of any substantial changes in the volume or character of pollutants in its discharge, including the listed or characteristic hazardous wastes for which the permittee has submitted initial notification under 40 CFR 403.12 (p).

MEMBER COMMUNITIES

Brownstown Township ♦ City of Flat Rock ♦ City of Gibraltar ♦ Huron Township ♦ City of Romulus ♦ Village of South Rockwood ♦ Van Buren Charter Township ♦ City of Woodhaven

C. PERMIT ITEMS

1. Permit Re-issuance

   a. Re-application

      The permittee must submit an application for permit re-issuance, in the form of a completed Industrial-Commercial Waste Questionnaire, no later than 90 days prior to the expiration date of the permit.

   b. Re-issuance

      Upon timely application for re-issuance of a permit in accordance with paragraph a, the expired permit shall be automatically extended until a final decision regarding the application is made by SHVUA.

2. Permit Modification

   SHVUA reserves the right to modify this permit, in whole or in part, during its term in order to:

   a. Require compliance with National Categorical Pretreatment Standards.
   b. Assure compliance with the POTW NPDES Permit.
   c. Incorporate new conditions or parameters of concern due to substantial change in the user's operations or new information concerning existing conditions.
   d. Incorporate changes in Federal or State Laws or changes in the Authority's approved Industrial Pretreatment Program.
   e. Change or terminate special conditions of the Permit, including but not limited to monitoring frequency or parameters to be monitored.
   f. Correct any omissions or typographical errors.
   g. Reflect changes in monitoring location.
   h. Address a user's noncompliance with portions of the existing permit.
   i. For any other reason, if the Authority reasonably believes the modification is necessary to ensure either that the POTW complies with its NPDES Permit or that the POTW does not negatively affect the receiving water quality standards, the national air quality standards or any other applicable permit, order statute, regulation or limitation.

3. Nontransferability of Permit

   Wastewater Discharge Permits are issued to a specific user for a specific operation and may not be assigned or transferred to another discharger or to another location without the prior written approval of SHVUA.

4. Permit Revocation, Surrender, and Termination of Discharge

Any user who violates the following conditions of these Rules and Regulations or a Wastewater Discharge Permit or Order, or any applicable State or Federal Law 1s subject to permit revocation.

a. Violation of the terms and conditions of the Permit.
b. Failure to factually report the wastewater constituents and characteristics of the discharge.
c. Failure to report significant changes in wastewater constituents and characteristics.
d. Refuse reasonable access to the Permittee premises by Authority personnel for the purpose(s) of inspection or monitoring.
e. Failure to pay fines, penalties or costs incurred by the Authority, pursuant to this Section 6 of Article V.

Non-compliant industrial users shall be notified of the proposed termination of their Wastewater Discharge Permit and be given an opportunity to show cause under Section 6.04.1 of these Rules and Regulations why the proposed action should not be taken.

5. Emergency Suspension of Service and Discharge Permits

The Authority for good cause suspend the Wastewater Treatment Service and the Wastewater Discharge Permit of a discharger if the Authority finds that an actual or threatened discharge presents or may present an imminent or substantial danger to the health or welfare of persons, substantial danger to the environment, or interference with the operation of the POTW or passthrough. A discharger who is notified of the suspension of Wastewater Treatment Service and /or the discharge's Wastewater Discharge Permit, shall, within a reasonable period of time, as determined by the Authority cease all discharges.

If a discharger fails to comply voluntarily with the suspension order within the specified time, the Authority shall take such steps as deemed necessary, including severance of the sewer connection, to prevent or minimize damage to the POTW, its receiving stream or endangerment to any individuals. The Authority shall allow the user to recommence its discharge when the user has demonstrated to the Authority's satisfaction that the endangerment has passed, unless termination proceedings are initiated against the user.

A user that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a full report to the Authority within five days of the incident. This report shall be a detailed written statement describing the causes of the harmful contribution and the measures taken to prevent any future reoccurrence. The information in this report shall be considered during any related Show Cause or Termination Hearing.

Local communities whose wastewater is transported or treated by the facilities of the Authority may join with the Authority in enforcement action and take such other action to effectuate these Rules and regulations.

Failure of the contracting community to join in the enforcement action shall not limit the Authority's authority to enforce these Rules and Regulations and the provisions of this section as to any discharger.

APPENDIX "A"
LOCAL DISCHARGE LIMITATIONS

No.	Parameters	Limit Average Daily Concentration
1.	Arsenic, total	1.0 mg/l
2.	Cadmium, total	0.51 mg/l
3.	Chromium, total	15.0 mg/l
4.	Copper, total	0.58 mg/l
5.	Cyanide, total	2.00 mg/l
6.	Lead, total	1.00 mg/l
7.	Mercury, total	Non-detectable* mg/l
8.	Nickel, total	12.0 mg/l
9.	Silver, total	0.22 mg/l
10.	Zinc, total	5.0 mg/l
11.	Fats, Oil & Grease (FOG)	100 mg/l
12.	Phenolics, total	1.0 mg/l
13.	Polychlorinated Biphenyls (PCBs)	Non-detectable* mg/l
14.	pH	5.0 – 11.5 s.u.
15.	Biochemical Oxygen Demand (BODs)	4,000 mg/l
16.	Total Phosphorus	25.0 mg/l
17.	Total Suspended Solids (TSS)	10,000 mg/l
18.	Methylene Chloride	0.25 mg/l
19.	Toluene	1.0 mg/l
20.	BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	2.0 mg/l

* The quantification level shall not exceed 0.1 ug/l for PCBs and 0.2 ug/l for Mercury,unless higher levels are appropriate because of sample matrix interference. Any discharge of PCBs or Mercury at or above the quantification level is a specific violation of this ordinance. This paragraph does not authorize the discharge of PCBs or Mercury at levels which are injurious to the designated uses of the waters of the State or which constitute a threat to the public health or welfare. If a quantification level is specified in or approved under 40 CFR 136 or pursuant to rules adopted by the State of Michigan to implement the Great Lakes Initiative for PCBs or Mercury, the quantification level in a permit issued pursuant to this Ordinance may be changed. Upon County Agency approval, to incorporate such promulgated quantification level.

Appendix 17.

WDI Part 111
Hazardous Waste Operating License

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

REBECCA A. HUMPHRIES
DIRECTOR

September 30, 2010

Mr. Michael J. Takacs
Regulatory Specialist
EQ – The Environmental Quality Company
Wayne Disposal, Inc.
49350 North I-94 Service Drive
Belleville, Michigan 48111

Dear Mr. Takacs:

SUBJECT: Final Hazardous Waste Management Facility Operating License (License); Wayne Disposal, Inc. (WDI), Belleville, Michigan; MID 048 090 633

The Department of Natural Resources and Environment (DNRE), Environmental Resource Management Division (ERMD), has completed its review of the License renewal application from WDI. Based on that review and the results of the public hearing held on August 18, 2010, the DNRE has issued a License to WDI pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The License renewal application review and the public participation procedures were conducted in accordance with Part 111.

Enclosed are copies of the License, Response to Comments, and Notice of Final Decision. If you have any questions or comments, please contact Mr. Peter Quackenbush, Hazardous Waste Section, ERMD, at 517-373-7397; quackenbushp@michigan.gov; or DNRE, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Liane J. Shekter Smith, P.E., Chief
Environmental Resource Management Division
517-373-9523

Enclosures
cc: Mr. Scott Maris, EQ – The Environmental Quality Company
Ms. De Montgomery/Mr. Steve Buda, DNRE
Mr. Lawrence AuBuchon/Mr. Michael Busse, DNRE
Mr. Joseph Rogers, DNRE
Mr. Leo Parks, DNRE
cc/enc: Operating License File

State of Michigan
Department of Natural Resources and Environment
HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE

NAME OF LICENSEE: Wayne Disposal, Inc.

NAME OF FACILITY OWNER: EQ – The Environmental Quality Company

NAME OF FACILITY OPERATOR: Wayne Disposal, Inc.

NAME OF TITLEHOLDER OF LAND: Wayne Disposal, Inc.

FACILITY NAME: Wayne Disposal, Inc.

FACILITY LOCATION: 49350 North I-94 Service Drive
Belleville, Michigan 48111

EPA IDENTIFICATION (ID) NUMBER: MID 048 090 633

EFFECTIVE DATE: September 30, 2010

REAPPLICATION DATE: April 3, 2020

EXPIRATION DATE: September 30, 2020

AUTHORIZED ACTIVITIES

Pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§324.11101 to 324.11153 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 *et. seq.* of the Michigan Administrative Code, by the Department of Natural Resources and Environment (DNRE), an operating license (hereafter called the "license") is issued to Wayne Disposal, Inc. (hereafter called the "licensee"), to operate a hazardous waste management facility (hereafter called the "facility") located at latitude 42° 13' 30" N and longitude 83° 31' 00" W. The licensee is authorized to conduct the following hazardous waste management activities:

☒ STORAGE	☐ TREATMENT	☒ DISPOSAL	☒ POSTCLOSURE
☐ Container	☐ Container	☒ Landfill	☐ Tank
☒ Tank	☐ Tank	☐ Land Application	☐ Surface Impoundment
☐ Waste Pile	☐ Surface Impoundment	☐ Surface Impoundment	☒ Landfill
☐ Surface Impoundment	☐ Incinerator		☐ Waste Pile
☐ Drip Pad	☐ Other:		

APPLICABLE REGULATIONS AND LICENSE APPROVAL

The conditions of this license were developed in accordance with the applicable provisions of the rules, effective March 17, 2008. The licensee shall comply with all terms and conditions of this license. This license consists of the 32 pages of conditions attached hereto (along with those in Attachments 1 through 16) and the applicable regulations contained in R 299.9101 through R 299.11008, as specified in the license. For purposes of compliance with this license, applicable rules are those that are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information in the license application submitted on October 12, 2006, and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(11)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, the rules, and this license.

This license is effective on the date of issuance and shall remain in effect for 10 years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306). Pursuant to R 299.9516, this license shall be reviewed by the DNRE 5 years after the date of issuance and shall be modified as necessary in accordance with the provisions of R 299.9519 and R 299.9520.

Issued this 30th day of September

by Liane J. Shekter Smith

Liane J. Shekter Smith, P.E., Chief
Environmental Resource Management Division

HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE
FOR

WAYNE DISPOSAL, INC.
MID 048 090 633

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Appendix 18.

WDI
Leachate Monitoring Parameters

Leachate Monitoring Program

Each leachate sump is sampled quarterly and analyzed for the parameters listed below.

Organic Parameters

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichlorobenzene
1,3-Dichlorobenzene
1,3-Dichloropropene
1,4-Dichlorobenzene
1,4-Dichlorobenzene
1,4-Dioxane
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloroethylvinyl Ether
2-Chloronapthene
2-Chlorophenol
2-Methylnapthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3,3'-Dichlorobenzene
3-Methylphenol
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromo phenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Methyl-2-Pentanone
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
Acenapthene
Acenapthylene
Acetone
Anthracene
Benzene
Benzidene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(ghi)perylene
Benzoic Acid
Benzyl alcohol
Bis (2)chloroisopropyl) ether
Bis (2-chloroethoxy) methane
Bis (2-chloroethyl) ether
Bis (2-ethylhexyl) phthalate
Bromodichloromethane
Bromoform
Bromomethane
Butyl benzyl phthalate
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Chrysene
Dibenz (a,h) anthracene
Dibenzofuran
Dibromodifluoromethane
Dichlorodifluoromethane
Diethyl pthalate
Dimethyl pthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Ethylbenzene
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-cd) pyrene
Isophorone
Isobutyl Alcohol
Methyl Ethyl Ketone(2-Butanone)
Methylene Chloride
Napthalene
Nitrobenzene
N-Nitroso-di-n-propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
PCB-1016
PCB-1221
PCB-1260
PCB-1232
PCB-1242
PCB-1248
PCB-1254
Phenanathrene
Phenol
Pyrene
Tetrachloroethane
Tetrachloroethene
TolueneBenzo(k)fluoranthene
Trichloroethene
Trichlorofluoromethane
Vinyl Chloride
Xylenes, Total

Conventional Parameters

Alkalinity as CaCO3
Chemical Oxygen Demand
pH
Specific Conductivity
Total Organic Carbon

Inorganic Parameters

Aluminum
Antimony
Arsenic
Barium
Beryllium
Bicarbonate
Cadmium
Calcium
Carbonate
Chloride
Chromium, Hexavalent
Chromium, Total
Cobalt
Copper
Cyanide, Total
Iron
Lead
Magnesium
Manganese
Mercury
Molybdenum
Nickel
Nitrate/Nitrate
Potassium
Selenium
Silver
Sodium
Sulfate
Thallium
Tin
Total Kjeldahl Nitrogen
Total Phosphates
Vanadium
Zinc

Total Phenolics

Appendix 19.

WDI
TSCA PCB Approval

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 29 2011

REPLY TO THE ATTENTION OF:
L-8J

David Lusk
President, Wayne Disposal, Inc.
Corporate Offices
36255 Michigan Avenue
Wayne, Michigan 48184-1652

Re: TSCA/PCB Approval

Dear Mr. Lusk:

Enclosed is a chemical waste landfill Approval issued by the U.S. Environmental Protection Agency to Wayne Disposal, Inc. (WDI), pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e)(1), and the federal regulations for disposal of Polychlorinated Biphenyls (PCBs) at 40 C.F.R. § 761.75. This Approval replaces the August 21, 2001, Approval previously issued to WDI.

As per its terms, this Approval is effective for a period of five (5) years, unless it is suspended or terminated. Issuance of this Approval does not relieve WDI of the responsibility to comply with TSCA and any and all applicable federal, state and local laws, regulations and requirements. Furthermore, any violation of the terms and conditions of the Approval may subject WDI to enforcement action under Section 15 of TSCA.

If you have any questions about this Approval, please contact James Blough, of my staff, at (312) 886-2967.

Sincerely,

Margaret M. Guerriero
Director
Land and Chemicals Division

Enclosure

cc: Scott Maris, EQ
Mike Takacs, EQ
Virginia Himich, MDEQ

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Wayne Disposal, Inc.,	)	**CHEMICAL WASTE LANDFILL**
49350 North I-94 Service Drive,	)	**APPROVAL TO DISPOSE OF**
Belleville, Michigan 48111-1854,	)	**POLYCHLORINATED BIPHENYLS**
	)	**ISSUED PURSUANT TO**
APPLICANT.	)	**40 C.F.R. § 761.75**
	)	

AUTHORITY

This chemical waste landfill approval (Approval) is issued by the United States Environmental Protection Agency to Wayne Disposal, Inc. (WDI), pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e)(1), and the federal regulations for disposal of Polychlorinated Biphenyls (PCBs) at 40 C.F.R. § 761.75. This Approval replaces the August 21, 2001, Approval previously issued to WDI.

Section 6(e)(1)(A) of TSCA, 15 U.S.C. § 2605(e)(1)(A), requires that U.S. EPA promulgate rules to prescribe methods for the disposal of PCBs. The regulations at 40 C.F.R. § 761.75 require, among other things, that various types of PCBs and PCB Items be disposed of in chemical waste landfills approved by U.S. EPA for PCB disposal. 40 C.F.R. § 761.75(a) designates the Regional Administrator as the approval authority for such PCB disposal facilities. 40 C.F.R. § 761.75(b) sets out a number of technical requirements for PCB disposal facilities. 40 C.F.R. § 761.75(c) prescribes the process by which an owner or operator of a chemical waste landfill may obtain approval to dispose of PCBs.

U.S. EPA Headquarters Delegation 12-5 authorizes the re-delegation of approval authority for PCB disposal facilities from Regional Administrators to Regional Division Directors. Under U.S. EPA, Region 5 Delegation 12-5, dated October 22, 2007, the approval authority for PCB disposal facilities was delegated to the Director, Land and Chemicals Division, U.S. EPA, Region 5.

None of the information required to be maintained under or submitted pursuant to this Approval is subject to the requirements of the Paperwork Reduction Act, 44 U.S.C. § 3501, et seq., because such information is collected by U.S. EPA from WDI for the purpose of assuring compliance with this Approval.

EFFECTIVE DATES

This Approval is effective upon the signature of the Director of the Land and Chemicals Division, U.S. EPA, Region 5. WDI's authorization to dispose of PCBs and PCB Items in the WDI Landfill under this Approval will be valid for a period of five (5) years, unless such authorization is suspended or terminated, as provided herein, or unless the time period is modified by U.S. EPA. Upon signature by the Director, the issuance of this Approval shall be considered final agency action.

BACKGROUND

The WDI Landfill Site # 2, located at 49350 North I-94 Service Drive, Belleville, Michigan (WDI Landfill), is a 120-acre chemical waste landfill that is divided into Master Cells V, VI and VII. The WDI Landfill is owned and operated by Wayne Disposal, Inc. The Environmental Quality Company owns Wayne Disposal, Inc.

The WDI Landfill was originally authorized under authority granted by the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. § 6901 et seq., and was operated pursuant to a RCRA Hazardous Waste Management Permit issued by U.S. EPA and a Hazardous Waste Management Facility Operating License issued by the predecessor agency to the Michigan Department of Environmental Quality (MDEQ). WDI Landfill Master Cells V and VII, which do not contain PCBs, have been filled and closed, and are currently in post-closure care.

On March 15, 1995, WDI, as lessee and operator of the Landfill, submitted an application to MDEQ for a Hazardous Waste Management Facility Operating License, pursuant to Part 111 of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), for Master Cell VI of the WDI Landfill.

On July 10, 1995, WDI, as lessee and operator of the Landfill, submitted an application to U.S. EPA for approval under 40 C.F.R. § 761.75, to dispose of PCBs and PCB-contaminated waste in Master Cell VI of the WDI Landfill.

On April 14, 1997, MDEQ issued a Hazardous Waste Management Facility Operating License to WDI for Master Cell VI of the WDI Landfill.

On April 14, 1997, U.S. EPA issued a TSCA Approval to WDI to allow the disposal of PCBs and PCB Items in Master Cell VI of the WDI Landfill. On December 23, 1998, the Approval was modified to reflect a transfer of ownership of the landfill property from the Ford Motor Company to WDI.

On August 24, 1999, WDI submitted an application to MDEQ requesting a major modification of the April 14, 1997, Hazardous Waste Management Facility Operating License for the WDI Landfill. WDI sought a modification of the Operating License to allow for a design change to expand the capacity of Master Cell VI by extending the cell both vertically and horizontally over closed Master Cell V.

On March 23, 2000, WDI submitted to U.S. EPA an application, pursuant to TSCA and 40 C.F.R. § 761.75, for an amended Approval to allow the disposal of PCB waste in the redesigned and expanded Master Cell VI of the WDI Landfill.

On July 13, 2001, pursuant to Part 111 of Michigan Act 451 and RCRA, the MDEQ issued a major modification of the Hazardous Waste Management Facility Operating License for the WDI Landfill. The modified Operating License was set to expire on April 14, 2007.

On August 21, 2001, U.S. EPA issued a TSCA Approval pursuant to 40 C.F.R. § 761.75, to allow WDI to continue to dispose of PCBs in Master Cell VI of the WDI Landfill. The Approval allowed WDI to continue to dispose of PCB waste the remaining part of the previously approved 1.435 million cubic yards in Master Cell VI and generally authorized the disposal of an additional 2.89 million cubic yards of PCB waste in the Master Cell VI expansion area.

The August 2001 Approval required, among other things, that WDI construct an underlying grid and liner for Master Cell VI, Subcell E, which was to be constructed on top of closed Master Cell V. The Approval also required WDI to prepare and submit a Settlement Monitoring Plan for Master Cell VI, Subcell E, to assure the integrity of the liner during loading of Master Cell VI.

WDI submitted a Settlement Monitoring Work Plan for Master Cell VI, Subcell E on October 19, 2001, and a Settlement Monitoring Plan on August 12, 2002. On September 19, 2002, U.S. EPA approved the Settlement Monitoring Plan.

On November 3, 2003, WDI submitted to the MDEQ a Construction Documentation Report and Certification for Phase I of Master Cell VI, Subcell E. On June 4, 2004, MDEQ approved the certification and authorized waste disposal in a portion of Master Cell VI, Subcell E. Thereafter, WDI continued to construct Master Cell VI, Subcell E in phases, and MDEQ continued to approve certifications and authorize waste disposal as each newly constructed portion of Master Cell VI, Subcell E was completed.

On September 24, 2004, WDI submitted to U.S. EPA a Geotechnical Instrumentation Installation and Baseline Data Report that described the settlement monitoring instrumentation and pre-load background data for Master Cell VI, Subcell E.

On May 12, 2006, U.S. EPA extended the TSCA Approval for the WDI Landfill until April 14, 2007. At that time, U.S. EPA also agreed to change the frequency of PCB air sampling from once every sixth day to once every twelfth day.

On October 11, 2006, WDI submitted to U.S. EPA an Application for Renewal of the TSCA Approval for the WDI Landfill and to MDEQ a Hazardous Waste Management Facility Operating License Renewal Application for the WDI Landfill.

On April 23, 2007, U.S. EPA extended the TSCA Approval for the WDI Landfill until November 14, 2007.

On September 6, 2007, MDEQ determined that WDI's Hazardous Waste Management Facility Operating License Renewal Application was complete, which allowed the WDI Landfill to continue operating in accordance with the existing Operating License, pending a decision on the renewal application.

On November 16, 2007, U.S. EPA extended the TSCA Approval for the WDI Landfill until November 14, 2008.

On March 3, 2008, WDI submitted to MDEQ and to U.S. EPA a proposed design modification to increase the vertical and horizontal dimensions of Master Cell VI of the WDI Landfill. On January 23, 2009, WDI submitted a revised design modification for Master Cell VI.

On August 26, 2008, WDI submitted to U.S. EPA a request to terminate Settlement Monitoring for Master Cell VI, Subcell E of the WDI Landfill, based on monitoring indicating that Master Cell VI was able to adequately support the maximum approved waste load without adversely affecting the leachate collection system or the geomembrane liner.

November 14, 2008, U.S. EPA extended the TSCA Approval for the WDI Landfill until November 14, 2009.

On April 9, 2009, U.S. EPA approved WDI's request to terminate Settlement Monitoring for Master Cell VI, Subcell E of the WDI Landfill.

On May 15, 2009, WDI entered into a Consent Order with the State of Michigan to resolve alleged RCRA violations regarding a flood event from storm water control structures and several onsite leachate releases at the WDI Landfill. The Consent Order included provisions for WDI to expand storm water management systems; treat storm water before discharge to surface water; enact SOPs for fugitive dust control, vehicle track-out, wind speed monitoring, and storm water management; and implement several enhancements to soil, surface water and sediment monitoring programs. The Consent Order required that those provisions be included in the next renewal of the Hazardous Waste Management Facility Operating License for the WDI Landfill.

On November 13, 2009, U.S. EPA extended the TSCA Approval for the WDI Landfill until May 14, 2010.

On December 17, 2009, WDI submitted to U.S. EPA a revised Application for Renewal of the TSCA Approval for the WDI Landfill and to MDEQ a revised Hazardous Waste Management Facility Operating License Renewal Application for the WDI Landfill. These Applications replaced the October 2006 Applications.

On May 14, 2010, U.S. EPA extended the TSCA Approval for the WDI Landfill until October 15, 2010.

On September 30, 2010, the Michigan Department of Natural Resources and the Environment (MDNRE) issued to WDI a Hazardous Waste Management Facility Operating License for Master Cell VI of the WDI Landfill.

On October 12, 2010, U.S. EPA extended the TSCA Approval for the WDI Landfill until April 8, 2011.

On April 12, 2011, U.S. EPA extended the TSCA Approval for the WDI Landfill until September 30, 2011.

DEFINITIONS

The following terms are defined for the purposes of this Approval. Any conflict between the following definitions and those set forth under TSCA and the PCB regulations at 40 C.F.R. Part 761 shall be resolved in favor of the definitions in TSCA and the PCB regulations.

Application: All data, documents, licenses, permits, and other information submitted to date by WDI to U.S. EPA regarding the Agency's review of WDI's request for a TSCA Approval for the WDI Landfill, including particularly the December 17, 2009, Application and attachments.

Annual Reporting Period: A regulatory interval based on the calendar year. It includes a July 15 due date for the previous year's annual reports required by this Approval.

Artesian Conditions: Those hydraulic conditions where water naturally rises to elevations above the geologic unit in which the water is found.

Aquifer: A geologic formation or group of formations or part of a formation that is capable of yielding a significant amount of groundwater to a well or springs.

Aquiclude: A geologic unit through which virtually no water flows; typically a silty clay such as glacially derived fine sediments,

Batch: A specific volume that is handled as a whole and is sampled in a representative way.

Cell: The specially prepared unit into which PCBs are disposed. In the case of Master Cell VI of the WDI Landfill, it consists of the entirety of Master Cell VI (Subcells A, B, C, D, and E), as expanded, and any related appurtenances thereto.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9657.

Clay Pan: A continuous, laterally extensive, relatively impermeable, thick bed of high clay content material.

Closure: The cessation of the use of a subject site, and activities undertaken to secure the site and control, minimize or eliminate the threat to human health and the environment from the site. General closure requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart G (*Closure and Post-Closure*), and unit specific closure requirements for landfills are set forth at 40 C.F.R. Part 264, Subpart N (*Landfills*).

Closure and Post-Closure Plans: Written plans for achieving proper closure and implementing post-closure care of a subject site. Closure plan requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. § 264.112 (*Closure plan; amendment of plan*), and post-closure plan requirements are set forth at 40 C.F.R. § 264.118 (*Post-closure plan; amendment of plan*).

Dilution: The avoidance of TSCA requirements and the Conditions of this Approval by combining non-TSCA regulated material with TSCA regulated material, or otherwise numerically averaging sample values from TSCA and non-TSCA cells so that the mixture becomes deregulated.

Dry Weight: Reporting based on a dry weight determination for all solids and semi-solids and fluids with a concentration of more than five tenths (0.5) percent solids content.

Expiration of Approval: The cessation of WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill under this Approval. WDI's authorization to dispose of PCBs in Master Cell VI will cease five (5) years after the date the Approval is executed hy the Director of the Land and Chemical Division, U.S. EPA, Region 5, unless that date is modified by the Director.

Facility: Cadastral boundaries of the property on which the WDI Landfill is located.

Financial Requirements: The mechanism, options and documentation by which an owner or operator of a subject facility estimates closure and post-closure costs and provides assurance of financial assets sufficient to satisfy potential liabilities for closure and post-closure care of the facility. Financial Requirements for closure and post-closure care of hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart H (*Financial Requirements*).

Flood: Internal to the Cell: to raise the leachate level to more than one foot above the liner. External to the Cell: to exceed the Facility's on-site water holding capacity so as to allow unauthorized offsite discharge.

Free Liquid: Fluid that drains freely from waste material under the Paint Filter Test, U.S. EPA SW-846 Method 9095. Wastes containing these fluids shall not be disposed of in the WDI Landfill. The Liquid Release Test is recommended to estimate leachate production.

Leachate: Water that filters through the waste and collects on the inner synthetic geomembrane (primary liner) of Master Cell VI of the WDI Landfill. Also, rainwater that flows into the Cell through manways is leachate if it mixes with leachate.

Leachate Collection System (LCS): The network of drains and sumps above the inner synthetic geomembrane (primary liner) of Master Cell VI of the WDI Landfill, used to collect, monitor and remove leachate that drains from waste in the Cell and collects above the primary liner.

Leachate Escape: Anything flooding out of the clean-out risers for Master Cell VI of the WDI Landfill, including rainwater in contact with waste or mixed with leachate that leaves the containment cell and overcomes the on-site control structures for Master Cell VI, whether or not it leaves the Facility boundary.

Leak Detection, Collection and Removal System (LDCRS): The network of drains and sumps between the inner geomembrane (primary liner) and the outer geomembrane (secondary liner) of Master Cell VI of the WDI Landfill, used to detect leaks from the primary liner.

Major Modification: A material change in the design or operation of the WDI Landfill. Such changes include, but are not necessarily limited to: any change in ownership; an increase in the disposal capacity of the Landfill; any change in the manner of waste placement; any significant change to the financial assurance estimate or commitment; any change to the closure/post-closure plan; cap repairs; and abandonment. A major modification requires the approval of the Director of the Land and Chemicals Division, U.S. EPA, Region 5.

Minor Modification: A minor change in the design, construction or day-to-day operation of the WDI Landfill or any other change in operations that is not a major modification. Such changes in operations include but are not limited to: changing the groundwater, leachate or air monitoring sites or the analytical methodology; any change to any portion of the leachate collection, detection and removal system, not including repairs; changes in waste acceptance procedures; changes in the closure post-closure plan that are not major; and minor inflationary adjustments to WDI's annual cost estimates. A minor modification requires the approval of the Chief of the RCRA Branch, U.S. EPA, Region 5.

Operator: Wayne Disposal, Inc., 49350 North I-94 Service Drive, Belleville, Michigan 48111-1854, operates the WDI Landfill, including Master Cell VI.

Owner: Wayne Disposal, Inc., owns the WDI Landfill and the property upon which the WDI Landfill, including Master Cell VI, is located. The Environmental Quality Company, 36255 Michigan Ave., Wayne, Michigan 48184, owns Wayne Disposal, Inc.

PCB(s): Polychlorinated Biphenyl(s), as defined at 40 C.F.R. § 761.3.

PCB Contact Water: All untested fluids produced from within Master Cell VI of the WDI Landfill or fluid known to have contacted PCBs.

PCB Items: Articles, article containers, containers or equipment that contain PCBs, as defined at 40 C.F.R. § 761.3.

PCB Waste(s): PCBs and PCB Items that are subject to the disposal requirements of 40 C.F.R. Part 761, Subpart D.

Placement of PCBs: The use of equipment to bring PCB waste to Master Cell VI of the WDI Landfill, off-load PCB waste in Master Cell VI, compact PCB waste in Master Cell VI to proper density, and cover PCB waste.

Post-Closure Care: Long-term care provided at subject sites following closure. Such care at hazardous waste landfills usually includes requirements to monitor and maintain liners, final covers, leachate collection and removal systems, and leak detection systems to protect human health and the environment from releases of hazardous constituents. General post-closure requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart G (*Closure and Post-Closure*), and unit specific closure requirements for landfills are set forth at 40 C.F.R. Part 264, Subpart N (*Landfills*).

Post-Closure Period: The period of time after operations at the WDI Landfill have ceased and the final cap has been installed on the Landfill (i.e., after the Landfill has been closed). Under RCRA regulations at 40 C.F.R. § 264.117, the post-closure period for hazardous waste landfills generally runs for thirty (30) years after the facility is closed, unless that time period is shortened or extended pursuant to regulation.

PPM/ppm: A unit of measure, parts per million, used to establish regulatory thresholds for material under TSCA based on use of an appropriate gravimetric reporting methodology such as wet weight or dry weight.

Quarterly Reporting Period: A chronological system denoted by the beginning of the first, fourth, seventh and tenth calendar months of the year.

Significant Rainfall: One half inch or more of rainfall in twenty-four hours.

Site: The vertical and horizontal dimensions of Master Cell VI of the WDI Landfill, as expanded and defined by the architectural and engineering design documents submitted to U.S. EPA by WDI as part of its TSCA Approval application. The terms and conditions of this Approval apply to the operation of the WDI Landfill and are not limited in their applicability to only the Site.

Stabilization: The use of an additive material that permanently changes the waste to prevent the release of water or chemicals under the expected physical effects of the landfill process such as compression and leaching.

Statistically Significant Increase: A determination using statistical procedures appropriate to the respective sampling plan in the TSCA application as modified.

Suspension of Disposal Authorization: Temporary removal of WDI's authorization to place PCBs in Master Cell VI of the WDI Landfill. Such authority may be reinstated at U.S. EPA's discretion.

Termination of Disposal Authorization: Permanent revocation of WDI's authorization to continue to place PCBs in Master Cell VI of the WDI Landfill.

TSCA Disposal: The placement of PCBs and PCB Items in Master Cell VI of the WDI Landfill, and the operation and maintenance of Master Cell VI in accordance with this Approval.

Treatment: Changing the disposal status of a regulated waste by removing or destroying PCBs.

Upper Aquifer: The designated groundwater monitoring zone for a facility, as specified under RCRA Subtitle D and accepted as part of the TSCA approval process. The first water-bearing zone encountered below ground level.

Wet Weight: Reporting based on a wet weight measurement for fluids with solids content less than five tenths (0.5) percent.

FINDINGS

The following Findings are made pursuant to 40 C.F.R. § 761.75(c)(3), and are based on U.S. EPA's review of information submitted by WDI in its December 2009 Application for Renewal of its Hazardous Waste Operating License and Application for TSCA Approval, and pursuant to 40 C.F.R. § 761.75(c)(1) and (2).

1. WDI currently operates a U.S. EPA-approved TSCA chemical waste landfill with an active Cell, Master Cell VI, located at the WDI Landfill in Belleville, Michigan.

2. The WDI Landfill, including Master Cell VI, is also regulated by the State of Michigan under RCRA-equivalent Hazardous Waste Management regulations at Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), and the rules promulgated thereunder.

3. WDI's mailing address and physical address is: 49350 North I-94 Service Drive, Belleville, Michigan 48111-1854.

4. The WDI Landfill is bounded on the north and west by the Willow Run Airport; to the south by the I-94 North Service Drive; and to the east by Beck Road.

5. Master Cell V and Master Cell VI (Subcells A, B, C, D, and E) are located on a thick, relatively impermeable large-area clay pan, as required by 40 C.F.R. § 761.75(b)(1) (*Soils*). Most of Master Cell VI, Subcell E is built on top of Master Cell V or overlies a narrow earthen berm of undisturbed clay pan between Master Cell V and Master Cell VI. Master Cell VI, Subcell E is isolated from everything below it by approximately 11 feet of geo-composite liner/pad.

6. The local soil profile is made up of five units:

    a. The Upper Sand Unit is thin, unprotected, permeable, water-bearing, silty sand. Although water-bearing, the Upper Sand Unit is not considered an aquifer due to the limited quantity and low quality of the water yielded. During construction of the Landfill, the whole Upper Sand Unit was removed from around the Cells and replaced with a ten-foot thick compacted clay isolation barrier.

b. The Clay Pan is a laterally extensive, glacially-derived silty clay layer. It is a regional barrier to water flow and maintains a minimum of ten (10) feet of relatively impermeable material below both Master Cell V and Master Cell VI. The permeability under Master Cell VI is certified to be less than 1×10^{-7} cm/sec. The permeability of native clay samples from under Master Cell V is similar to that under Master Cell VI, with permeability of 1×10^{-7} cm/sec or less.

c. The Transition Silt Unit is a partly water-bearing fine grained sand silt aquitard unit with as much as 16-35% clay in it, directly underlying most of the Clay Pan but overlying the Upper Aquifer. Permeability tests on the Unit yield laboratory values of 1.3×10^{-8} to 6.9×10^{-6} cm/sec.

d. The Lower Sand Drift Aquifer is a partly-confined, protected, highly permeable, and useable sandy aquifer located on fractured limestone and shale, whose pressure head varies from ten feet below the secondary liner to just at the base of the primary liner of Master Cell VI. The Drift Aquifer is defined as the Upper Aquifer for regulatory purposes despite being below the Clay Pan. Local groundwater resources are generally unused. The Drift Aquifer has generally been abandoned in favor of Detroit municipal water sources, but the Drift Aquifer may be used in the future so it is being monitored.

f. The bedrock units are non-water bearing Paleozoic Antrim Shale and Traverse Group limestones containing useable, but generally undesirable, water.

7. WDI has certified that Master Cell VI is designed and constructed with an engineered liner that exceeds the requirements of 40 C.F.R. § 761.75(b)(2) (*Synthetic membrane liners*), and with additional safety features such as:

a. an eighty (80) mil thick density polyethylene synthetic membrane primary liner and a sixty (60) or eighty (80) mil thick density polyethylene synthetic membrane secondary liner, each of which substantially exceeds the minimum membrane thickness specified in 40 C.F.R. § 761.75(b)(2) for a TSCA commercial landfill that was not located on a clay pan or a clay pad;

b. synthetic membranes separated by sixty (60) inches of re-compacted clay, which substantially exceeds the minimum compacted soil liner thickness specified in 40 C.F.R. § 761.75(b)(1);

c. a relatively impermeable clay dike surrounding Master Cell VI; and

d. a biaxial polymeric geo-grid to strengthen the base of Master Cell VI, Subcell E.

8. Pursuant to the prior TSCA Approval for the WDI Landfill, WDI conducted Settlement Monitoring on Master Cell V during the loading of Master Cell VI, Subcell E to assure the integrity of the liner under Master Cell VI, Subcell E.

9. WDI submitted a Hydrogeological Report and cited several related background reports prepared by its consultant over the years indicating that the hydrogeological characteristics at the WDI Landfill site provide a level of hydrologic protection that exceeds the TSCA requirements specified in 40 C.F.R. § 761.75(b)(3) (*Hydrologic conditions*), including but not limited to the following:

   a. The Clay Pan underlying the WDI Landfill covers a large area of at least 480 acres, and is effectively continuous and relatively impermeable. Testing has demonstrated no downward natural seepage of water through the clay pan. Breakthrough times for the Clay Pan are very long, and piezometers installed in the clay indicate that the water flux across the clay is very low.

   b. There is no hydraulic connection between the base of the Master Cell VI (Subcells A, B, C, and D) lowermost geomembrane and standing or flowing surface water. The Clay Pan serves as an aquiclude and naturally protects the Upper Aquifer below it. The unprotected, thin Upper Sand Unit resting on the Clay Pan was excavated during construction so that the liner for Master Cell VI, Subcell E rests either on a clay cap or on the Clay Pan.

   c. The bottom of the liner system for Master Cell VI (Subcells A, B, C, and D) is underlain by at least ten (10) feet of clay with a permeability of less than 1×10^{-7} cm/sec. The bottom of the liner system for Master Cell VI, Subcell E is underlain by at least ten (10) feet of clay with a permeability of less than 1×10^{-7} cm/sec and by Master Cell V.

   d. The WDI Landfill has monitoring wells and leachate collection systems.

   e. The naturally protected Lower Sand Drift Aquifer below the Clay Pan (the regulatory Upper Aquifer), along with the low permeability of the Clay Pan, helps maintain the potentiometric or artesian forces that result in the local no flow zone in the Clay Pan below Master Cell VI.

   f. Municipal water supplies are no longer drawn from the Lower Sand Drift Aquifer. The nine wells of the Bridge Road-Rawsonville Road array were shut down in 1994, and the seven-well array in the City of Ypsilanti and the well along Superior Road Bridge were shut down in 1996. These wells are all upstream of the WDI Landfill. Some of these wells may be used in the future.

10. Master Cell VI is located above the 100-year flood level. Master Cell VI has stormwater runoff control structures, as required by 40 C.F.R. § 761.75(b)(4) (*Flood protection*).

11. Master Cell VI is located on an area of relatively flat topography, as required by 40 C.F.R. § 761.75(b)(5) (*Topography*).

12. The requirements of 40 C.F.R. § 761.75(b)(6)(i) (*Water sampling*) have been met as follows:

    a. all ground and surface water sample sites were sampled to establish background levels before PCB waste disposal began in Master Cell VI;

    b. leachate from Master Cell V was tested to establish background levels before PCBs were disposed of in Master Cell VI, Subcell E;

    c. on-site surface water (storm water) will be sampled pursuant to WDI's Surface Water Sampling and Analysis Plan; and

    d. Quirk Drain, a surface water course designated under 40 C.F.R. § 761.75(c)(3)(ii), will be sampled for PCBs as required by National Pollution Discharge Elimination System (NPDES) Permit No. MI0056413, dated May 1, 2009.

13. WDI has certified that the WDI Landfill has a groundwater monitoring plan and requisite groundwater monitoring wells that meet the requirements of 40 C.F.R. § 761.75(b)(6)(ii) (*Groundwater monitor wells*). These wells include 22 wells monitored under the terms of WDI's Hazardous Waste Operating License and five wells monitored under the terms of the TSCA Approval.

14. WDI is required to conduct analyses on all groundwater samples obtained from the TSCA monitoring wells, pursuant to 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*).

15. The WDI Landfill has a compound leachate collection system in Master Cell VI that meets the specifications of 40 C.F.R. § 761.75(b)(7)(ii) (*Compound leachate collection*). The system consists of a Leachate Collection System (LCS) used to collect, monitor and remove leachate above the primary liner; and a Leak Detection, Collection and Removal System (LDCRS) designed to measure flow volumes, collect and analyze samples, and remove leachate above the secondary liner. The LCS currently utilizes eight collection sump pumps to remove leachate from the primary liner. The LDCRS currently utilizes eight additional sumps to monitor and remove leachate from the secondary liner. Leachate collected and removed from the LCS and the LDCRS is treated at WDI's on-site water treatment plant before being discharged to the local sanitary sewer system.

16. WDI's December 2009 Application indicates that operations at Master Cell VI of the WDI Landfill meet the requirements of 40 C.F.R. § 761.75(b)(8) (*Chemical waste landfill operations*), as follows:

    a. WDI has procedures for placement of PCBs and segregation of other incompatible wastes.

    b. The Waste Analysis Plan; Waste Delivery Procedures; Leachate Monitoring Plan; Leak Detection, Collection and Removal System Monitoring Plan; Personnel Training Program; Emergency Contingency Plan; and other information in the

Application provide detailed explanations regarding recordkeeping; surface water handling; excavation and backfilling; waste segregation; vehicle and equipment movement; roadways; leachate collection systems; sampling and monitoring procedures; monitoring wells; emergency contingency plans; and security measures at the WDI Landfill.

c. The WDI Landfill will not accept ignitable wastes.

d. WDI will maintain records for all PCB disposal operations, as required by the TSCA PCB regulations.

17. The WDI Landfill has features required by 40 C.F.R. § 761.75(b)(9) (*Supporting facilities*), including the following:

a. a fence around the site to prevent unauthorized persons and animals from entering, and full-time security personnel on site 24 hours per day;

b. roads adequate to support safe operations and maintenance of the Landfill, as described in the Waste Delivery Process section of the December 2009 Application; and

c. operating procedures to prevent safety problems or hazardous conditions resulting from spills and windblown materials, including a Personnel Training Program, an Emergency Contingency Plan, and Preparedness and Prevention Plans and Procedures that address worker safety, spill response and procedures to prevent releases to the atmosphere.

18. WDI's December 2009 Application for the WDI Landfill and other submissions contain the information required by 40 C.F.R. § 761.75(c)(1).

19. WDI plans to fill the remaining authorized volume in Master Cell VI, Subcell E, consisting of approximately 2.275 million cubic yards, under this TSCA Approval.

20. WDI has the following current permits:

a. Michigan Department of Natural Resources and Environmental Part 111 Hazardous Waste Management Facility Operating License for MID 048 090 633; effective September 30, 2010, and expires September 30, 2020.

b. Industrial Pretreatment Program, Class D Wastewater Discharge Permit Number D-11201 issued by the South Huron Valley Utility Authority; effective May 30, 2008, and expires May 29, 2013.

c. NPDES Permit Number MI0056413, issued by MDEQ; effective May 1, 2009, and expires October 1, 2013.

21. WDI has submitted a "Notification of PCB Waste Activity," Form 7710-53 (12-89), and received the unique U.S. EPA waste identification number MID 048 090 633.

22. WDI submitted to the MDEQ an updated Certificate of Insurance for Closure and Post-Closure Care of the WDI Landfill, effective September 30, 2010, in the amounts of $7,652,775 for closure and $6,479,348 for post-closure care. WDI also submitted to the MDEQ a Letter of Credit, dated March 3, 2011, in the amount of $4,635,132 to provide additional financial assurance for closure and post-closure care of the WDI Landfill.

23. PCB waste in excess of 100 ppm is regulated pursuant to Part 147 of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. WDI's September 2010 Hazardous Waste Management Facility Operating License constitutes authorization pursuant to Part 147 of Act 451 to dispose of regulated PCB waste. The Operating License contains extensive requirements for management of PCB waste that are no less stringent in protection of health and the environment than the applicable TSCA requirements.

24. WDI's September 2010 Hazardous Waste Management Facility Operating License makes applicable to management of PCB waste in Master Cell VI of the WDI Landfill many of the RCRA-equivalent requirements for hazardous waste disposal facilities set out in the Michigan regulations at Part 111 of Act 451, including requirements for closure, post-closure care and financial assurance.

CONDITIONS OF APPROVAL

The following Conditions, including specified requirements and provisions necessary to ensure that operation of the WDI Landfill does not present an unreasonable risk of injury to health or the environment from PCBs, are authorized pursuant to 40 C.F.R. § 761.75(c)(3). In addition, all requirements, conditions and limitations regarding disposal of PCB waste, contained in the Hazardous Waste Management Facility Operating License for the WDI Landfill issued by the MDNRE on September 30, 2010, including, but not limited to, those provisions referenced below, are incorporated as Conditions of this TSCA Approval.

SITE LOCATION

25. PCB disposal must be carried out entirely within Master Cell VI of the WDI Landfill, as described in WDI's December 2009 Application.

RUN-ON RUNOFF SYSTEMS

26. WDI shall comply with the requirements in Part IV.C. (Design and Run-on, Runoff, and Contaminant Control) of the September 2010 Hazardous Waste Management Facility Operating License, including:

a. operating and maintaining a run-on control system capable of preventing storm water flow onto the active portions of the WDI Landfill during peak discharge from a 24-hour, 25-year storm; and

b. operating and maintaining a runoff management system to collect and control storm water volume resulting from a 24-hour, 100-year storm, as provided in the Storm Water Management Standard Operating procedure for the WDI Landfill.

WASTE IDENTIFICATION AND PLACEMENT

27. Any TSCA waste that fails the RCRA paint filter test (SW-846 Method BL), for reasons other than incidental liquids, shall not be disposed of in Master Cell VI of the WDI Landfill. Incidental water produced during transport may be handled according to the TSCA regulations.

28. Ignitable waste, as defined in 40 C.F.R. § 761.75(b)(8)(iii), shall not be disposed of in Master Cell VI of the WDI Landfill.

29. Any PCB waste or hazardous waste not listed in Attachment 8 to the September 2010 Hazardous Waste Management Facility Operating License, or any incompatible nonhazardous waste that meets any of the criteria set out in Condition IV.B.3. of the Operating License shall not be disposed of in Master Cell VI of the WDI Landfill.

30. Wastes placed in Master Cell VI of the WDI Landfill must be capable of attaining sufficient strength to prevent subsidence, ponding on the waste or on the cap, and slope movement or creep.

31. Indications of slope failure or leachate escape from Master Cell VI or any of its Subcells shall trigger all emergency notification processes and shall subject WDI to immediate corrective action, including possible work stoppage, drainage control, emergency berm construction, soil reinforcement, and possible closure of Landfill.

32. Each load of PCB waste received at the WDI Landfill must be inspected, compared and reconciled with the manifest and the Waste Analysis Plan, Attachment 1 to the September 2010 Hazardous Waste Management Facility Operating License.

33. PCB waste must be logged into the Master Cell VI waste placement coordinate system, as provided in Condition D.2.of Attachment 8 to the September 2010 Hazardous Waste Management Facility Operating License and the Waste Analysis Plan.

34. Vehicles that enter the active portion of the WDI Landfill must be washed clean of soil before leaving the Landfill, and vehicles delivering waste to, but not entering the active portion of the Landfill, must be washed at the wheel wash house or equivalent wash before entering the public road, as provided in the Waste Analysis Plan, Attachment 1 to the September 2010 Hazardous Waste Management Facility Operating License.

35. All waste transport vehicles must be inspected in accordance with the September 2010 Hazardous Waste Management Facility Operating License. Vehicles that leak PCB waste must be contained immediately and not leave the Landfill until the leak is stopped.

36. PCB waste may not be placed anywhere in Master Cell VI if the waste is incompatible with the geomembrane. PCB waste may not be placed on top of wastes that carry residual heat, such as warm, stabilized hazardous waste.

GROUNDWATER MONITORING

37. WDI shall conduct Groundwater Monitoring as provided in Part V.A. (Groundwater Monitoring Program) of the September 2010 Hazardous Waste Management Facility Operating License, and detailed in Attachment 9 (Groundwater Monitoring Program Sampling and Analysis Plan) of the Operating License.

38. As specified in Attachment 9 of the September 2010 Operating License, the following groundwater wells are approved to monitor the Upper Aquifer around Master Cell VI for PCBs, pursuant to the requirements in 40 C.F.R. § 761.75(b)(6):

    a. OB-21
    b. OB-23R
    c. OB-24
    d. OB-34R
    e. OB-40R

39. As required by 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*), samples from the above groundwater monitoring wells must be analyzed for the following parameters:

    a. PCBs
    b. pH
    c. Specific conductance
    d. Chlorinated organics

40. As provided in 40 C.F.R. § 761.75(b)(6)(iii), all data and records of the groundwater sampling and analysis shall be maintained as required in 40 C.F.R. § 761.180(d)(1), and current U.S. EPA sampling methods and analytical procedures shall be followed.

41. Wells used to measure water level elevations at Master Cell VI must not be purged or otherwise disturbed prior to measuring the static water level.

AMBIENT AIR MONITORING

42. WDI shall conduct Ambient Air Monitoring as provided in Part V. B. (Ambient Air Monitoring Program) of the September 2010 Hazardous Waste Management Facility Operating License, and detailed in Attachment 10 (Ambient Air Monitoring Program) of the Operating License.

43. Sample sites around the perimeter of WDI Landfill must be sampled for PCBs at a frequency prescribed by the Ambient Air Monitoring Program. The sample sites referenced in Figure 1 of the Ambient Air Monitoring Program consist of:

a. Site 5 (82975)
b. Site 6 (82981)
c. Site 7 (82977)
d. Site 8 (82982)
e. Site 9 (82983)
f. Site 10 (82984)

44. As specified in the Ambient Air Monitoring Program, sampling and analytical methodology must use U.S. EPA Method TO-4A or TO-10A. The analytical method must achieve a minimum method detection limit of two hundredths micrograms per cubic meter (0.02 ug/m3). Twenty-four hour time weighted average perimeter monitoring using a notification level of three tenth micrograms per cubic meter (0.3 ug/m3) is acceptable.

SOIL MONITORING

45. WDI shall conduct corrective action Soil Monitoring for PCBs in "Area A" of the WDI Landfill, and detection a Soil Monitoring for PCBs in "Area B" of the WDI Landfill, as provided in Part V.C. of the September 2010 Hazardous Waste Management Facility Operating License, and detailed in Attachment 11 (Soil Monitoring Program Sampling and Analysis Plan) of the Operating License.

SURFACE WATER MONITORING

46. WDI shall conduct Surface Water Monitoring, as provided in Part V.D. of the September 2010 Hazardous Waste Management Facility Operating License, and detailed in Attachment 12 (Surface Water Monitoring Program Sampling and Analysis Plan) of the Operating License.

47. As specified in Attachment 12 of the September 2010 Operating License, surface water grab samples must be collected from the following locations, every quarter following a significant rain event, pursuant to the requirements in 40 C.F.R. § 761.75(b)(6):

a. SS - 1
b. SS - 2
c. SS - 5
d. SS - 6
e. SS - 7
f. SS - 8

48. As required by 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*), the above surface water grab samples must be analyzed for the following parameters:

a. PCBs
b. pH
c. Specific conductance
d. Chlorinated organics

49. As provided in 40 C.F.R. § 761.75(b)(6)(iii), all data and records of the surface water sampling and analysis shall be maintained as required in 40 C.F.R. § 761.180(d)(1), and current U.S. EPA sampling methods and analytical procedures shall be followed.

LEACHATE MONITORING

50. WDI shall conduct Leachate Monitoring as provided in Part V.E. (Leachate Monitoring Program) of the September 2010 Hazardous Waste Management Facility Operating License and detailed in Attachment 13 (Leachate Monitoring Program Sampling and Analysis Plan) of the Operating License.

51. As specified in Attachment 13 of the September 2010 Operating License, each of the 16 leachate collection sumps at the WDI Landfill must be measured and inspected weekly; leachate production volume from each of the leachate collection sumps must be determined monthly; and each of the leachate collection sumps must be sampled and analyzed annually, pursuant to the requirements in 40 C.F.R. § 761.75(b)(7) (*Leachate collection*).

52. Analysis of the samples from each of the existing eight (8) leachate collection sumps in Master Cell VI of the WDI Landfill must comply with the requirements of 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*) and include the following parameters:

a. PCBs
b. pH
c. Specific conductance
d. Chlorinated organics

53. WDI must perform the same annual PCB analysis on each additional leachate collection sump added to Master Cell VI.

LEAK DETECTION SYSTEM MONITORING

54. WDI shall conduct Leak Detection System Monitoring, as provided in Part V.F. (Leak Detection System Monitoring Program) of the September 2010 Hazardous Waste Management Facility Operating License and detailed in Attachment 14 (Leak Detection Monitoring Program Sampling and Analysis Plan) of the Operating License.

55. As provided in Part V.F. (Leak Detection System Monitoring Program) of the September 2010 Operating License and detailed in Attachment 14 of the Operating License, each leak detection sump in Master Cell VI of the WDI Landfill must be inspected weekly; the volume of liquid withdrawn from each leak detection sump must be recorded weekly; a sample of liquid from each leak detection sump must be subjected to a field analysis monthly; and each leak detection sump must be sampled, and the samples subjected to a full laboratory analysis, quarterly [or as soon as practicable if conditions set out in Section V.F.1(c) of the Operating License are triggered] for the parameters listed in Attachment 14 of the Operating License, including:

a. PCBs
b. pH
c. Specific conductance
d. Chlorinated organics

56. All notifications required in Part V.F. (Leak Detection System Monitoring Program) of the September 2010 Operating License regarding any statistically significant increase in a monitored parameter or a failure of the liner system in Master Cell VI of the WDI Landfill, must be given to U.S. EPA, as well as to the Director of the MDEQ. WDI must consult with U.S. EPA regarding any actions taken under Section V.F.9. of the Operating License in response to a release of contaminants from Master Cell VI.

LEACHATE/WATER COLLECTION, HANDLING AND DISPOSAL

57. Dilution to avoid applicability of the TSCA PCB regulations is prohibited.

58. WDI shall ensure that leachate depth over the primary liner in Master Cell VI of the WDI Landfill does not exceed one (1) foot. WDI may recirculate leachate and water to designed recirculation control areas within Master Cell VI to improve leachate quality or provide temporary storage, to reduce the leachate and water depths in Master Cell VI.

59. Pursuant to the monthly testing requirements of 40 C.F.R. § 761.75(b)(7) (*Leachate collection*), each month WDI must collect a composite sample representing leachate from the Primary Leachate Collection System in Master Cell VI before treatment (by sampling the combined force main pipe leading into the water treatment plant), and a composite sample representing liquid from the Leak Detection, Collection and Removal System in Master Cell VI before treatment, and analyze each sample for:

a. PCBs
b. pH
c. Specific conductance
d. chlorinated organics
e. physiochemical characteristics necessary to characterize the leachate for treatment and disposal

60. All leachate and all leak detector water, if any, from Master Cell VI must be sampled prior to mixing with leachate/water from other sources. All leachate/water from Master Cell VI with PCB concentrations of less than fifty (50) ppm must be treated at WDI's wastewater treatment plant in accordance with the Class D Waste Water Discharge Permit issued to WDI by the South Huron Valley Utility Authority or shipped off-site to a facility permitted to treat or dispose of PCB-contact wastewater.

61. All leachate/water from Master Cell VI with PCB concentrations of fifty (50) ppm or greater must be treated at a facility authorized to dispose of PCB wastewater, and stored in accordance with 40 C.F.R. Part 761, Subpart D storage requirements, pursuant to a Spill Prevention Control and Countermeasures (SPCC) plan, until removal for disposal.

SEDIMENT BASIN MONITORING

62. WDI shall conduct annual sediment basin monitoring for the North and South Sediment Basins at the WDI Landfill, as provided in Part V.H. of the September 2010 Hazardous Waste Management Facility Operating License, and detailed in Attachment 16 (Sediment Basin Monitoring Program Sampling and Analysis Plan) of the Operating License.

ANALYSIS

63. Chlorinated organics in the groundwater to be monitored under this Approval are the chlorine containing compounds listed in Attachment H to the Groundwater Monitoring Program Sampling and Analysis Plan (Attachment 9 of WDI's September 2010 Hazardous Waste Management Facility Operating License).

64. Chlorinated organics in the groundwater samples are to be analyzed by SW-846 Method 8260A (or future U.S. EPA updates).

65. The PCB levels in any air sample required by this Approval must be determined by using U.S. EPA Test Method TO-4A or TO-10A.

66. The PCB levels in any soil sample or solid sample required by this Approval must be determined by using:

    a. Appropriate procedures identified by SW-846 Method 3500B (or future U.S. EPA updates) for organic extraction and sample preparation.

    b. Procedures identified by SW-846 Method 3600C (or future U.S. EPA updates) for sample extract cleanup, when necessary/appropriate.

    c. SW-846 Methods 8082 (as updated by U.S. EPA) for analytical measurement. The results must be reported as total PCB, on a dry weight basis (103-105oC), calculated by comparison to Aroclor standards identified by SW-846 Methods 8082 when Aroclors are present. Identified Aroclors used for calculation of total PCB also are to be reported.

67. The PCB levels in any leachate sample required by this Approval must be determined by using:

a. Appropriate procedures identified by SW-846 Method 3500 (or future U.S. EPA updates) for organic extraction and sample preparation.

b. Procedures identified by SW-846 Method 3600C (or future U.S. EPA updates) for sample extract cleanup, when necessary/appropriate.

c. SW-846 Methods 8082 (as updated by U.S. EPA) for analytical measurement.

68. The results of analyses of leachate samples required by this Approval must be reported as total PCB calculated by comparison to Aroclor standards identified by U.S. EPA Test Method SW-846 Method 8082. Identified Aroclors used for calculation of total PCB are also to be reported.

69. Chlorinated organics in the surface water to be monitored under this Approval are the chlorine containing compounds listed in Table 2 of the Surface Water Monitoring Program Sampling and Analysis Plan (Attachment 12 of WDI's September 2010 Hazardous Waste Management Facility Operating License).

70. Chlorinated organics in the surface water samples are to be analyzed by SW-846 Method 8260B (or future U.S. EPA updates), with the provision that any reported 1,2 dichloroethene will include the sum of both isomers (cis and trans).

71. Chlorinated organics in the leachate to be monitored under this Approval are the chlorine containing compounds of the Volatile Organic Parameters (8260) and Semi-Volatile Organic Parameters (8270) identified/listed in Figure 7 of the Leachate Monitoring Program Sampling and Analysis Plan (Attachment 13 of WDI's September 2010 Hazardous Waste Management Facility Operating License).

72. Chlorinated organics in leachate samples are to be analyzed by SW-846 Method 8260B (or future U.S. EPA updates) for the volatile compounds, and by SW-846 Method 8270C (or future U.S. EPA updates) for the semi-volatile compounds. It is recognized that in many cases the detection limits shown in the Figure 7 of the Leachate Monitoring Program Sampling and Analysis Plan will not be attained for leachate due to sample dilutions or matrix effects.

73. Chlorinated organics in the leak detection water to be monitored under this Approval are the chlorine containing compounds identified/listed in Attachment E of the Leak Detection System Monitoring Program Sampling and Analysis Plan (Attachment 14 of WDI's September 2010 Hazardous Waste Management Facility Operating License).

74. Chlorinated organics in leak detection water samples are to be analyzed by SW-846 Method 8260B (or future U.S. EPA updates).

75. Analysis for PCBs, pH, specific conductance, and chlorinated organics must be performed in accordance with the Quality Assurance Manual for WDI's contract laboratory, included in Attachment 9 (Groundwater Monitoring Program Sampling and Analysis Plan) of WDI's September 2010 Hazardous Waste Management Facility Operating License.

76. U.S. EPA must approve of the removal of statistically significant increases from monitoring data.

77. Upon demand, WDI must provide U.S. EPA split sample material. U.S. EPA will spike this material, and WDI must arrange for its laboratory to analyze the spiked samples. The laboratory must be the one that WDI utilizes to analyze samples of the same matrix. The laboratory must provide sample results to U.S. EPA and to WDI at the same time.

RECORDKEEPING

78. WDI must comply with the recordkeeping requirements set out at 40 C.F.R. § 761.75(b)(8)(iv) and 40 C.F.R. § 761.180(b), including the requirements to maintain annual records on the disposition of PCB waste at the WDI Landfill and a written annual document log containing the information required by 40 C.F.R. § 761.180(b)(2).

79. As required by 40 C.F.R. § 761.180(b)(1), the annual records for the WDI Landfill shall include:

    a. all signed and numbered manifests for each PCB waste shipment received at the Landfill for the calendar year;

    b. all Certificates of Disposal generated by or received at the Landfill for the calendar year; and

    c. all records of inspections and cleanups at the Landfill for the calendar year.

80. As required by 40 C.F.R. § 761.180(b)(2), WDI shall prepare, by July 1 for the previous calendar year, an annual document log that includes:

    a. the name, address, phone number, and U.S. EPA identification number of the holder of the TSCA Approval, and the calendar year of the log;

    b. the unique manifest number of every manifest received at the Landfill during the calendar year, and from each manifest the following information:

        i. the generator's name for each shipment of PCB waste;

        ii. the quantity of PCB waste disposed of expressed in cubic yards of waste and kilograms of PCB waste;

iii. the serial number (if available) or other means of identifying each PCB Article (e.g., properly drained transformer) and the weight of the PCB Article in kilograms;

iv. a unique number identifying each PCB Container, a description of the contents of each PCB Container;

v. a unique number identifying each PCB Article Container, a description of the contents of each PCB Article Container;

vi. the first date the PCBs, PCB Articles and PCB Items were removed from service for disposal; and

vii. the date the PCB waste was placed in the Landfill.

c. the quantity and PCB concentration of leachate produced from Master Cell VI of the WDI Landfill with a PCB concentration of one (1) ppm or greater and

d. the disposal destination of all leachate produced from Master Cell VI of the WDI Landfill with a PCB concentration at or greater than one ppm.

81. As required by 40 C.F.R. § 761.180(b), the annual records and annual document logs must be maintained for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste. The required documents must be kept at one central location, and must be available for inspection by authorized representatives of U.S. EPA.

82. As required by 40 C.F.R. § 761.180(d), WDI shall collect and maintain for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste, the following:

a. all water analyses obtained under this Approval and the applicable TSCA regulations; and

b. all operations records, including the burial coordinates of wastes, obtained under this Approval and the applicable TSCA regulations.

83. As required by 40 C.F.R. § 761.180(f), WDI shall maintain for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste, the following:

a. all documents, correspondence and data provided by WDI to and State and local governmental agencies pertaining to disposal of PCB waste at the WDI Landfill;

b. all documents, correspondence and data provided by and State and local governmental agencies to WDI pertaining to disposal of PCB waste at the WDI Landfill; and

c. all applications and related correspondence sent from WDI to governmental agencies regarding specified permits for the WDI Landfill.

REPORTING

84. WDI must submit to U.S. EPA a Quarterly Report within sixty (60) days following the end of each calendar quarter. The Report must include the following data for the quarter:

a. all water elevation data, water table maps for the monitored aquifer and a north-south cross section showing the landfill, the aquifer and water elevations;

b. volume of liquid and analytical results from the Leachate Collection System for Master Cell VI, and from the Leak Detection, Collection and Removal System;

c. a tabular summary of all analytical results of groundwater sampling;

d. all PCB air monitoring results; and

e. a summary of the number of cubic yards and kilograms of PCB waste placed in Master Cell VI for the quarter, in addition to the requirements listed in 40 C.F.R. § 761.180(b)(3).

85. As required by 40 C.F.R. § 761.180(b)(3), WDI must submit to U.S. EPA an annual report by July 15 of each year for the previous calendar year and must include data for the previous calendar year. For each respective year, the annual report must contain a summary of the written annual disposal log records and annual records, and the following additional information:

a. sample site locations for leachate/water, groundwater, air, surface water, storm water, and sediment samples must be posted/plotted on maps and cross sections;

b. a graphical time plot of all analytical data from groundwater quality sampling;

c. piezometric surface elevation contour maps and cross sections for each quarter, showing Master Cell VI, flow paths and flow rates;

d. a graphical time plot of all leachate/water analytical data produced from the Leachate Collection System for Master Cell VI, and from the Leak Detection, Collection and Removal System;

e. a summary of the final PCB concentration of each batch of leachate/water treated on-site;

f. a graphical comparison between leachate quantity pumped/generated during the reported year and the leachate quantities pumped/generated from previous years together with the concentration, treatment method, and disposition of leachate with greater than or equal to one ppm PCB as pumped from the cell;

g. a summary of the number of cubic yards and kilograms of PCB waste disposed of in the calendar year, in addition to the requirements listed in 40 C.F.R. § 761.180(b)(3);

h. a graphical time plot of analysis of all TSCA surface water, sediment and air monitoring results;

i. closure and post-closure financial assurance estimates adjusted annually; and

j. any additional information as may be required by the Director of the Land and Chemicals Division, U.S. EPA, Region 5.

86. WDI must provide to U.S. EPA every PCB report sent to MDEQ; the results of local air monitoring work around the Master Cell VI working faces, including any temporary air monitoring site locations; any interim cleanup action results; and any MDEQ cleanup approvals.

NOTICE

87. Within one working day of when it knows or should have known of applicable analytical results, WDI must notify U.S. EPA by telephone of any statistically significant increase in monitored parameters in groundwater or Leak Detection, Collection and Removal System samples from the WDI Landfill. WDI also must provide a written notification of such increase within seven (7) days.

88. Within one working day of when it knows or should have known of applicable monitoring results, WDI must notify U.S. EPA by phone if the leachate over the primary liner of Master Cell VI exceeds one (1) foot depth, or the volume of water or leachate from Master Cell VI exceeds the mean value plus three (3) standard deviations calculated from the last two years records for the sample point.

89. Within one working day of when it knows or should have known of applicable monitoring results, WDI must notify U.S. EPA by telephone of any WDI Landfill perimeter air station sample result of three tenths micrograms per cubic meter (0.3 μg/m3) of PCB or greater. WDI also must provide a written notification of such a result within seven (7) days.

90. For the required telephone notification, WDI must contact U.S. EPA Regional Office, Toxics Program Section, at (312) 886-6003. Required written may be sent to:

Division Director, Land and Chemicals Division (L-8J)
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, Illinois 60604

91. If there is a spill or release of anything from Master Cell VI of the WDI Landfill which poses a threat to health or the environment, the event must be reported immediately to the U.S. EPA Regional Office, RCRA Section at (312) 353-2306. In addition, WDI must abide by all other applicable federal, State and local notification and reporting requirements regarding such an incident.

SAFETY AND HEALTH REQUIREMENTS

92. U.S. EPA may subject the WDI Landfill to operational changes if twenty-four (24)-hour perimeter air monitoring sample results exceed five tenths micrograms per cubic meter (0.5 μg/m3) of PCB.

93. U.S. EPA may subject the WDI Landfill to temporary work stoppage if twenty-four (24) hour perimeter air monitoring sample results exceed one microgram per cubic meter (1.0 μg/m3) of PCB.

94. PCBs must not be found in the air above Master Cell VI of the WDI Landfill at levels that constitute unacceptable work conditions using criteria compatible with those of the Occupational Safety and Health Agency (OSHA).

95. Operational changes and cleanups at Master Cell VI of the WDI Landfill must be completed in accordance with applicable TSCA PCB regulations.

96. WDI must follow the inspection guidelines in General Inspection Schedule, Attachment 2 to the September 2010 Hazardous Waste Management Facility Operating License.

97. All workers at WDI must receive training as provided in the WDI Personnel Training Program, Attachment 3 to the September 2010 Hazardous Waste Management Facility Operating License.

99. Master Cell VI of the WDI Landfill must remain secured to restrict public access at all times.

INSPECTION

100. U.S. EPA reserves the right of its employees and authorized representatives to perform inspections, review records, and take samples at the WDI Landfill at any reasonable time.

CLOSURE AND POST-CLOSURE

101. Closure of Master Cell VI of the WDI Landfill must be approved in writing by U.S. EPA prior to closure, and shall be implemented pursuant to updated Closure and Post-closure Plans approved in writing by the Director of the Land and Chemicals Division, Region 5, U.S. EPA.

102. WDI has submitted a Closure Plan (Attachment 5 of the September 2010 Hazardous Waste Management Facility Operating License) and Post-closure Plan (Attachment 6 of the Operating License) for Master Cell VI of the WDI Landfill. Within one hundred and eighty (180) days prior to closure of Master Cell VI, WDI shall provide updates of these Plans to U.S. EPA for review and approval.

103. The updated Closure and Post-closure Plans for Master Cell VI of the WDI Landfill shall comply with applicable RCRA requirements at 40 C.F.R. Part 264, Subpart G, as provided in Part II. J (*Closure*) and K (*Postclosure*) of the September 2010 Hazardous Waste Management Facility Operating License, and shall include any additional provisions necessary to ensure that Master Cell VI does not present an unreasonable risk of injury to health and the environment from PCBs during closure and the post-closure period. The updated Closure and Post-closure Plans must comply with the RCRA requirements at 40 C.F.R. § 264.310 (*Closure and post-closure care*) and include detailed descriptions of how Master Cell VI will be closed and the long-term care that will be provided after closure; updated closure and post-closure cost estimates; and an updated demonstration of financial responsibility for implementing closure and providing post-closure care throughout the post-closure period.

104. The current Closure Plan for Master Cell VI of the WDI Landfill requires installation of a final cap, and the Post-closure Plan provides for maintenance of the cap during the post-closure period. The final cap design must be approved in writing by U.S. EPA.

105. The current Post-closure Plan for Master Cell VI of the WDI Landfill contains a post-closure period of thirty (30) years applicable to RCRA hazardous waste landfills. At any time prior to closure of Master Cell VI or during the post-closure period in the U.S. EPA-approved Post-closure Plan for Master Cell VI, U.S. EPA may extend the post-closure period upon finding that an extended period of post-closure care is necessary to ensure that Master Cell VI does not present an unreasonable risk of injury to health or the environment from PCBs. Regardless, of any such extension, WDI shall maintain the approved final cap on Master Cell VI in perpetuity.

106. Upon closure, WDI must remediate areas outside of Master Cell VI of the WDI Landfill contaminated by PCBs in excess of one ppm or ten micrograms of PCBs per hundred square centimeters 10 μg/100 cm2). WDI may cap and seed areas which remain contaminated by PCBs at a level greater than one (1) ppm but less than ten (10) ppm, with ten (10) inches of clean soil.

FINANCIAL ASSURANCE FOR CLOSURE AND POST-CLOSURE CARE

107. WDI must establish and maintain financial assurance for closure Master Cell VI of the WDI Landfill, based on a closure cost estimate established pursuant to the RCRA requirements at 40 C.F.R. § 264.142 (*Cost estimate for closure*), and utilizing financial assurance mechanisms set out at 40 C.F.R. § 264.143 (*Financial assurance for closure*).

108. WDI must establish and maintain financial assurance for post-closure care Master Cell VI of the WDI Landfill, based on a post-closure cost estimate established pursuant to the RCRA requirements at 40 C.F.R. § 264.144 (*Cost estimate for post-closure care*), and utilizing financial assurance mechanisms set out at 40 C.F.R. § 264.145 (*Financial assurance for post-closure care*).

109. As required under the RCRA regulations at 40 C.F.R. §§ 264.142 and 264.144, WDI must adjust the closure and post-closure care cost estimates for Master Cell VI of the WDI Landfill for inflation annually, which may require an increase in the financial assurance.

110. WDI must revise the closure and post-closure care cost estimates for Master Cell VI of the WDI Landfill within thirty (30) days of any modification or change that increases such costs, including any extension of the post-closure time period. This may require an increase in the financial assurance.

111. WDI must submit proof of financial assurance for closure and post-closure care for Master Cell VI of the WDI Landfill to U.S. EPA annually. If U.S. EPA determines that the amount of financial assurance is inadequate to ensure that Master Cell VI does not present an unreasonable risk of injury to health or the environment from PCBs, WDI must obtain additional financial assurance funding. Failure to do so will result in a termination of WDI's authority to dispose of PCBs in Master Cell VI or, if Master Cell VI has been closed, may subject WDI to civil or criminal penalties under TSCA.

TRANSFER OF OWNERSHIP

112. The requirements under this Approval for closure and post-closure care of Master Cell VI of the WDI Landfill shall transfer to any new owner of the Landfill.

113. WDI must notify U.S. EPA, at least one hundred and eighty (180) days before transferring ownership of Master Cell VI of the WDI Landfill, where a new Approval must be issued, or thirty (30) days before transferring ownership of Master Cell VI where the Approval is current and the new owner's records are complete.

114. WDI must similarly notify State and local agencies before transferring ownership of Master Cell VI of the WDI Landfill.

115. Should the transferor fail to timely provide U.S. EPA with the required written documentation of sale or transfer of Master Cell VI of the WDI Landfill, this Approval may be terminated.

116. At least sixty (60) days before the transfer of Master Cell VI of the WDI Landfill, the prospective transferee must submit to U.S. EPA:

a. a written statement identifying the name, address and telephone number of the transferee;

b. copies of the transferee's last four (4) years of federal income tax returns, including all schedules;

c. a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's Approval;

d. a listing of past environmental violations by the transferee, its employees or assigns;

e. the qualifications of the principals and key employees;

f. proof of financial assurance acceptable to U.S. EPA and funding in a manner similar to that set forth at 40 C.F.R. §§ 264.142 and 145; and

g. any other applicable materials to document compliance with the requirements of 40 C.F.R. § 761.75.

117. After reviewing the notification, affidavit and background information, U.S. EPA will either issue an amended Approval in the transferee's name or require the transferee to apply for a new TSCA PCB disposal Approval. In the latter case, the transferee must abide by the transferor's Approval until the U.S. EPA issues the new Approval.

118. If the transferee is required to apply for a new TSCA PCB Approval, the transferee must submit to the Director of the Land and Chemicals Division, U.S. EPA, Region 5 a complete Application, pursuant to the requirements of 40 C.F.R. § 761.75.

BANKRUPTCY

119. In the event that WDI, or its successor or assigns, declares bankruptcy, WDI shall immediately provide written notice of such to the Director of the Land and Chemicals Division, Region 5, U.S. EPA.

MODIFICATIONS

Any major modification of this Approval requires the written approval of the Director of the Land and Chemicals Division, U.S. EPA, Region 5. If there is any question as to whether a change in operations at the WDI Landfill, or any other proposed modification, is a major or minor modification, such question should be submitted to an appropriate representative(s) of U.S. EPA as soon as possible. In such cases, U.S. EPA will determine whether a proposed change is major or minor. No oral modifications shall be granted.

Any minor modification of this Approval requires written approval of the Chief, RCRA Branch, Land and Chemicals Division, U.S. EPA, Region 5. No oral modifications shall be granted.

APPROVAL EXPIRATION

WDI's authorization to place PCB waste in Master Cell VI of the WDI Landfill will expire five (5) years after the date the Approval is executed by the Director, Land and Chemical Division, U.S. EPA, Region 5. WDI must submit a written request to the Director, at least one hundred and eighty (180) days prior to the expiration date, for a renewal of the Approval to extend this expiration date. The authorization to place PCB waste in Master Cell VI will remain in effect beyond the expiration date if WDI has submitted a timely, complete and adequate request for renewal of the Approval and, through no fault of WDI, the Division Director has not issued a renewal of the Approval.

SUSPENSION AND TERMINATION OF PCB DISPOSAL AUTHORIZATION

WDI's failure to comply with any provision of this Approval, TSCA, the PCB regulations at 40 C.F.R. Part 761, or any other applicable federal, State or local requirement may constitute a sufficient basis for suspension or termination of WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill.

WDI's PCB disposal authorization may also be terminated if the Director of the Land and Chemicals Division, U.S. EPA, Region 5 determines that Master Cell VI of the WDI Landfill poses an unreasonable risk of injury to health or the environment.

The Director of the Land and Chemicals Division, U.S. EPA, Region 5 may reinstate WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill or remove any disposal restrictions, if it is determined that any unsafe practices have been eliminated and unsafe conditions have been changed.

SEVERABILITY

All terms and conditions of this Approval are severable. If any provision of this Approval or any application of any provision, is changed, amended or held invalid, the remaining terms and conditions will still be valid and not affected thereby.

RESERVATIONS

Nothing in this Approval relieves WDI from the duty to comply with all applicable federal and State laws and regulations, including, but not limited to CERCLA, RCRA and TSCA and the regulations promulgated under those statutes.

Violation of the Approval, TSCA or the PCB regulations may subject WDI to civil or criminal enforcement action and associated penalties.

U.S. EPA reserves the right to impose additional Conditions of Approval if U.S. EPA finds such Conditions are necessary to ensure that operation of Master Cell VI of the WDI Landfill does not present an unreasonable risk of injury to health or the environment from PCBs, or if U.S. EPA issues new regulations or standards for TSCA PCB landfills.

U.S. EPA may require the removal of some or all of the PCBs disposed of in Master Cell VI of the WDI Landfill if U.S. EPA finds such actions are necessary to ensure that the Landfill does not present an unreasonable risk of injury to health or the environment from PCBs.

WDI is responsible for the actions of its agents, assigns, employees, and contractors regarding compliance with this Approval and all federal, State and local regulations applicable to operation of the WDI Landfill, including, but not limited to, emergency notification and reporting requirements.

WAIVER

U.S. EPA hereby waives for Master Cell VI of the WDI Landfill the requirement for a fifty-foot distance between the bottom of the landfill liner and the historical high groundwater table, set out at 40 C.F.R. § 761.75(b)(3). This requirement is waived because of Finding 5(b) herein which states the bottom of Master Cell VI is underlain by a clay pan that meets regulatory requirements consisting of ten (10) feet of clay with a permeability of 10-7 cm/sec, and Findings 6 and 14 which state that Master Cell VI is constructed with safety features that exceed regulatory requirements, such as two double-thick synthetic membrane liners with a thick clay interliner; a compound leachate collection system; and a leak detection, collection and removal system.

APPROVAL

In accordance with 40 C.F.R. § 761.75 and the Findings above, U.S. EPA has determined that WDI's Application is consistent with TSCA, and that Master Cell VI of the WDI Landfill, when operated in compliance with the Conditions of Approval, does not present an unreasonable risk of injury to health or the environment from PCBs. Provided that the Conditions of Approval described above are met, WDI's December 17, 2009, Application for Approval is granted.

WDI is authorized to dispose of PCB waste in the remaining part of its previously approved and constructed seven hundred and seventy two thousand (0.772 million) cubic yards of volume in Master Cell VI of the WDI Landfill, and may dispose of up to another one million five hundred seventeen thousand (1.517 million) cubic yards of PCB waste in Master Cell VI, Subcell E, after the final area of Subcell E is constructed and certified by the MDEQ.

Date: 9/29/14

Margaret M. Guerriero, Director
Land and Chemicals Division
United States Environmental Protection Agency,
Region 5

ATTACHMENTS

1. Hazardous Waste Management Facility Operating License issued to Wayne Disposal, Inc. (MID 048 090 633) by the Michigan Department of Natural Resources and Environment (MDNRE) on September 30, 2010.

2. Administrative Record Index, Wayne Disposal, Inc. (MID 048 090 633).

Appendix 20.

MDWTP/WDI
List of Acceptable Waste Codes

PERMITTED HAZARDOUS WASTE CODES

Michigan Disposal Waste Treatment Plant and Wayne Disposal, Inc. Site #2 Landfill

CHARACTERISTIC WASTE

D001	D004	D007	D010	D013	D016	D019	D022	D025	D028	D031	D034	D037	D040	D043
D002	D005	D008	D011	D014	D017	D020	D023	D026	D029	D032	D035	D038	D041	
D003[R]	D006	D009	D012	D015	D018	D021	D024	D027	D030	D033	D036	D039	D042	

HAZARDOUS WASTE FROM NON-SPECIFIC SOURCES

F001	F003	F005	F007	F009	F011	F019	F025	F034	F037	F039
F002	F004	F006	F008	F010	F012	F024	F032	F035	F038	

HAZARDOUS WASTE FROM SPECIFIC SOURCES

K001	K010	K020	K029	K038	K048	K065	K087	K098	K108	K117	K141	K151	K171
K002	K011	K021	K030	K039	K049	K066	K088	K100	K109	K118	K142	K156	K172
K003	K013	K022	K031	K040	K050	K069	K090	K101	K110	K123	K143	K157	K173
K004	K014	K023	K032	K041	K051	K071	K091	K102	K111	K124	K144	K158	K174
K005	K015	K024	K033	K042	K052	K073	K093	K103	K112	K125	K145	K159	K175
K006	K016	K025	K034	**K044**[R]	K060	K083	K094	K104	K113	K126	K147	K160	K176
K007	K017	K026	K035	**K045**[R]	K061	K084	K095	K105	K114	K131	K148	**K161**[R]	K177
K008	K018	**K027**[R]	K036	K046	K062	K085	K096	K106	K115	K132	K149	K169	K178
K009	K019	K028	K037	**K047**[R]	K064	K086	K097	K107	K116	K136	K150	K170	K181

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUE AND SPILL RESIDUES THEREOFF

P001	P010	P020	P030	P041	P050	P063	P072	P084	P096	P106	P116	P185	P198
P002	P011	P021	P031	P042	P051	P064	P073	P085	P097	P108	P118	P188	P199
P003	P012	P022	P033	P043	P054	P065	P074	P087	P098	P109	P119	P189	P201
P004	P013	P023	P034	P044	P056	P066	P075	P088	P099	P110	P120	P190	P202
P005	P014	P024	P036	P045	P057	P067	P076	P089	P101	P111	P121	P191	P203
P006	P015	P026	P037	P046	P058	P068	P077	P092	P102	P112	P122	P192	P204
P007	P016	P027	P038	P047	P059	P069	P078	P093	P103	P113	P123	P194	P205
P008	P017	P028	P039	P048	P060	P070	P081	P094	P104	P114	P127	P196	
P009	P018	P029	P040	P049	P062	P071	P082	P095	P105	P115	P128	P197	

U001	U020	U038	U058	U077	U095	U115	U133	U152	U170	U189	U210	U235	U353	U386
U002	U021	U039	U059	U078	U096	U116	U134	U153	U171	U190	U211	U236	U359	U387
U003	U022	U041	U060	U079	U097	U117	U135	U154	U172	U191	U213	U237	U364	U389
U004	U023	U042	U061	U080	U098	U118	U136	U155	U173	U192	U214	U238	U365	U390
U005	U024	U043	U062	U081	U099	U119	U137	U156	U174	U193	U215	U239	U366	U391
U006	U025	U044	U063	U082	U101	U120	U138	U157	U176	U194	U216	U240	U367	U392
U007	U026	U045	U064	U083	U102	U121	U140	U158	U177	U196	U217	U243	U372	U393
U008	U027	U046	U066	U084	U103	U122	U141	U159	U178	U197	U218	U244	U373	U394
U009	U028	U047	U067	U085	U105	U123	U142	U160	U179	U200	U219	U246	U375	U395
U010	U029	U048	U068	U086	U106	U124	U143	U161	U180	U201	U220	U247	U376	U396
U011	U030	U049	U069	U087	U107	U125	U144	U162	U181	U202	U221	U248	U377	U400
U012	U031	U050	U070	U088	U108	U126	U145	U163	U182	U203	U222	U249	U378	U401
U014	U032	U051	U071	U089	U109	U127	U146	U164	U183	U204	U223	U271	U379	U402
U015	U033	U052	U072	U090	U110	U128	U147	U165	U184	U205	U225	U277	U381	U403
U016	U034	U053	U073	U091	U111	U129	U148	U166	U185	U206	U226	U278	U382	U404
U017	U035	U055	U074	U092	U112	U130	U149	U167	U186	U207	U227	U279	U383	U407
U018	U036	U056	U075	U093	U113	U131	U150	U168	U187	U208	U228	U280	U384	U409
U019	U037	U057	U076	U094	U114	U132	U151	U169	U188	U209	U234	U328	U385	U410
														U411

STATE OF MICHIGAN WASTE CODES

001U	013U	027U	040U	052U	068U	080U	096U	110U	121U	137U	150U	162U	173U	001K
002U	014U	028U	041U	054U	070U	082U	097U	111U	122U	138U	151U	163U	174U	002K
003U	015U	029U	042U	055U	071U	083U	098U	112U	124U	139U	152U	164U	175U	
004U	016U	030U	043U	056U	072U	086U	099U	113U	127U	140U	153U	165U		
005U	017U	031U	044U	057U	073U	088U	100U	114U	128U	141U	154U	166U	001S	
006U	020U	032U	046U	058U	074U	089U	101U	115U	129U	142U	155U	167U	**002S**[W]	
007U	021U	033U	047U	059U	075U	090U	102U	116U	131U	143U	157U	168U	**003S**[W]	
008U	022U	034U	048U	061U	076U	092U	103U	117U	132U	144U	158U	169U	**004S**[W]	
009U	023U	036U	049U	063U	077U	093U	104U	118U	134U	146U	159U	170U	**005S**[W]	
011U	024U	037U	050U	064U	078U	094U	106U	119U	135U	147U	160U	171U	**006S**[W]	
012U	025U	038U	051U	065U	079U	095U	108U	120U	136U	148U	161U	172U	**007S**[W]	

[R] = Codes only received as treatment residues, spill residues, contaminated soil or debris and do not exhibit reactivity or ignitability characteristics.

[W] = Wayne Disposal, Inc. Site #2 Landfill (WDI) only. WDI is permitted to accept CAMU waste.

Appendix 21.

ISO Certificates

NSF International Strategic Registrations
789 North Dixboro Road, Ann Arbor, Michigan 48105
(888) NSF-9000 | www.nsf-isr.org

Certificate of Registration

This certifies that the Occupational Health and Safety Management System of

EQ - The Environmental Quality Co.

Michigan Disposal Waste Treatment Plant, Wayne Disposal, Inc.
49350 N. I-94 Service Drive
Belleville, Michigan, 48111, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

OHSAS 18001:2007

Scope of Registration:
The Treatment and Disposal of Hazardous and Industrial Waste.

Certificate Number:	6S216-OH2
Certificate Issue Date:	25-JUL-2012
Registration Date:	25-JUL-2012
Expiration Date *:	24-JUL-2015

William Niedzwiecki,
President & General Manager,
NSF-ISR, Ltd.

Authorized Registration and /or Accreditation Marks. This certificate is property of NSF-ISR and must be returned upon request. *Company is audited for conformance at regular intervals. To verify registrations call (888) NSF-9000 or visit our web site at www.nsf-isr.org

NSF International Strategic Registrations
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(888) NSF-9000 | www.nsf-isr.org

Certificate of Registration

This certifies that the Environmental Management System of

EQ - The Environmental Quality Co.

Michigan Disposal Waste Treatment Plant, Wayne Disposal, Inc.
49350 N. I-94 Service Drive
Belleville, Michigan, 48111, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 14001:2004

Scope of Registration:
The Treatment and Disposal of Hazardous and Industrial Waste.

Certificate Number:	6S216-EM2
Certificate Issue Date:	25-JUL-2012
Registration Date:	25-JUL-2012
Expiration Date *:	24-JUL-2015

William Niedzwiecki,
President & General Manager,
NSF-ISR, Ltd.

Authorized Registration and /or Accreditation Marks. This certificate is property of NSF-ISR and must be returned upon request. *Company is audited for conformance at regular intervals. To verify registrations call (888) NSF-9000 or visit our web site at www.nsf-isr.org

NSF International Strategic Registrations
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Certificate of Registration

This certifies that the Quality Management System of

EQ - The Environmental Quality Co.

Michigan Disposal Waste Treatment Plant, Wayne Disposal, Inc.
49350 N. I-94 Service Drive
Belleville, Michigan, 48111, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2008

Scope of Registration:
The Treatment and Disposal of Hazardous and Industrial Waste.

Certificate Number:	6S216-IS2
Certificate Issue Date:	25-JUL-2012
Registration Date:	25-JUL-2012
Expiration Date *:	24-JUL-2015

William Niedzwiecki,
President & General Manager,
NSF-ISR, Ltd.

Authorized Registration and /or Accreditation Marks. This certificate is property of NSF-ISR and must be returned upon request. *Company is audited for conformance at regular intervals. To verify registrations call (888) NSF-9000 or visit our web site at www.nsf-isr.org

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FAX NUMBER: …… (914) 375-0620

TONY CASALE INC.

Attachment C
Construction Dewatering Plan

57 Alexander Street
Yonkers, New York

By Groundwater Treatment Technology, LLC

January 21, 2021

Temporary Treatment System

Technical Submittal

Tony Casale, Inc.

57 Alexander Street

Yonkers, NY

GWTT Ref Q9183

Rev 0

January 22, 2021

PREPARED BY:

GROUND/WATER TREATMENT & TECHNOLOGY, LLC
627 MOUNT HOPE ROAD WHARTON, NEW JERSEY 07885
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Temporary Treatment System
57 Alexander Street
Yonkers, New York

I. Overview

The purpose of the temporary treatment system is to reduce the levels of Total Suspended Solids (TSS), filterable metals and organic compounds generated from onsite construction dewatering activities prior to discharge to the local sewer via a valid discharge permit obtained by others.

The temporary treatment system has been designed for a maximum water flow rate of 100 gallons per minute (gpm) and will consist of the following major components. Preliminary equipment layout and site layout drawings are included in **Attachment A** and cut sheets of the major components are included in **Attachment B**.

- One (1) influent manifold
- One (1) influent flow meter with totalizer
- One (1) influent weir tank/OWS
- One (1) influent frac tank
- One (1) duplex centrifugal transfer pump skid, 480 volt, 3 phase
- One (1) duplex “coarse” multi-bag filter skid
- One (1) duplex “fine” multi-bag filter skid
- Two (2) 2,000-lb. liquid phase carbon adsorbers with reactivated carbon media, series operation,
- One (1) process flow meter with totalizer
- One (1) effluent holding tank
- One (1) effluent flow meter with totalizer
- One (1) centrifugal backwash pump skid, 480 volt, 3 phase
- One (1) backwash wastewater holding tank
- One (1) electrical distribution panel

The temporary treatment system will be provided with adequate redundancy in pumping and filtration equipment to operate continuously twenty-four (24) hours per day, seven (7) days per week, including during bag filter changeouts, to prevent unscheduled shutdowns of the dewatering system and/or excavation activities.

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II. Dewatering Operations (By Others)

Dewatering operations will be performed by others. Dewatering is anticipated to be accomplished via a series of localized sump wells each provided with an electric contractor's submersible pump equipped with a 1 Hp, 120 volt, single phase motor, an integral on/off float, and the appropriately sized power cable. The pumps will be supplied with 2" black suction hose and 2" vinyl layflat hose to direct water to the influent manifold at the head of the temporary treatment system. The dewatering pumps will be powered by GWTT's low voltage distribution panel which will have receptables for up to seven (7) 1 Hp, 120 volt, single phase pumps.

III. Temporary Treatment System Components

1. Influent Manifold and Flow Meter

A 3-inch diameter influent manifold will be provided to accept water from up to four (4) 2" diameter hoses from site dewatering operations. The influent manifold will be equipped with a mechanical flow meter with a totalizer and a throttling valve to monitor/control the amount of water being pumped from dewatering operations to the influent frac tanks. The influent flow meter is designed for a flow range of 40 to 250 gpm.

2. Influent Weir Tank/OWS

The influent weir tank/OWS will be an open top, 18,000 gallon tank with under/over weirs. The approximate dimensions of the influent weir tank/OWS are 8'-6" wide x 45'-8" long x 10' high. At the design water flow rate of 100 gpm, the influent weir tank/OWS will provide 180 minutes (3.0 hours) of retention time. The influent weir tank/OWS will be provided with multiple 4" valved fill/drain ports, a sloped a V-bottom for quicker drain out and easier cleaning, and will be provided with a front-mounted ladderwell for top access.

The influent weir tank/OWS will be provided with disposable oil only absorbent booms installed in the first chamber of the tank. The oil only absorbent booms are designed to absorb oils, fuels, and petroleum products and will be secured to float on the top surface of the water even when saturated.

Solids and/or sludge that have settled to the bottom of the influent weir tank/OWS may need to be periodically removed to prevent accumulated material from reducing the settling time thus reducing the efficiency of the unit. All material from the bottom of the influent weir tank/OWS must be disposed of in accordance with site project requirements and state/local regulations.

3. Influent Frac Tank

The influent frac tank will be a closed top, 21,000-gallon frac tank. The influent frac tank will be plumbed in series downstream of the influent weir tank/OWS via a 4" black suction hose. The approximate dimensions of the influent frac tank are 8'-6" wide x 45'-8" long x 10' high. At the design water flow rate of 100 gpm, the influent frac tank will provide an additional 210 minutes (3.5 hours) of

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retention time. The influent frac tank will be provided with multiple 4" valved fill/drain ports, a sloped a V-bottom for quicker drain out and easier cleaning, and will be provided with a front-mounted ladderwell for top access.

Solids and/or sludge that have settled to the bottom of the influent frac tank may need to be periodically removed to prevent accumulated material from reducing the settling time thus reducing the efficiency of the unit. All material from the bottom of the influent frac tank must be disposed of in accordance with site project requirements and state/local regulations.

4. Transfer Pumps

One (1) duplex, centrifugal transfer pump skid will be provided to transfer water from the influent frac tank through the bag filters and carbon adsorbers and to the effluent holding tank. The transfer pump skid will consist of two (2) full capacity centrifugal pumps. One (1) pump is intended to act as a standby pump in the event the main pump fails; however, the pumps are also installed in a lead-lag configuration such that the standby pump will begin to operate in the event the water level in the influent frac tank reaches the pre-set level to activate the second pump. Each pump is capable of producing 100 gpm at 130-feet TDH (56 psi). Each pump will be equipped with a 7.5-Hp, 480-volt, 3-phase electric TEFC motor, and 50-feet of feed wire. The transfer pump operation will be controlled by a series of five (5) level sensors/switches (located at strategic levels within the influent frac tank) which signal to an automatic control panel (pump 1 (lead pump) on, pump 2 (lag pump) on, pump 1 off, pump 2 off, and a high-level alarm). If the water level in the influent frac tank reaches the high-level point; the high-level switch will activate an alarm light to alert the operator of a high-level condition in the influent frac tank. It should be noted that, in the event the alarm light is activated to indicate a high-level alarm condition in the influent frac tank, the operator will have to take action by either rectifying the condition causing the high-level alarm (such as changing the bag filters) or by shutting down the dewatering pump(s) conveying water to the influent frac tanks in order to prevent the influent frac tanks from overflowing.

The inlet of each transfer pump will be provided with a female camlock connection and 3-inch suction hose from the outlet of the influent frac tank. The discharge of each transfer pump will be provided with a pressure gauge, sample tap, check valve, gate valve and a male camlock connection. 3-inch diameter suction hose will be provided from the outlet of the transfer pumps to the inlet of the "coarse" bag filter skid. Each pump will be provided with a valved-drain connection in order to drain the pump housing during the winter months to prevent it from freezing.

5. Bag Filters

Two (2) duplex multi-bag filter skids will be provided to remove sediment and TSS (including filterable metals) prior to the process water entering the carbon adsorption units. Each bag filter skid will consist of two (2) multi-bag filter housings rated for a maximum of 150 pounds per square inch (psi), and 17.6 square feet of filtration area. Each bag filter housing will utilize four (4), industry size #2, bag filters, and has a nominal capacity of 400 gpm. The first "coarse" skid will utilize 20-micron (or 10-micron) nominal felt bag filters and the second "fine" skid will utilize 5-micron (or 1-micron) nominal felt bag filters. The bag filter housings on each skid will be manifolded together with PVC piping in order to

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operate the housings in parallel. The inlet and outlet of each bag filter housings will be provided with 4-inch butterfly valves to allow the operator to change the filter bags in one (1) of the housings while the other filter housing continues to process water at the design water flow rate of 100 gpm. The inlet and outlet of each of the bag filter housings will be equipped with pressure gauges to monitor the differential pressure across the individual housings. The filter housings will each be provided with sample taps and drain valves. The drain valves will be connected to ¾-inch garden hose which will convey water from the filter housing to a 55-gallon drum that will be used to collect the water from the bag filter housing during a bag filter changeout. The 55-gallon drum will contain a submersible pump (1/3-Hp, 120-volt, single phase) with an automatic float connected to the submersible pump. The submersible pump discharge will be connected to a ¾-inch garden hose that will direct the water back into the influent frac tank.

The temporary treatment system will initially be provided with the following bag filters. Additional filter bags can be provided as needed during operation of the system.

- Three hundred (300) 20-micron, nominal efficiency "coarse" bag filters
- Three hundred (300) 5-micron, nominal efficiency "fine" bag filters

6. Carbon Adsorbers

Two (2) high pressure carbon adsorption vessels will be provided in lead-lag series operation, each designed for a maximum pressure of 75 psi, and a nominal capacity of 100 gpm. The carbon adsorbers will each be provided with 2,000 lbs. of granular, reactivated liquid-phase carbon media designed to remove VOCs from the water stream. The carbon media will be installed in the vessels prior to delivery to the project site. At the design water flow rate of 100 gpm, each 2,000 lb. carbon adsorber will provide 5.0 minutes of Empty Bed Contact Time (EBCT) for a total of 10.0 minutes EBCT. The carbon units will each be provided with inlet and outlet butterfly valves, sample taps, and pressure gauges. The inlet of the carbon units will be provided with a 3" female camlock and the outlet of each carbon unit will be provided with a 3" male camlock. The carbon media will be hydrated (soaked) in clean water (provided by others) for a minimum of twenty-four (24) hours prior to use.

It is highly recommended that water samples be collected from the mid-point of the carbon adsorbers (between the lead and lag units) on a regular basis to monitor for breakthrough of VOCs and/or SVOCs on the lead carbon adsorption unit. If breakthrough of VOCs and/or SVOCs occurs on the lead carbon adsorber, the water can temporarily be directed to the lag unit. The spent carbon media will be removed from the lead unit and will be replaced with 2,000 lbs. of reactivated carbon media. The original lag unit will become the lead unit and the vessel with the newly replaced media will become the lag unit. The spent carbon will be sampled to determine TCLP and/or RCRA waste characteristics and will be transported off-site for disposal or reactivation.

The inlet and outlet of each carbon adsorber will be equipped with a pressure gauge to monitor the differential pressure across the media. The differential pressure across each carbon adsorber should be recorded in the Operator's logbook on a daily basis. If the differential pressure across a particular carbon

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adsorber rises to the point that water flow is restricted (as measured by the process flow meter), that carbon adsorber should be taken offline temporarily to backwash the media. The inlet and outlet of each carbon adsorber is equipped with tees and valves to facilitate backwashing. Backwash water should be obtained from a clean water source such as the effluent holding tank, a hydrant, or a water truck. The backwash supply pump can be used to supply a source of non-impacted water from the effluent holding tank to the backwash supply connections on each carbon adsorber. Backwash wastewater will be directed to the backwash wastewater holding tank.

At the conclusion of the project, the spent carbon media will be sampled, profiled, removed from the vessels, and transported to a carbon reactivation facility.

7. Process Flow Meter

A 3-inch diameter mechanical process flow meter with a totalizer and a throttling valve will be provided after the process equipment to indicate the instantaneous water flow rate and to record the total gallons of water treated and directed to the effluent holding tank. The process flow meter is designed for a flow range of 40 to 250 gpm.

8. Effluent Holding Tank

The effluent holding tank will be an open top, 10,000-gallon (nominal) roll-off style tank with under/over weirs. The approximate dimensions of the effluent holding tank are 7'-4" wide x 23'-3" long x 8' high. At the design water flow rate of 100 gpm, the effluent holding tank will provide approximately 100 minutes (1.67 hours) of storage. Treated water will exit the effluent holding tank by gravity, through the effluent flow meter, and to the designated discharge location.

9. Effluent Flow Meter

A 3-inch diameter mechanical effluent flow meter with a totalizer and a throttling valve will be provided to indicate the instantaneous discharge water flow rate and to record the total gallons of water treated and discharged. The effluent flow meter is designed for a low range of 40 to 250 gpm. The amount of water discharged should be recorded on a daily basis on an Operator Log Sheet.

10. Backwash Pump

One (1) skid mounted centrifugal backwash pump will be provided to pump treated water from the effluent holding tank for use in backwashing the carbon adsorption units. The backwash pump is capable of producing 100 gpm at 90-feet TDH (39 psi) and will be equipped with a 5-Hp, 480-volt, 3-phase electric TEFC motor, and 50-feet of feed wire. The backwash pump will be operated by a manual on/off selector switch controlled by a series of two (2) level sensors/switches (located at strategic levels within the effluent holding tank). If the selector switch is moved to the "on" position, the pump will turn on provided there is sufficient water in the effluent holding tank to activate the "on" float. The backwash pump will turn off if the selector switch is manually moved to the "off position" or the pump will automatically shut off if the water level in the effluent holding tank drops low enough to activate the "off" float.

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The inlet of the backwash pump will be provided with a female camlock connection and 3-inch suction hose from the outlet of the effluent holding tank. The discharge of the backwash pump will be provided with a pressure gauge, sample tap, check valve, gate valve and a male camlock connection. 3-inch diameter suction hose will be provided from the outlet of the backwash pump to the carbon adsorbers. The backwash pump will be provided with a valved-drain connection in order to drain the pump housing during the winter months to prevent it from freezing.

11. Backwash Wastewater Holding Tank

The backwash wastewater holding tank will be a vertical, 45-degree cone bottom poly tank supplied with a steel stand. The backwash wastewater holding tank has a nominal capacity of 2,600-gallons. The approximate dimensions of the backwash wastewater holding tank are 7'-6" diameter x 13'-6" high.

The wastewater from the backwash process will be allowed to gravity settle in the cone bottom backwash wastewater holding tank with heavier sludge dropping to the bottom of the tank and cleaner water gravity separating to the top of the tank. Water that separates to the top of the backwash wastewater holding tank will gravity drain into a decant tank where it will be pumped by a small submersible pump back to the influent frac tank.

Solids and/or sludge that have settled to the bottom of the backwash wastewater holding tank may need to be periodically removed to prevent accumulated material from reducing the settling time thus reducing the efficiency of the unit. All material from the bottom of the backwash wastewater holding tank must be disposed of in accordance with site project requirements and state/local regulations.

12. Piping and Hose

The temporary treatment system will be provided with all required interconnecting piping, hose, fittings, pressure gauges and sample taps from the influent flow meter to the effluent flow meter. All piping will be schedule 40 PVC. All hose will be the appropriately sized black rubber suction hose.

13. Electrical Distribution System

An electrical distribution panel rated for 100 amps at 480 volt, 3 phase and power cable will be provided to distribute power to the low voltage dewatering pump panel, the duplex centrifugal transfer pump panel, and the centrifugal backwash pump. The electrical distribution panel will be provided with 25' of feed water to connect to the primary power source (commercial power or generator) provided by others. An electrical one-line diagram is included in **Attachment A**.

14. Related Equipment Provided by Others

- Dewatering sump wells, pumps, hoses, and power cable to convey water to the temporary treatment system
- Electrical power supply – 480 volt, 3 phase, 100 amps

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List of Attachments

Attachment A – Treatment System Drawings

- Equipment Layout - Preliminary
- Site Plan - Preliminary
- Electrical One-Line Diagram

Attachment B – Equipment Cut Sheets

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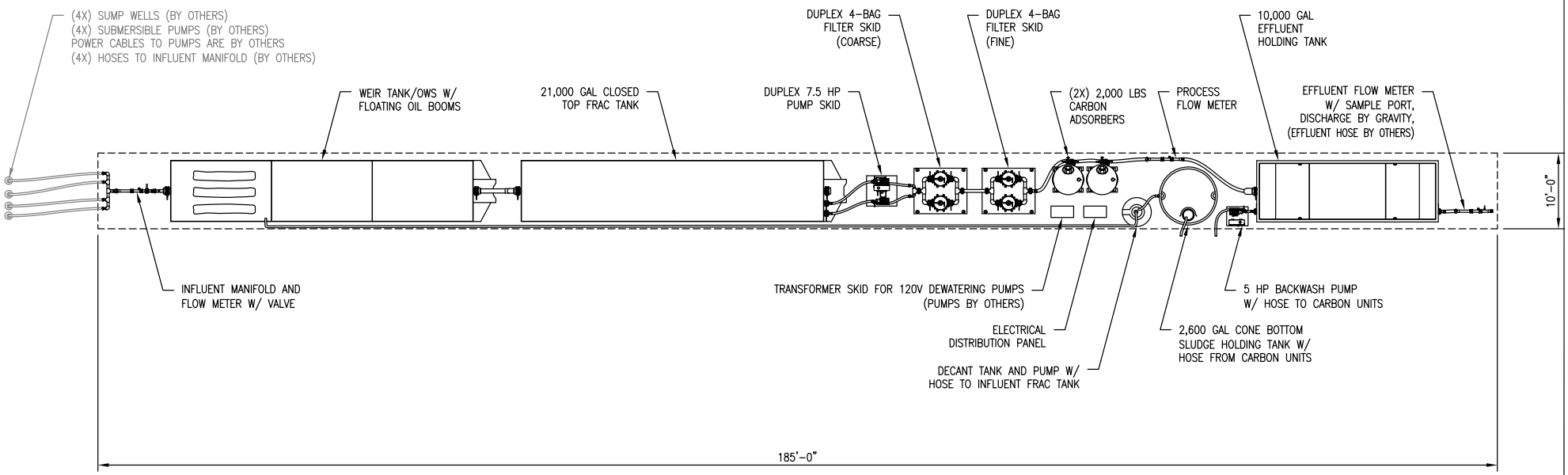
Fax: (973) 983-0903

Attachment A

Temporary Treatment System Drawings

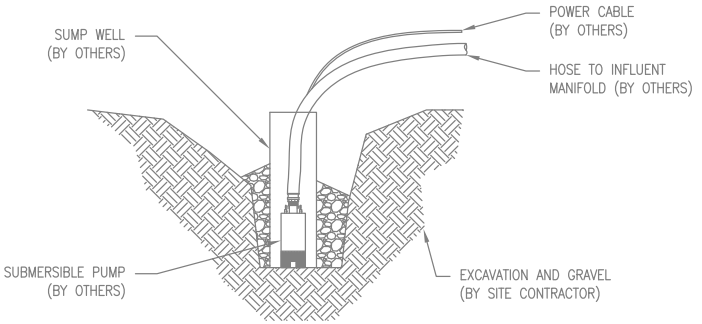
TEMPORARY TREATMENT SYSTEM

OVERALL PLAN VIEW



SUMP WELL DETAIL

ELEVATION VIEW (TYPICAL OF 3)



NOTES:

1. DESIGN FLOW RATE: 100 GPM
2. SYSTEM FOOTPRINT APPROXIMATELY 10'x185'
3. NOT ALL VALVES, CONNECTIONS, ETC. SHOWN FOR CLARITY
4. GENERATOR BY OTHERS

ID - C:\Cad Files\QUOTES\Q-9100s\Q-9183 Yonkers NY\WIP\Q009183-M-400-D.dwg

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REV.	DATE	BY	REMARKS
D	01/22/21	RS	MODIFIED INFLUENT MANIFOLD
C	01/21/21	RS	ADDED BACKWASH PUMP AND TANK, DECANT TANK
B	12/28/20	RS	100 GPM SYSTEM DESIGN
A	12/02/20	RS	PRELIMINARY DESIGN FOR REVIEW

REV.	DATE	BY	REMARKS

CUSTOMER: TONY CASALE

SITE: 57 ALEXANDER ST YONKERS, NY

TITLE: EQUIPMENT LAYOUT 100 GPM TEMPORARY TREATMENT SYSTEM

SCALE: NTS

DRAWN BY: RS DATE: 12/02/20

APPROVED BY: JMB DATE: 12/02/20

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DWG SIZE: B | SHEET: 1 OF 1 | DRAWING NO.: Q009183-M-400-D

XIMATE SITE COVER SECTIONS

RAL CONCRETE SLAB	12" PILE-SUPPORTED CONCRETE SLAB (TYP) VAPOR BARRIER SITE-SOIL SUBGRADE
PAVEMENT	1.5" TOP COURSE (VARIES) 3.5" BASE COURSE (VARIES) 8" SUBBASE SITE-SOIL SUBGRADE
PED AREAS	2' MINIMUM CLEAN SOIL OR AGGREGATE GEOTEXTILE WARNING LAYER SITE-SOIL SUBGRADE
NUOUS CONCRETE V/EMERGENCY VEHICLE TION A	5" CONCRETE SLAB-ON-GRADE (VARIES) 12" AGGREGATE (VARIES) SITE-SOIL SUBGRADE
NUOUS CONCRETE V/EMERGENCY VEHICLE TION B	5" CONCRETE SLAB-ON-GRADE (VARIES) 12" AGGREGATE (VARIES) 7" MINIMUM CLEAN SOIL OR AGGREGATE (VARIES) GEOTEXTILE WARNING LAYER SITE-SOIL SUBGRADE

ID – C:\Cad Files\QUOTES\Q-9100s\Q-9183 Yonkers NY\WIP\Q009183-M-401-A.dwg

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REV.	DATE	BY	REMARKS
A	01/22/21	RS	PRELIMINARY DESIGN FOR REVIEW

CUSTOMER: TONY CASALE

SITE: 57 ALEXANDER ST YONKERS, NY

TITLE: SITE LAYOUT 100 GPM TEMPORARY TREATMENT SYSTEM

SCALE: NTS

DRAWN BY: RS DATE: 01/22/21

APPROVED BY: JMB DATE: 01/22/21

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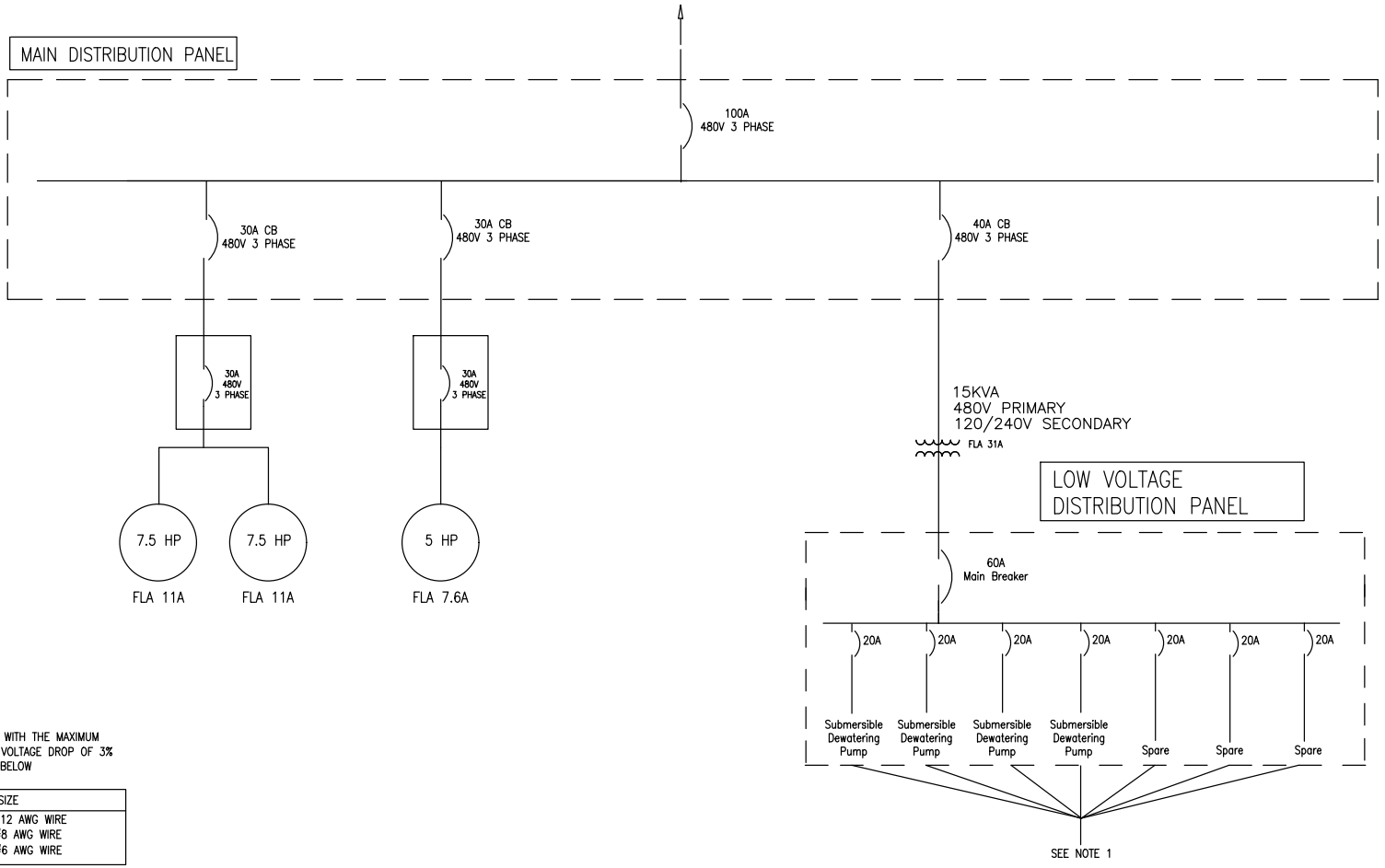
DWG SIZE: B | SHEET: 1 OF 1 | DRAWING NO.: Q009183-M-401-A



NOTE 1 ; TO COMPLY WITH THE MAXIMUM ALLOWABLE VOLTAGE DROP OF 3% SEE TABLE BELOW

DISTANCE	SIZE
0–50'	#12 AWG WIRE
50'–100'	#8 AWG WIRE
100'–200'	#6 AWG WIRE

REV.	DATE	BY	REMARKS
A	01/22/21	KLL	ADDED NOTE
–	01/22/21	KLL	INITIAL ISSUE.

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CUSTOMER: TONY CASALE

SITE: 57 ALEXANDER ST. YONKERS, NY

TITLE: ONE–LINE DIAGRAM

SCALE: NTS

	BY	DATE
DRAWN	KLL	01/22/21
APPROVALS		
MECH.		
I&C		
PROCESS		

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DWG SIZE: B | SHEET: 1 OF 1 | DRAWING NO.: Q009183–E–150 | A

Ground/Water Treatment & Technology, LLC

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Attachment B

Equipment Cut Sheets

627 Mt. Hope Road
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Influent Weir Tank/OWS

18,000 Gallon Open Top Weir Tank

•1/4 inch construction
•Steel shot blasted
•Most durable paint and lining in the industry
•Floor structure undercoated

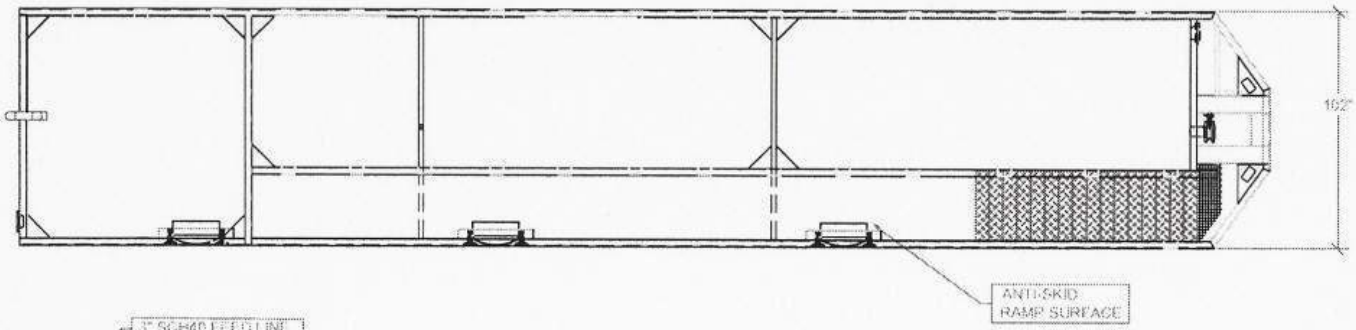
Dimensions

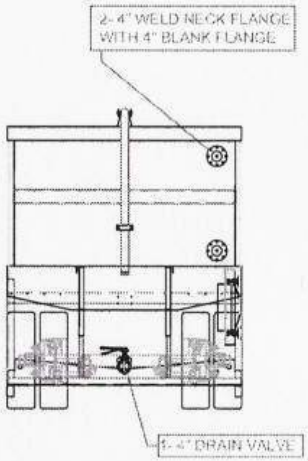
Length 42'

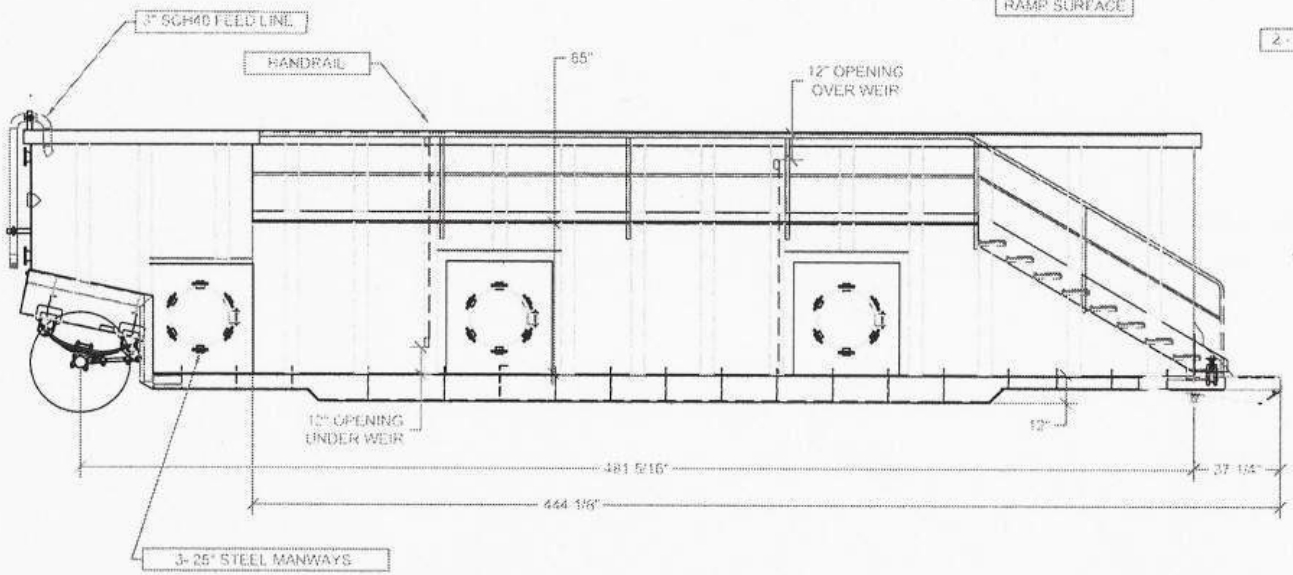
Width 8' 6"

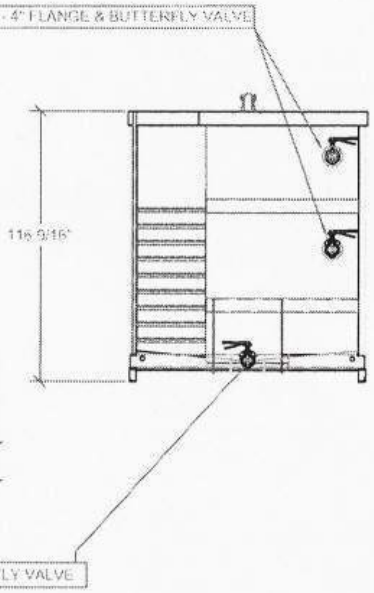
Height 9' 8"

Capacity 18,000 gallons









STANDARD SPECIFICATION

CAPACITY: .... 17,800 GALLONS (424 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
SUSPENSION: .... 3 LEAF SPRING, 22,500 LBS. CACPACITY
AXLE: .... 71.5" TRACK, 22,500 LBS. CAPACITY
TIRES: 11R22.5
WHEELS: .... 8.25 x 22.5 STEEL
MANWAYS: .... 3 - 25" DIA. CURB SIDE
VALVES: .... 2 - 4" BUTTERFLY VALVE (FRONT)
1 - 4" BUTTERFLY DRAIN (FRONT)
1 - 4" BUTTERFLY VALVE (REAR)
INLET PIPING. .... 1 - 3" PIPE SYSTEM (REAR)
BLAST: .... (INTERIOR) SSPC-SP-10 (NEAR WHITE)
(EXTERIOR) SSPC-SP-6 (COMMERCIAL BLAST)
PAINT: .... (INTERIOR) EPOXYPHENOLIC 100% SOLID 20.0 MILS D.F.T.
(EXTERIOR) PRIMER COAT EPOXY 3.0 TO 4.0 MILS D F.T.
(EXTERIOR) FINISH COAT POLURETHANE 3.0 TO 4.0 D.F.T.

NOTE:
This drawing is a representation baseline for this model of tank. Variations between this drawing and the actual equipment do exist, primarily with appurtenance locations, sizes and quantities.

DRAWING APPROVAL

THIS PRINT IS FORWARDED FOR YOUR APPROVAL. PLEASE REVIEW BEFORE SIGNING. IF NECESSARY MAKE CHANGES.

FIRM: _____

SIGNATURE: _____ DATE: _____

TITLE: _____

PINNACLE MFG
512 West Henderson Ave
Boaz, Alabama 35957
Telephone 256 840-8031

DESCRIPTION: AL 470F-102
STANDARD SPECIFICATIONS
OPEN TOP W/ 8' FRAC
UNDER / OVER WEIR

PLASMA / DXF FILE: ----

DRAWN: JSL	DATE: 08/30/07		
SCALE: 1/60" = 1"	DRAWING #: 042	SIZE: B	AL 470 OTW-102

PIG® Oil-Only Absorbent Boom

#BOM407 - 3" x 20' • Absorbs up to 4 gal. per boom • 4 booms

Confine and absorb oil and fuel spills on land or water.

- Field-proven performance works in all conditions to absorb oil spills on land or water
- Floats to confine and soak up spills on water; hugs ground for land-based spills
- Tough outer mesh is UV resistant for long-term outdoor use without degradation; lets fluids easily pass through to filler material
- Rope running along length of boom withstands up to 400-lb. loads, adding strength for deployment and retrieval
- Spunbond polypropylene skin is UV resistant up to 12 months; meets NFPA 99 standards for static decay
- Booms float at surface for easy retrieval, even when saturated
- Absorbs and retains oils and oil-based liquids - including lubricants and fuels - without taking in a drop of water
- Strong, zinc-plated carbon steel attachment clips and rings allow you to link booms together for greater length
- Bright white color makes booms easier to see in outdoor environments and clearly shows saturation level
- Can be incinerated after use to reduce waste or for fuels blending

Always in stock. Ships within 24 hours.

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BOM407 Specifications

Color:	White
Dimensions:	ext. dia. 3" x 20' L
Fluids Absorbed:	Oil-based Liquids But Not Water
Absorbency:	Up to 16 gal. per bag
Absorbency per:	Up to 4 gal. per boom
Sold as:	4 booms per bag
Weight:	17 lbs.
# per Pallet:	12
Composition:	Outer Mesh Skin - Polyester Inner Skin - Polypropylene Pulp Filler - Polypropylene Clip/Ring - Zinc Plated Carbon Steel
UNSPSC:	47131907

BOM407 Metric Equivalent

Dimensions:	ext. dia. 7.6cm x 6m L
Absorbency:	Up to 60.6 L per bag
Absorbency per:	Up to 15.1 L per boom
Weight:	7.7 kg

Technical Information

Warnings & Restrictions:
There are no known warnings and restrictions for this product.

Certifications, Approvals and Ratings:
NFPA 99

Regulations and Compliance:
40 CFR 122.26 - When applying for a National Pollutant Discharge Elimination System (NPDES) permit, facilities must have a plan in place that describes actions, procedures, control techniques, management practices and equipment available to prevent illegal discharge of pollutants into waterways.

40 CFR 112.7 - SPCC planning requirements state that facilities subject to these regulations must have written plans in place discussing the products, countermeasures and procedures that are in place, or will be taken by the facility to prevent discharge of oil into waters of the United States.

Technical Documents:
(Available at **newpig.com**)
Product Data Sheet (PDS)
Safety Data Sheet (SDS)

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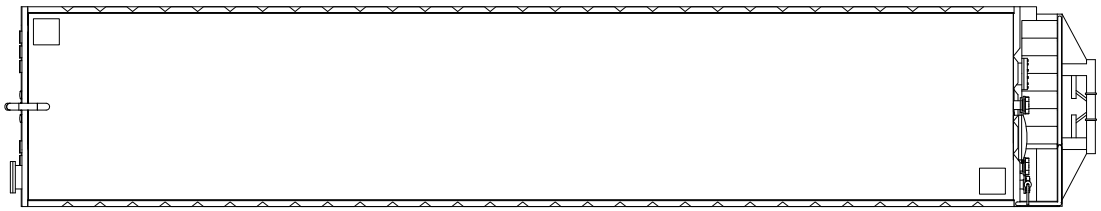
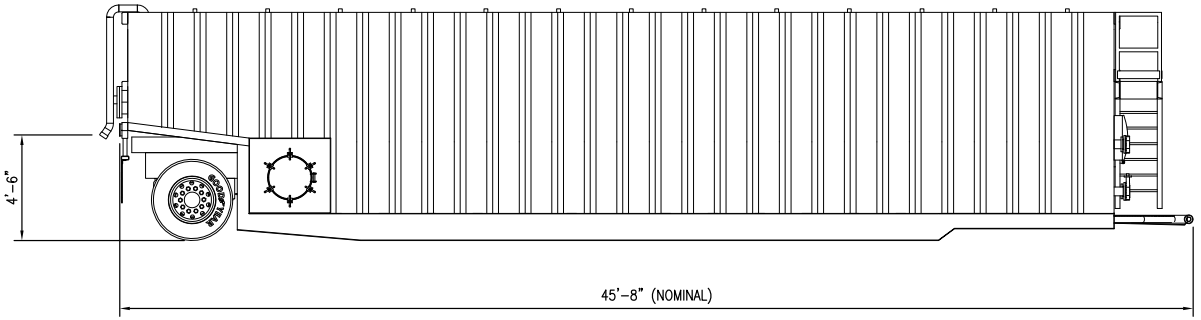
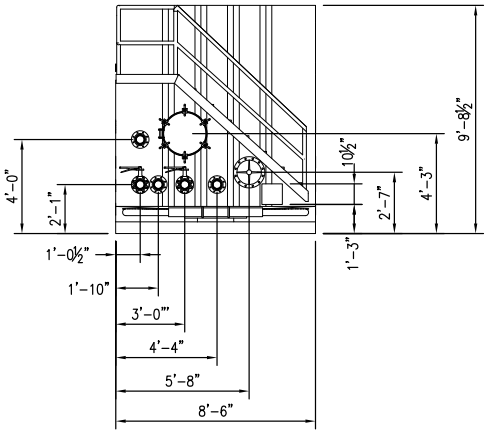
Influent Frac Tank







STANDARD FEATURES:

1. SIDES: ¼" CORRUGATED STEEL PLATE TANK SOLID WELD CONSTRUCTION.
2. FLOOR: ¼" STEEL PLATE "V-BOTTOM" CONSTRUCTION.
3. ROOF: FLAT TOP, ¼" STEEL PLATE WITH CHANNEL.
4. ALL INTERIOR SURFACES TO BE LINED WITH EPOXY COATING.
5. KINGPIN: 1" GROUND CLEARANCE WHEN READY TO WORK.
6. HEAVY DUTY NOSE BAR ASSEMBLY
7. AXLE: 25,000 LB WITH AIR BRAKES, 11.00 X 22.5, TIRES ON STEEL DISC WHEELS.
8. MANWAY: (2) SEALED MANWAYS (SIDE & FRONT)
9. 4" HALF PIPE DRAIN W/4" BUTTERFLY VALVE/
10. 22" WIDE STAIRWAY.

NOTES:

1. SOME DETAILS NOT SHOWN IN ALL VIEWS.
2. OVERALL DIMENSION ARE NOMINAL.

T:\EQUIPMENT\CAD FILES\TANKS-FRAC\EQ-GWT005026-LYT01.dwg - 10/01/19 - 11:11 AM

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REV.	DATE	BY	REMARKS
-	10/01/19	AMW	INITIAL ISSUE.

CUSTOMER: --

SITE: --

TITLE: 21,000 GALLON FRAC TANK

SCALE: NTS

	BY	DATE
DRAWN	AMW	10/01/19
APPROVALS		
	BY	DATE
MECH.		
I&C		
PROCESS		

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DWG SIZE: B | SHEET: 1 OF 1 | DRAWING NO.:EQ-GWT005026-LYT01 | X

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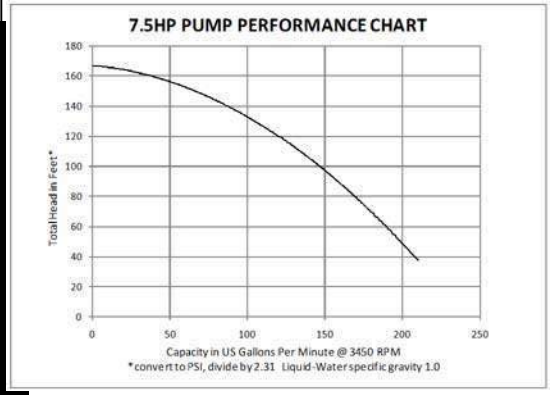
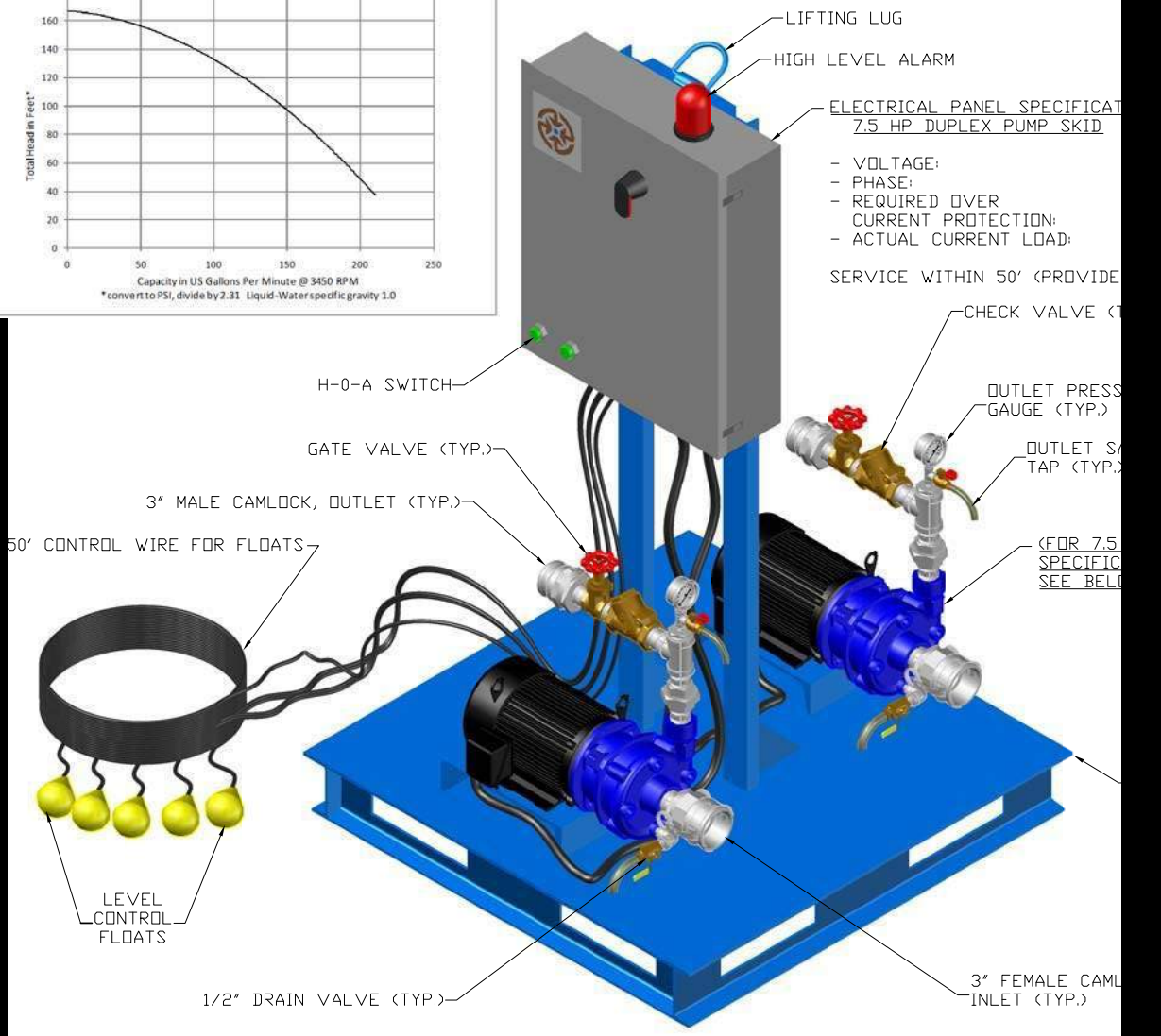
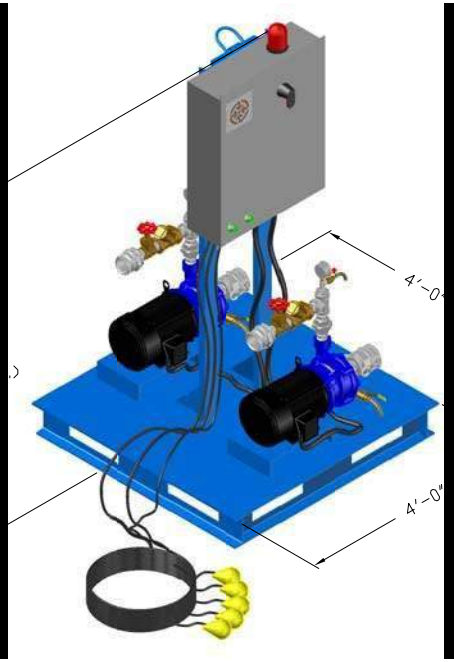
Transfer Pumps



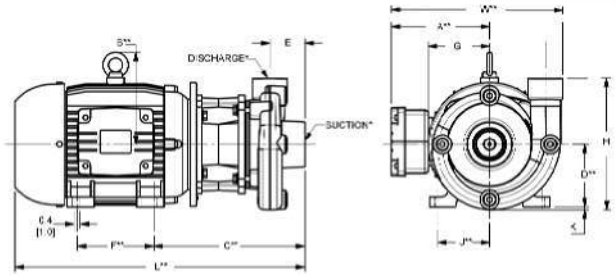




NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

7.5 HP PUMP MECHANICAL/ELECTRICAL SPECIFICATIONS

- TYPICAL CAPACITY AND HEAD:	150 GPM @ 100' TDH
- CONSTRUCTION:	CAST IRON W/ STAINLESS STL. IMPELLER AND BUNA-N SEALS
- MAXIMUM TEMPERATURE:	180°F
- MAXIMUM HEAD:	170 ft.
- MAXIMUM FLOW:	210 GPM
- FRAME:	184JM
- ENCLOSURE:	TEFC
- SUCTION:	2" NPT
- DISCHARGE:	1-1/2" NPT
- PUMP WEIGHT:	163 Lbs.
- FRONT DRAIN PLUGS LOCATED	90° APART
- PUMP VOLTAGE @ 60 Hz:	230/460
- FULL LOAD AMPS PER PUMP:	22/11



A: 7.1	D: 4.5	G: 4.5	L: 21.5
B: 6.6	E: 2.4	J: 3.7	W: 12.6
C: 10.6	F: 4.5	K: 0.1	H: 10.5

NO.	REVISIONS	BY	DATE
B	REVISED DRAWING NUMBER AND PUMP GRAPHICS.	MSM	08/29/16
A	TYPICAL	RS	08/23/10

TITLE:

SPECIFICATION DRAWING STANDARD DUPLEX 7.5HP 4240 HIGH HEAD PUMP SKID

SCALE: NTS	APPROVED BY: JB	DRAWN BY: RS
DATE: 08/23/10		

GWTT Ground/Water Treatment & Technology, LLC
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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-000218-SPC01 B

T:\Cad Files\Rentals - STANDARD DRAWINGS\EQUI

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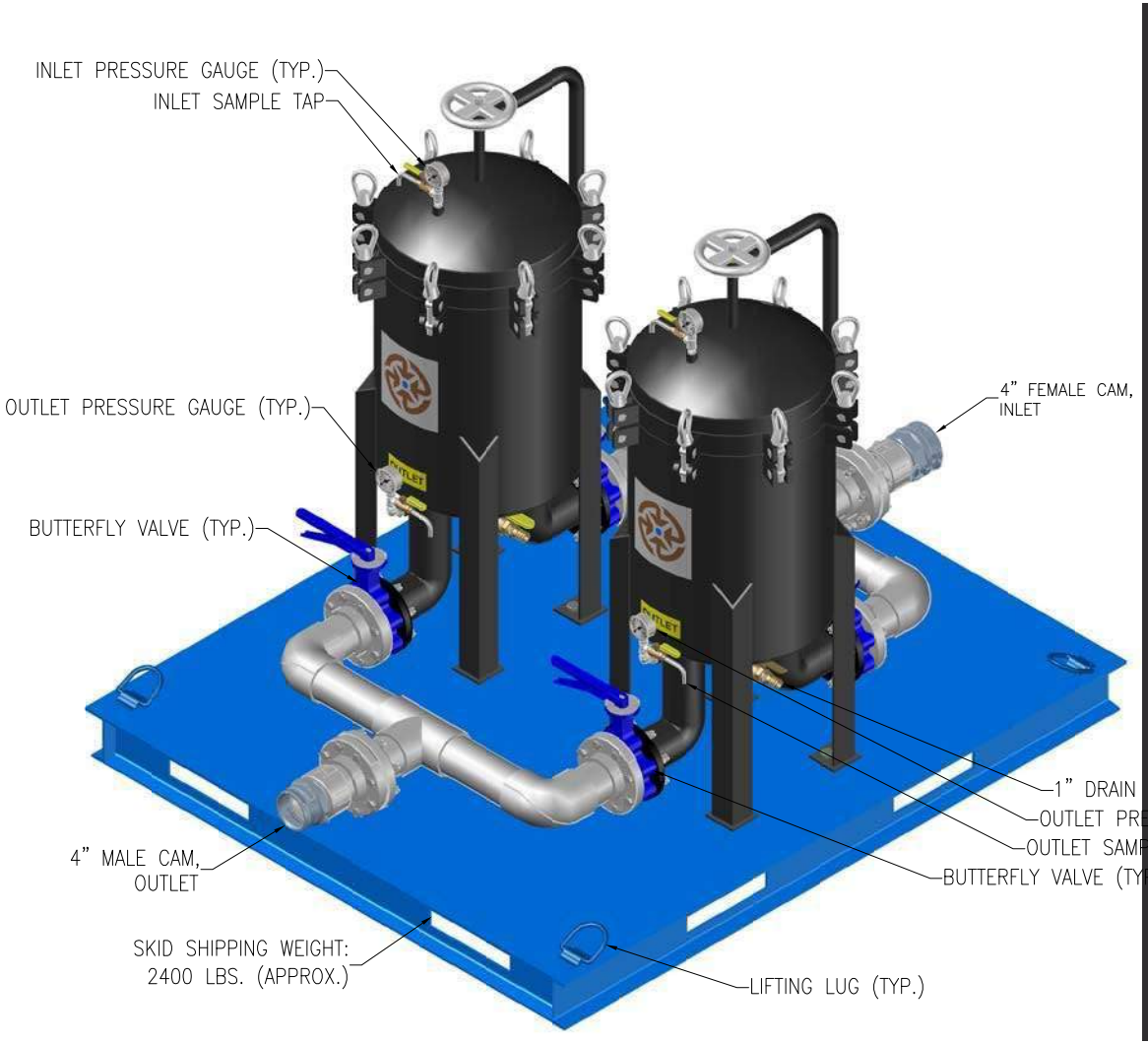
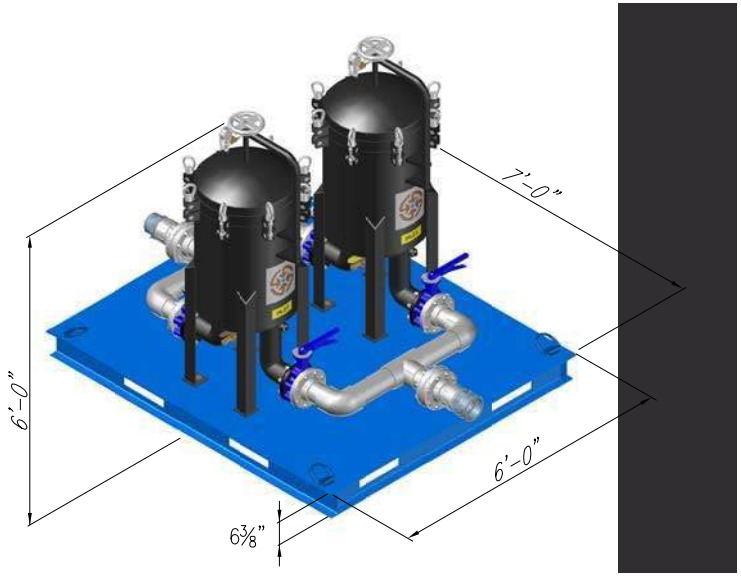
Bag Filters

T:\Cad Files\Rentals - STANDARD DRAWINGS\EQUIPMENT SPECIFICATION\BAG FILTERS\Duplex\ST-0025-SPC Rev-E Duplex Four Bag Filter Skid.dwg - 1/6/15 - 11:13 AM





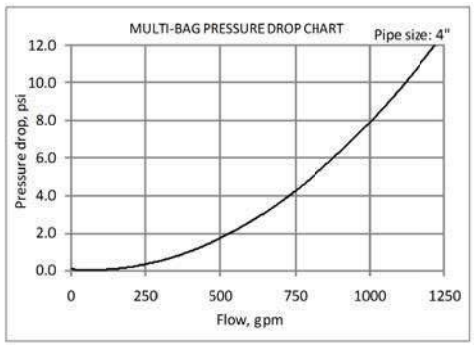
NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

NO.	REVISIONS	DATE
E	REVISED TITLEBLOCK.	12/15/14
D	ADDED CAMLOCK CONNECTIONS	05/13/14
C	ADDED SKID SHIPPING WEIGHT	02/18/09

CUSTOMER:

SITE:

PRESSURE DROP

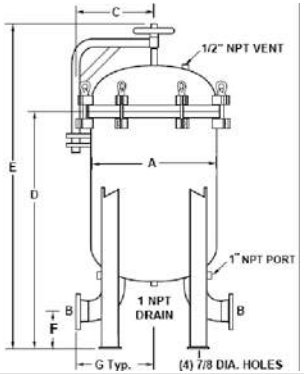


MULTI-BAG FILTER SPECIFICATIONS

– CONSTRUCTION:	CARBON STEEL
– HOUSING STYLE:	STANDARD
– NUMBER OF BASKETS:	4
– STRAINING FILTERING AREA:	17.6 SQ. FT.
– INLET/OUTLET SIZE:	4"
– DRAIN SIZE:	1"
– NOMINAL FLOW RATE:	400 GPM
– STANDARD PRESSURE:	150 PSI
– WEIGHT (PER DRY UNIT):	515 Lbs.

BASIC DIMENSIONS

MODEL NUMBER & A: 22"
LEG BOLT CIRCLE: ø20.0
B: 4" C: 14.0"
D: 46.2" E: 64.7"
F: 6.00" G: 15.4"



TITLE:

EQUIPMENT SPECIFICATION STANDARD DUPLEX FOUR BAG FILTER SKID

SCALE: NTS	APPROVED BY: JMB	DRAWN BY: AAV
DATE: 08/11/08		

GWTT Ground/Water Treatment & Technology, LLC
627 MOUNT HOPE ROAD · WHARTON, NJ 07885
PHONE: 973-983-0901 · FAX: 973-983-0903
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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-0025-SPC-E

Rosedale Filter Media

Rosedale has a wide selection of filter media available to help solve your filtration problems. Our product offerings include filter bags, filter cartridges, and perforated strainer baskets. This selection features a variety of options from low-cost, disposable filter media; through high-performance filter cartridge; to cleanable stainless steel elements.

The filtration efficiency values specified in our data (see Element Performance Chart on page 123), are the indication of the filter's performance. Unlike many manufacturers, Rosedale publishes the filtration efficiency and dirt capacity of our media, providing all the information needed for an accurate sizing of a filter.

Our media is offered in standard grades and high efficiency. Standard grade refers to products which are nominally rated. This means there is no specified efficiency at the micron size but the product is interchangeable with industry standards. Rosedale high efficiency filter media is rated 95%, 99%, or 99.98% efficient at the specified micron level.

Nominal Rating	Absolute Rating (95% Efficiency)
1	35
3	35
5	48
10	55
15	65
25	70
50	90
75	110
100	110

Bag or cartridge filters are usually selected so that the clean pressure drop does not exceed 2 psi. Change-out is recommended at 15 psid (for bags), and 30 psid (for cartridges). Higher pressure drops may be tolerated when contaminant loading is low.

A more comprehensive chart on page 123 details each product group with corresponding efficiency and micron rating.

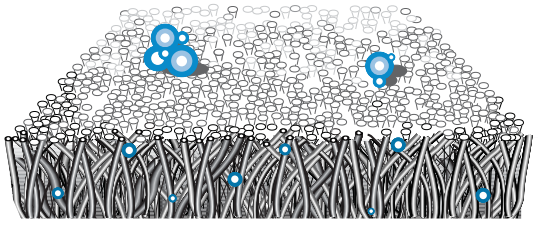
High-Capacity Filter Bags for Rosedale Bag Filters

Fits All Rosedale Filter Housings

Construction

Felt Bags-Standard Grade

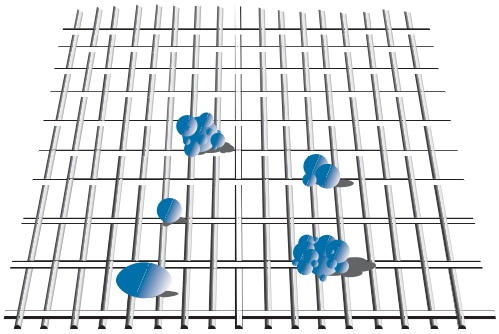
Felt construction is generally chosen where smaller particle retention is required, in the nominal 1 to 100 micron range. It offers higher solids loading capacity than mesh. General-purpose felt bags are offered in polyester and polypropylene materials. Special-purpose felt bags are offered in polyester and polypropylene materials. Special-purpose felt bags include high temperature service (to 500°F) bags of Nomex® nylon or Teflon®.



Mesh Bags

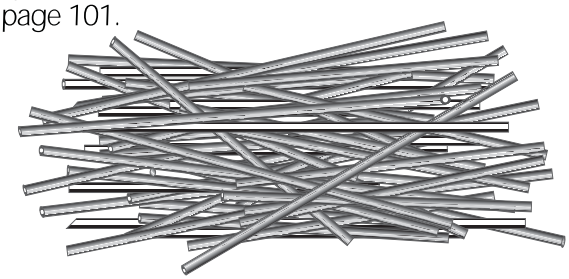
Mesh is a woven construction, generally used where micron ratings of 50 to 800 are required.

Two types are offered. The **multifilament** mesh is a low cost, disposable material offered in polyester. **Monofilament** mesh has higher strength, and is available in nylon. (It should be considered cleanable.)



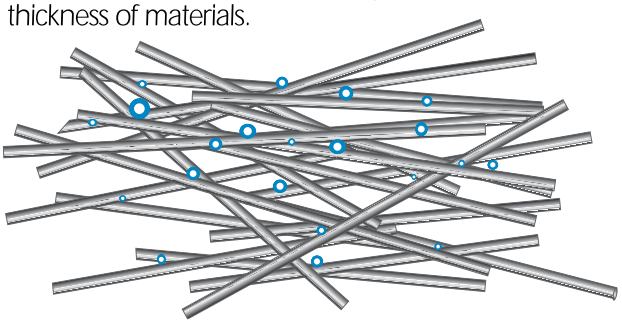
Oil Adsorption Bags

For removal of free oil, bags made of polypropylene microfibers, known as oil-adsorb, are available. A size 2 oil-adsorb bag will remove approximately a half-pound of oil from a water-oil liquid. It is only available with a 25 micron rating. If finer filtration is needed in an oil removal task, or high volume oil removal is required, Rosedale's Sorbent Containment Systems are available and information is located on page 101.



Melt Blown Media (Microfiber)

Polypropylene melt blown media offers unparalleled adsorption capacity for the removal of hydrocarbon contaminates from liquid streams. The melt blown media is also the heart of the high efficiency filter bag. The small diameter fibers create the bag's ability to remove fine particulate at high efficiencies. Fiber diameter is important because the pore size is a function of fiber diameter, density of fibers, and thickness of materials.



Felt Bag Finishes and Covers

Standard finish. Plain, as manufactured, without treatment or covers.

Glazed finish. The outer most surface fibers are melted by a momentary application of high heat. This bonds the fibers together and reduces the possibility of fiber migration.

Mesh covers completely encase the felt bag. This cover acts to contain any fibers that may separate from the filter bag. Materials available in mono and multifilament mesh, spun bonded nylon and polyester.

627 Mt. Hope Road
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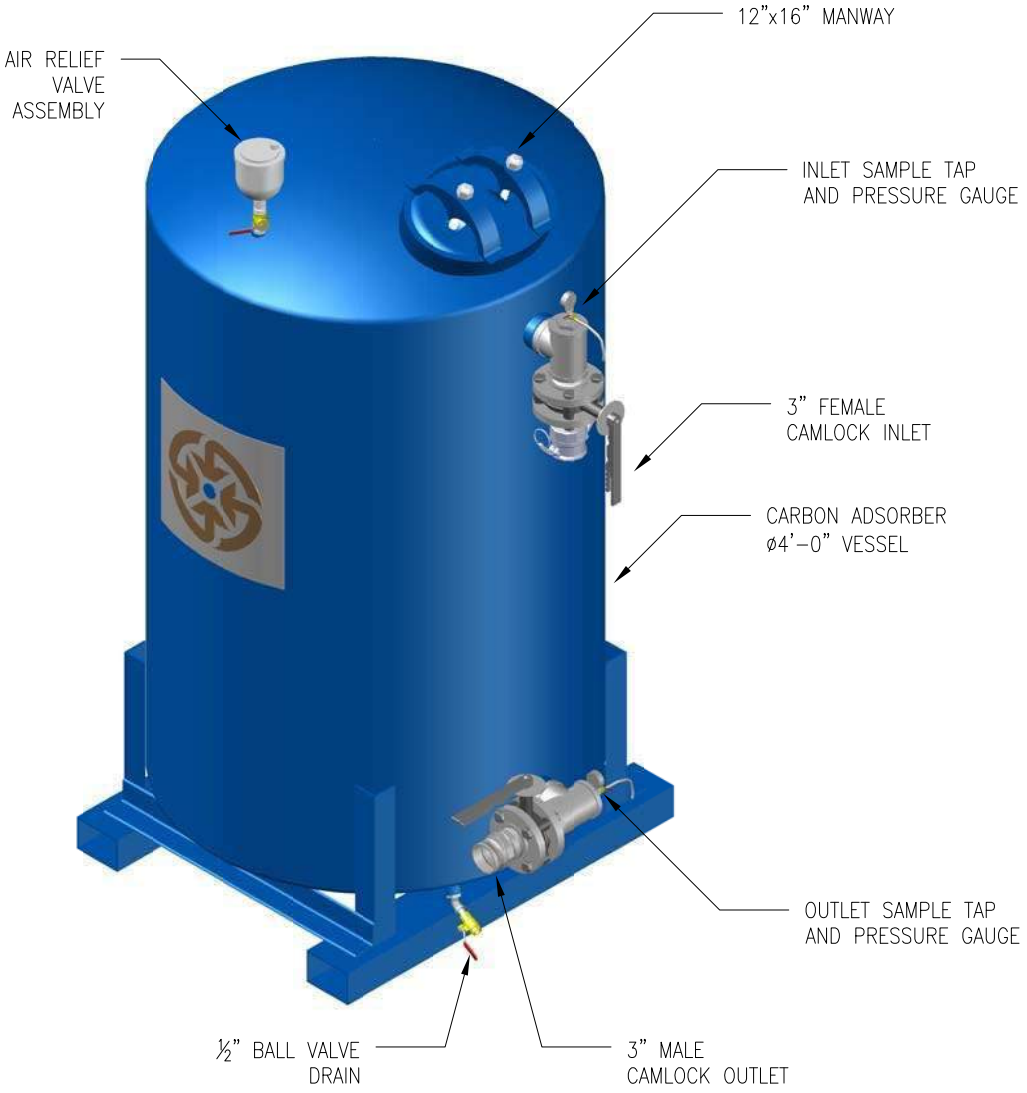
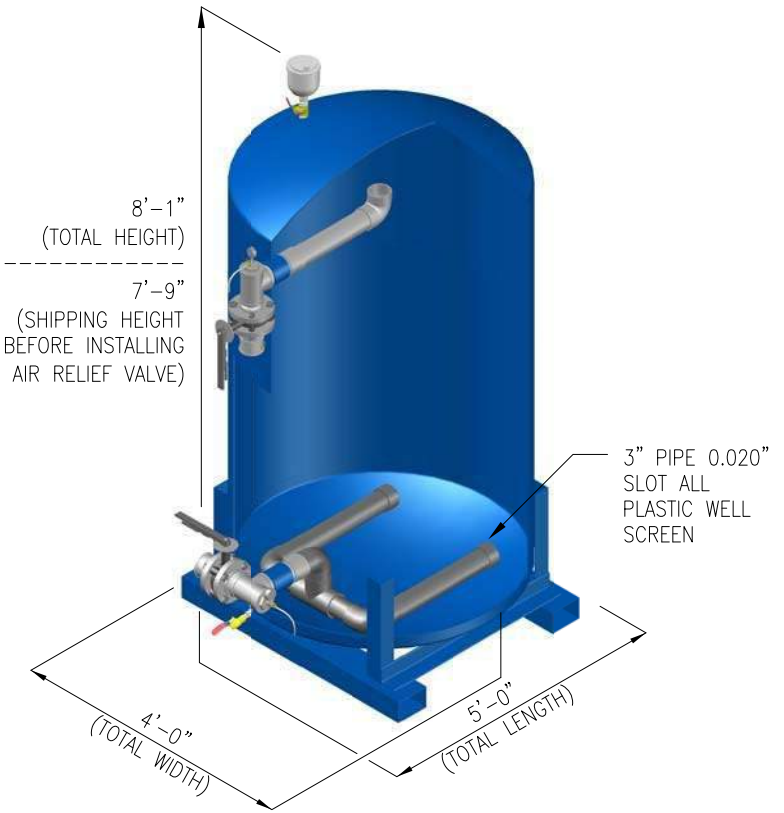
Liquid Phase Carbon Adsorber

NOTE: THIS DRAWING DEPICTS A "TYPICAL" VESSEL. ACTUAL DETAILS AND DIMENSIONS MAY VARY.





2,000 POUNDS CARBON ADSORBER SPECIFICATIONS

– CARBON FILL:	2,000 Lbs.
– DESIGN STANDARD PRESSURE:	75 PSI
– MAX FLOW RATE:	100 GPM
– EBCT:	5.25 min. @ 100 GPM
– HOUSING CONSTRUCTION:	A-36 CARBON STEEL
– INLET CONNECTION:	3" FEMALE CAMLOCK
– OUTLET CONNECTION:	3" MALE CAMLOCK
– DRAIN:	1" NPT
– CARBON FILL VOLUME:	75 Cu. ft.
– CARBON ADSORBER WEIGHT:	
EMPTY	2,000 Lbs.
SHIPPING (W/CARBON):	4,000 Lbs.
OPERATING:	9,000 Lbs.

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/11/15
A	AS BUILT	RJS	10/02/12

TITLE:

EQUIPMENT SPECIFICATION STANDARD 2,000 LBS CARBON ADSORBER

SCALE: NTS	APPROVED BY: RJS	DRAWN BY: RJS
DATE: 10/02/12		

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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-000380-SPC01	B

ID - C:\Cad Files\Rentals - STANDARD DRAWINGS\EQUIPMENT SPECIFICATION\CARBON ADSORBERS\2000 LB\ST-000380-SPC01(B).dwg - Tue, 13 Oct 2015 - 14:37

AQUACARB® S SERIES GRANULAR REACTIVATED CARBON AQUACARB® NS, AQUACARB® RS & AQUACARB® RSD CARBONS

FOR INDUSTRIAL AND REMEDIAL WATER TREATMENT

Description

AquaCarb® S Series carbons are produced through thermal reactivation of approved grades of spent carbon at one of our state-of-the-art ISO 14001 certified reactivation facilities. Through careful control of the residence time in the reactivation furnace, reactivation temperature, and reactivation gas composition, adsorbed contaminants on the spent carbon are removed and destroyed, and the carbon's internal pore structure is maintained as close to virgin condition as possible. AquaCarb® S Series reactivated carbons are pooled from a variety of sources, ensuring consistent product properties. The resulting carbon serves as an excellent economic alternative to virgin carbon for the removal of a broad range of organic contaminants from wastewater, process water, and groundwater streams.

Applications

Cost effective AquaCarb® S Series reactivated carbons have been demonstrated to provide excellent performance in a variety of liquid phase treatment applications, including the following:

- Removal of organic contaminants
- Pesticide removal
- Groundwater remediation
- Wastewater treatment
- Industrial process water treatment
- Biological activated carbon support

Quality Control

Evoqua's laboratories are fully equipped to provide complete quality control analysis using ASTM standard test methods in order to assure the consistent quality of all Westates® actived carbons.

Our technical staff offers hands-on guidance in selecting the most appropriate system, operating conditions and carbon to meet your needs. For more information contact your nearest Evoqua representative.

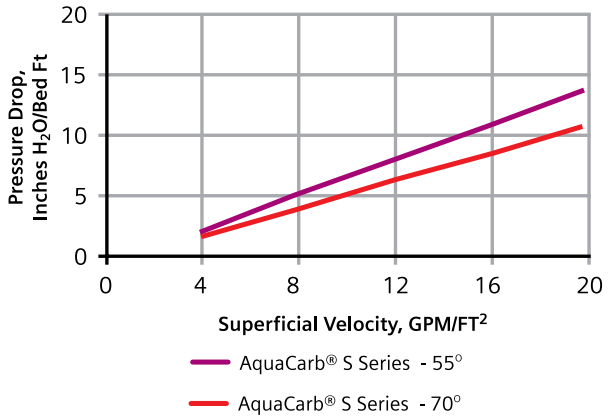
FEATURES AND BENEFITS:

- Reactivated carbons serve as an economical alternative to virgin carbon in many applications
- Use of reactivated carbons reduce the volume of spent carbon sent to landfill and encourages responsible usage of natural resources
- A detailed quality assurance program guarantees consistent quality from lot to lot and shipment to shipment
- Pooled reactivated carbons provide consistent properties and performance
- Reactivated carbons produced at ISO 14001 certified reactivation facilities, ensuring minimization of environmental liability and continued benchmarking against best practice standards for environmental management

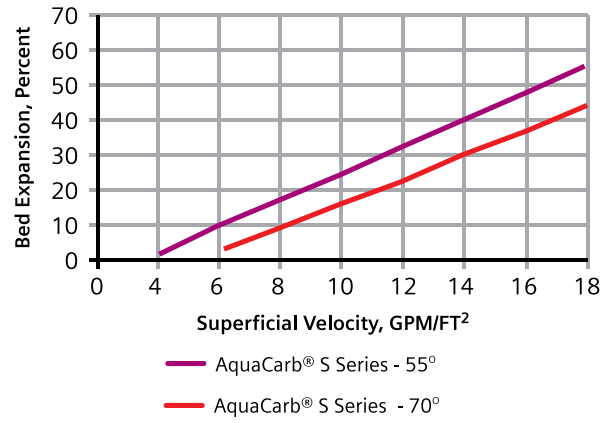
TYPICAL PROPERTIES

Parameter	AquaCarb® S Carbon
Carbon Type	Reactivated Coconut/Coal
Mesh Size, U.S. Sieve	8 x 30
Iodine No., mg I2/g	800 -1000
Apparent Density, g/cc	0.46 - 0.60
Moisture as Packed, Wt. %	2

Downflow Pressure Drop Through A Backwashed and Stratified Bed (Typical)



Percent Bed Expansion During Backwash (Typical)



Safety Note: Under certain conditions, some compounds may oxidize, decompose or polymerize in the presence of activated carbon causing a carbon bed temperature rise that is sufficient to cause ignition. Particular care must be exercised when compounds that have a peroxide-forming tendency are being adsorbed. In addition the adsorption of VOCs will lead to the generation of heat within a carbon bed. These heats of reaction and adsorption need to be properly dissipated in order to fully assure the safe operation of the bed.

Wet activated carbon readily adsorbs atmospheric oxygen. Dangerously low oxygen levels may exist in closed vessels or poorly ventilated storage areas. Workers should follow all applicable state and federal safety guidelines for entering oxygen depleted areas.

EVOQUA WATER TECHNOLOGIES

210 Sixth Avenue, Suite 3300, Pittsburgh, PA 15222

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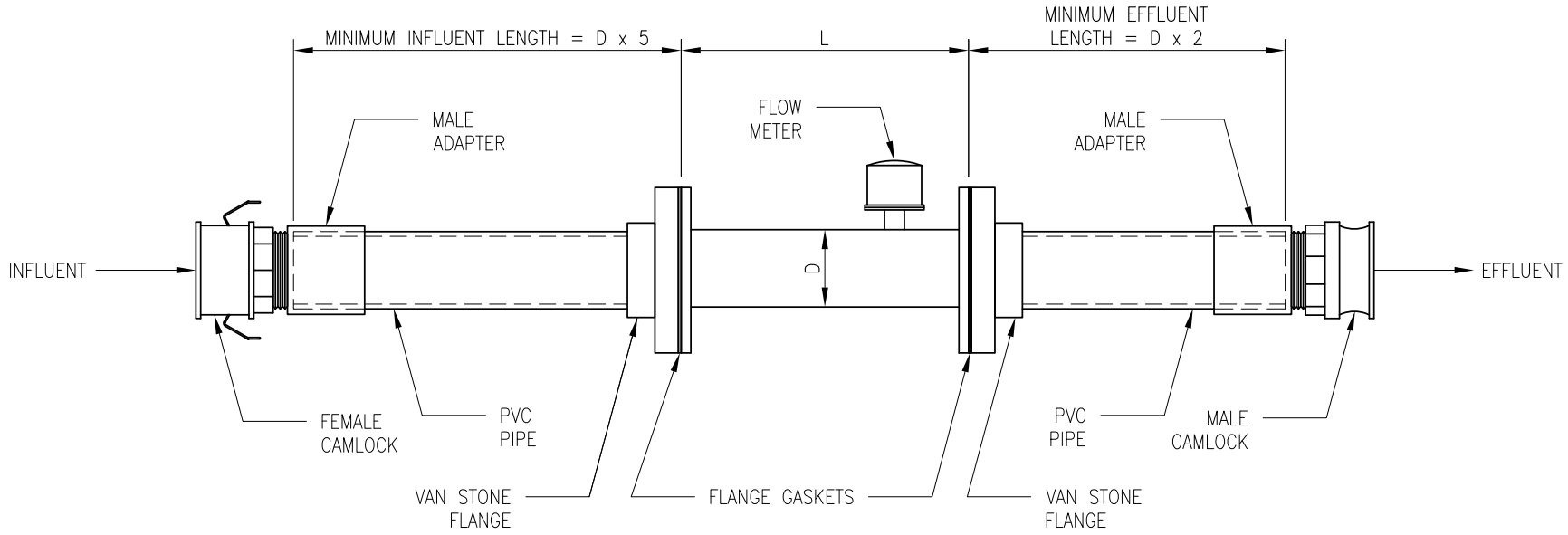
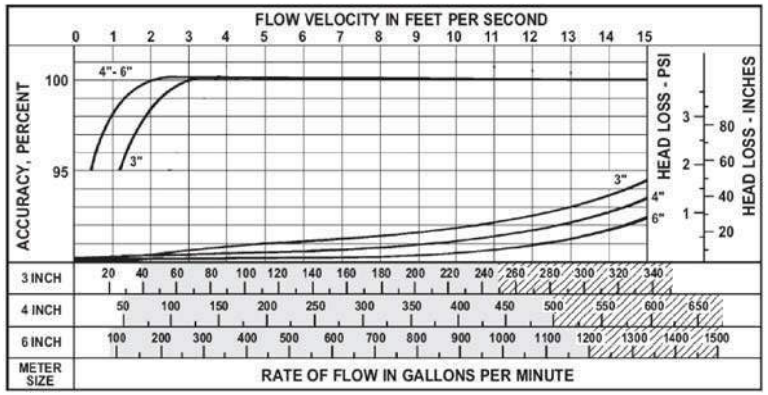
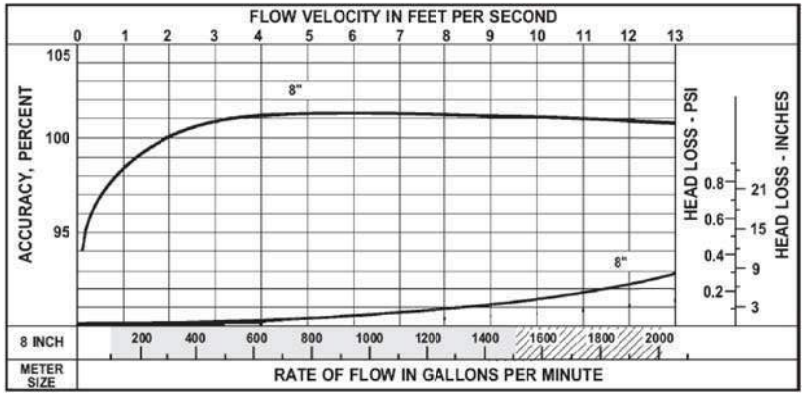
Flow Meters

ID – T:\Rentals\Engineering\Cad Files\03 – EQUIPMENT STANDARD COMPONENT DRAWINGS\Flow Meters\CAD\ST-000052-SPC01(B) MF100 Flow Meter Assembly.dwg – Fri, 31 Mar 2017 – 8:48







MF100 FLOW METER SPECIFICATIONS				
METER SIZE, D (INCHES):	3	4	6	8
MAXIMUM FLOW U.S GPM:	250	600	1200	1500
MINIMUM FLOW U.S GPM:	40	50	90	100
HEAD LOSS IN INCHES AT MAX FLOW:	29.50	23.00	17.00	6.75
H (INCHES):	12.91	13.66	16.03	17.28
L (INCHES):	13	20	20	20
O.D. OF METER TUBE:	3.50	4.50	6.625	8.625
MIN. INFLUENT LENGTH (INCHES):	15	20	30	40
MIN. EFFLUENT LENGTH (INCHES):	6	8	12	16
MAXIMUM TEMPERATURE:	160°F CONSTANT			
PRESSURE RATING:	150 PSI			

NO.	REVISIONS	BY	DATE
B	UPDATED TO NEW CAD STANDARDS	RJS	09/03/15
A	PRELIMINARY DESIGN	AAV	01/28/09

TITLE:

EQUIPMENT SPECIFICATION STANDARD FLOW METER ASSEMBLY

SCALE: NTS	APPROVED BY: MSM	DRAWN BY: AAV
DATE: 01/28/09		

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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: ST-000052-SPC01B

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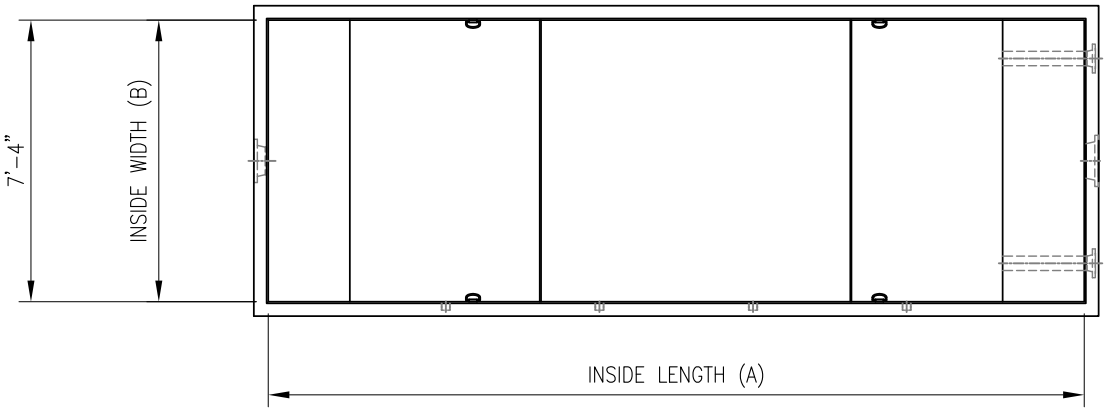
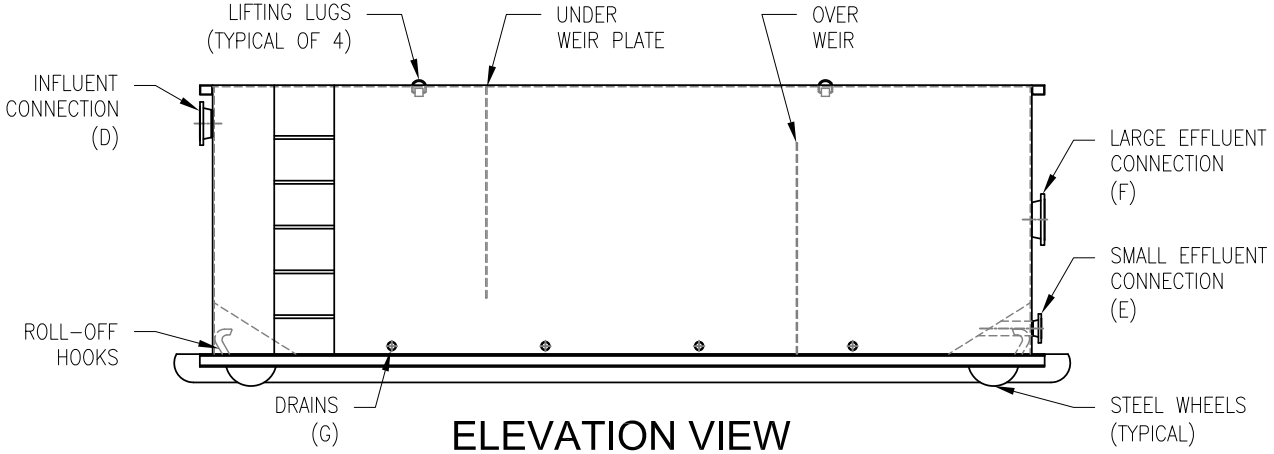
Effluent Holding Tank

PLAN VIEW

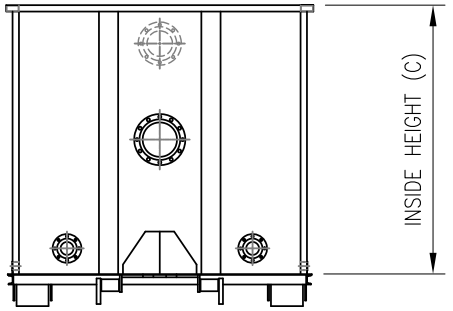


NOTES:

1. ALL TANKS ARE FABRICATED OF STEEL AND ARE OF OPEN TOP DESIGN
2. NOT ALL FITTINGS AND CONNECTIONS SHOWN FOR CLARITY
3. REFER TO INDIVIDUAL TANK DRAWINGS FOR ADDITIONAL DETAILS AND DIMENSIONS



ELEVATION VIEW



SIDE ELEVATION VIEW

STANDARD STEEL, ROLL-OFF, OPEN TOP GWTT TANKS

NOMINAL CAPACITY	NOMINAL CAPACITY	OPERATING CAPACITY	EMPTY TANK WEIGHT	OPERATING TANK WEIGHT	LENGTH (A)	WIDTH (B)	HEIGHT (C)	INFLUENT (D)	SMALL EFFLUENT (E)	LARGE EFFLUENT (F)	DRAINS (G)
4,000 GAL	20-YD	3,000 GAL	5,500 LBS	35,000 LBS	21'-3"	7'-4"	3'-6"	6" PIPE	N/A	6" FLANGE	2" NPT
6,500 GAL	30-YD	5,300 GAL	6,000 LBS	55,000 LBS	21'-9"	7'-4"	5'-10"	6" FLANGE	N/A	6" FLANGE	2" NPT
8,000 GAL	40-YD	6,400 GAL	7,000 LBS	65,000 LBS	21'-3"	7'-4"	7'	8" FLANGE	(2X) 4" FLANGE	10" FLANGE	2" NPT
10,000 GAL	50-YD	7,500 GAL	8,000 LBS	90,000 LBS	23'-3"	7'-4"	8'	8" FLANGE	(2X) 4" FLANGE	8" FLANGE	2" NPT

NO.	REVISIONS	BY	DATE
A	TYPICAL	RS	01/28/19

TITLE: GWTT LARGE STEEL ROLL-OFF OPEN TOP SETTLING TANK W/ WEIRS

SCALE: NTS	APPROVED BY: JMB	DRAWN BY: RS
DATE: 01/28/19		

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DWG SIZE: A	SHEET: 1 OF 1	DRAWING NO.: UNASSIGNED	A

ID - C:\Cad Files\PROJECTS\GWTT Spec Sheets\Large Open Top Settling Tank Weirs.dwg - Fri, 22 Feb 2019 - 12:59

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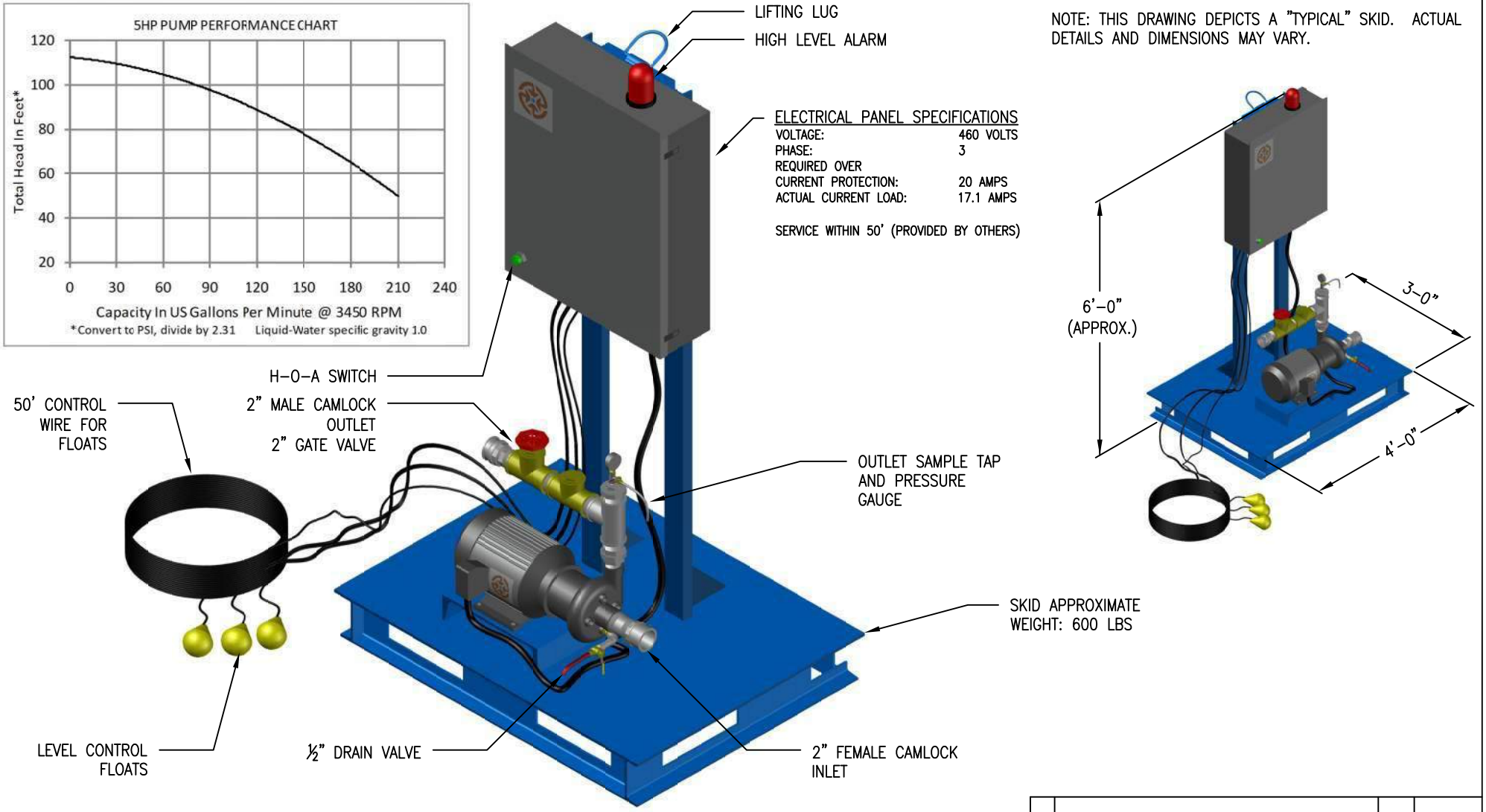
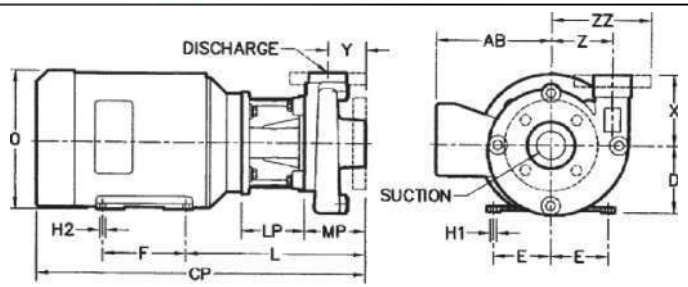
Backwash Pump



NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

5 HP PUMP MECHANICAL/ELECTRICAL SPECIFICATIONS

– TYPICAL CAPACITY AND HEAD:	100 GPM @ 95' TDH
– CONSTRUCTION:	CAST IRON W/ STAINLESS STL. IMPELLER AND BUNA-N SEALS
– MAXIMUM TEMPERATURE:	180°F
– MAXIMUM HEAD:	115 ft.
– MAXIMUM FLOW:	210 GPM
– ENCLOSURE:	TEFC
– SUCTION:	2" NPT
– DISCHARGE:	1-½" NPT
– PUMP WEIGHT:	60 Lbs.
– DISCHARGE PORT ROTATES IN 90° INCREMENTS	
– PUMP VOLTAGE @ 60 Hz:	230/460
– FULL LOAD AMPS PER PUMP:	17/9



CP: 21.6	F: 5.5	L: 11.8	LP: 4.1	X: 4.8
D: 4.5	H1: 0.4	O: 9.3	MP: 4.0	Y: 2.5
E: 3.8	H2: 0.4	AB: 7.5	ZZ: N/A	Z: 4.0

NO.	REVISIONS	BY	DATE
A	TYPICAL	RS	01/21/21

TITLE:

EQUIPMENT SPECIFICATION
5 HP PUMP SKID

SCALE: NTS	APPROVED BY: JMB	DRAWN BY: RS
DATE: 01/21/21		

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Ground/Water Treatment & Technology, LLC
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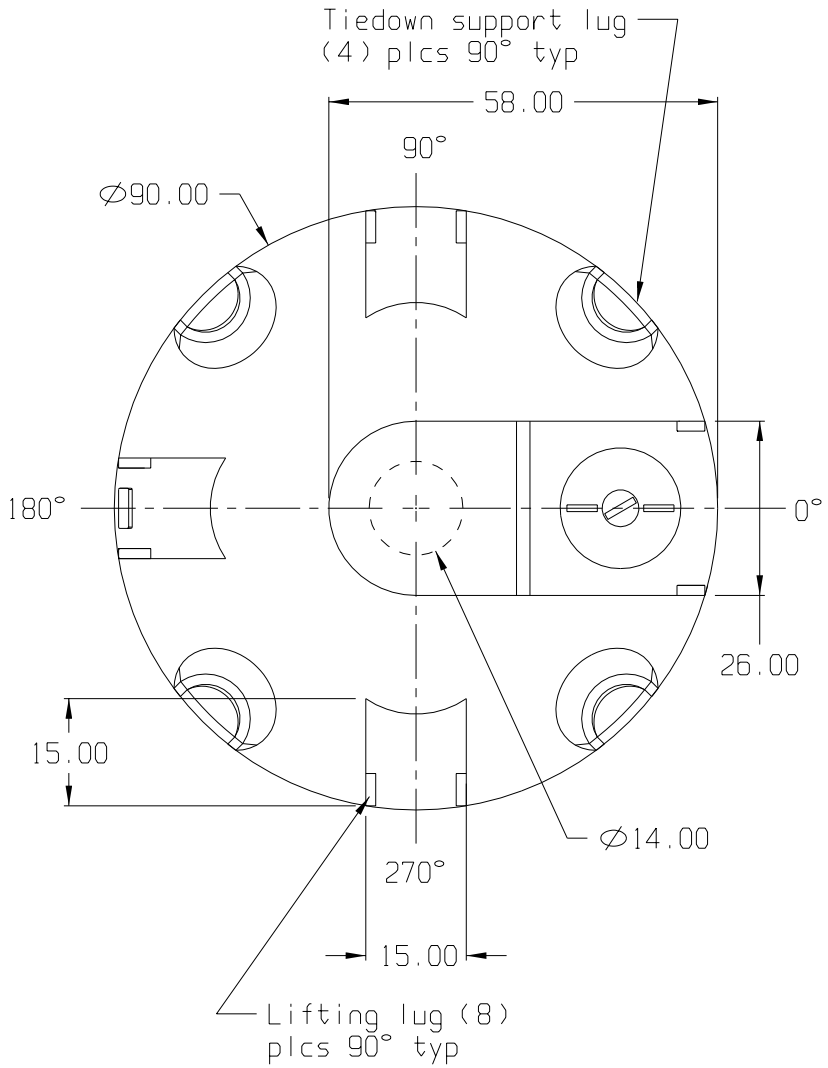
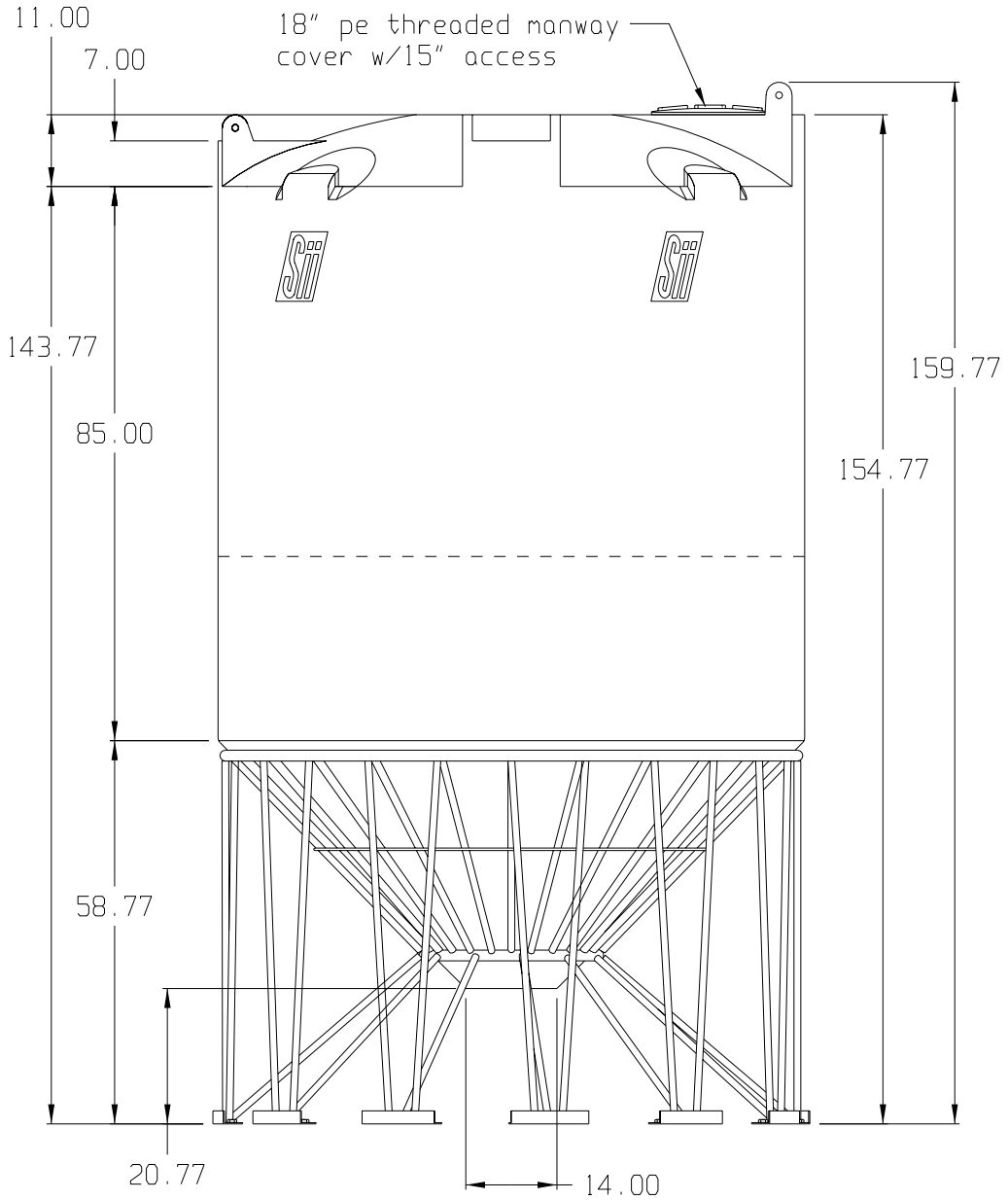
Backwash Holding Tank





SNYDER INDUSTRIES INC.

(all dimensions in inches)

BASE FITTINGS TO BE LEFT INSTALLED AT TIME OF SHIPMENT PER SII PROCEDURE

2,600 GALLON 45° CONE BOTTOM TANK W/STAND

PART #S TANK: 5100--
STAND: 79400

REF#: 0000

03/06/03