HALEY ALDRICH

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REPORT ON

REVISED INTERIM REMEDIAL MEASURE WORK PLAN
IRM-1 – ACID NEUTRALIZATION SYSTEMS REMOVAL
7256 STATE ROUTE 54
BATH, NEW YORK
BCP SITE #C851044

by
Haley & Aldrich of New York
Rochester, New York

for
New York State Department of Environmental Conservation
Avon, New York

File No. 127981-030
July 2023

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Revised 18 July 2023
9 June 2023
File No. 127981-030

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, New York 14414

Attention: Tim Schneider, P.E.
Professional Engineer 1

Subject: Revised Interim Remedial Measure Work Plan
IRM-1 – Acid Neutralization Systems Removal
7256 State Route 54
Bath, New York
BCP Site #C851044

Dear Mr. Schneider:

On behalf of Philips North America, LLC and Yort, Inc. (Philips/Yort), Haley & Aldrich of New York (Haley & Aldrich) has prepared the enclosed Revised Interim Remedial Measure (IRM) Work Plan for the Former Philips Lighting Company facility located in Bath, New York (Site). This IRM Work Plan, identified as IRM-1, addresses the removal of the Acid Neutralization Building and subgrade lined pit, the underground acid drainage piping extending to and from the building, and the two water cisterns that had provided closed-loop cooling for a laser-cutting operation previously operated by Westinghouse.

This IRM Work Plan is part of the larger overall demolition activities being completed at the Site. The IRM will be implemented in concert with the approved Interim Site Management Plan (ISMP) and as part of the building slab removal from Building 1. This document is being submitted in accordance with the amended Brownfield Cleanup Agreement (BCA) for Site #C851044 between the New York State Department of Environmental Conservation (NYSDEC, or Department) and Philips/Yort; this IRM Work Plan provides the details for completing IRM-1, including a description of the work, proposed sampling and analysis, construction completion reporting, and a schedule showing the sequence of proposed activities. This Revised IRM Work Plan has been updated based on discussions with the NYSDEC during technical calls held during the first half of 2023 to discuss the ongoing and planned Site work, and more specifically, general and specific comments provided by the Department via a 15 June 2023 email regarding a prior version of the IRM-1 Work Plan submittal.

This Revised Work Plan for IRM-1 has been developed in accordance with the NYSDEC (6 NYCRR) Part 375 Brownfield Cleanup Regulations dated December 2006, the “Technical Guidance for Site

IRM Work Plans for the other identified IRMs will be submitted under separate cover to the NYSDEC for review and approval.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

Jonathan M. Sanger
Environmental Specialist

Mark Ramsdell, P.E. (NY)
Senior Project Manager

W. Thomas West, P.G. (NY)
Senior Associate

Enclosures

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SIGNATURE PAGE FOR

REPORT ON

REVISED INTERIM REMEDIAL MEASURE WORK PLAN – IRM-1
ACID NEUTRALIZATION SYSTEMS REMOVAL
7256 STATE ROUTE 54
BATH, NEW YORK
BCP SITE #C851044

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AVON, NEW YORK

PREPARED BY:

Jon Sanger
Environmental Specialist
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Senior Project Manager
Haley & Aldrich of New York

W. Thomas West
Senior Associate
Haley & Aldrich of New York

PROFESSIONAL ENGINEER'S CERTIFICATION

I, Mark N. Ramsdell, P.E., certify that I am currently a New York State registered professional engineer as defined in 6 NYCRR Part 375, and that this Remedial Measure Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Mark N. Ramsdell — 18 July 2023

Mark N. Ramsdell, P.E. — Date

HALEY ALDRICH

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1. Introduction

Philips of North America, LLC (formerly known as Philips Lighting Company) and Yort, Inc. (herein collectively referred to as Philips/Yort) submitted a Brownfield Cleanup Program (BCP) application and entered into an amended Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) to investigate, and where necessary, remediate environmental conditions at the former Philips Lighting Company site in Bath, New York (the "Site"; Figure 1). As part of the BCA, Philips/Yort developed a Remedial Investigation Work Plan (RIWP) that was approved by the NYSDEC in December 2014, and supplemental Site investigations have been ongoing since 2015. Yort, as the current property owner, is in the process of completing demolition of the existing buildings at the Site to allow for future use of the property. As part of the demolition activities, Yort submitted Change in Use notices to the NYSDEC in December 2021 and March 2022 to permit removal of the building superstructures; however, an approved Interim Site Management Plan (ISMP) and supporting Interim Remedial Measure (IRM) Work Plans have been developed to facilitate removal of building slabs and subgrade structures, and to permit consolidation of impacted surficial and shallow subsurface soils from areas around portions of the buildings.

1.1 BACKGROUND

Philips/Yort is conducting a Remedial Investigation (RI) at the facility to characterize the environmental conditions in the immediate vicinity of the Site. The RI activities have been conducted under the NYSDEC-approved RIWP and supplemental RIWPs; the investigations began in January 2015 and are currently ongoing.

As described in the RIWP Section 6.1, IRM-1 Acid Neutralization Building and Piping, support operations for the former production of arc tubes included an etching area. Processes completed in the etching area were designed to chemically treat components used in high-end arc tubes. The process used acids, including 70-percent-strength hydrofluoric acid (HF), to etch surfaces of the tubes before they were combined on the stems to produce lamps. The acid etching was completed in an enclosed area at workstations under laboratory hoods that were vented from the building. Discharge from the etching process was piped to the neutralization area, located on the northern side of the exterior of the building, for further treatment before being discharged to the sanitary sewer system under an Industrial User Permit (IUP) issued by Bath Electric, Gas & Water Services (BEGWS). At the time of the Phase I report (2010), the etching operation being performed at the Site had been significantly reduced, and only minor etching was completed in specialty batches on a very limited scale. Following closure of the manufacturing plant in 2014, all manufacturing operations ceased, and the Acid Neutralization Building equipment was decommissioned and removed, although the brick building, subgrade lined tank, and piping remain on Site.

Previously, when the plant was in operation, acid waste that was discharged from the etching department included nitric, sulfuric, and hydrochloric acids, ammonium hydroxide rinses, and discharge from the hydrofluoric acid wash station. The acid rinse was conveyed through a separate interior drain system to a cleanout manhole before being routed to a line holding/treatment tank in the neutralization building located on the exterior northeast side of the main manufacturing building. The treatment process that was completed in the Acid Neutralization Building included pH adjustment of the influent that had been continuously monitored by an automatic pH monitoring system. Depending on the pH of the holding/treatment tank, either muriatic acid or lime was added to the treatment tank to adjust the

pH of the effluent before it was discharged to the public-owned treatment works (POTW) under the facility's Industrial Use Permit (IUP). Based on Westinghouse drawings, the combined flow to the neutralization shed in the 1970s was approximately 500 gallons per day; however, as noted earlier, due to the reduction of the etching operation by Philips, treatment flows to the Acid Neutralization Building significantly diminished after the early 1980s when Philips acquired the Site, and discharge to the building ceased in 2014 when the plant closed.

With the closure of manufacturing operations at the Site, the neutralization treatment system is no longer operational and is scheduled to be removed as part of the building demolition project. At the time of the demolition and removal of the Acid Neutralization Building, a further assessment of the potential releases from the system will be completed. This work will include the removal of the interior drain lines, closure of intact and cleaned exterior drain lines, and demolition of the Acid Neutralization Building (including the holding/treatment tank). Investigation of the potential impacts associated with this former system can be most effectively completed at the time of its removal.

This Interim Remedial Measures Work Plan (IRM-1 WP) covers:

1. The excavation of surficial soils (0 to 1 foot) surrounding the Acid Neutralization Building and former Quartz Metal Halide Baghouses (AOC-2) that contain concentrations of mercury and/or polycyclic aromatic hydrocarbons (PAHs);
2. Demolition of the Acid Neutralization Building and excavation of the holding/neutralization tank;
3. Removal of the influent piping from beneath Building 1; and
4. Cleaning and inspecting the integrity of the effluent piping from the Acid Neutralization Building to the sanitary sewer system.

The interior acid drain piping will be removed as part of the ongoing building demolition, and the drain lines will be excavated and removed when that portion of Building 1's concrete slab is removed. In addition, the concrete slab and underlying cooling water tanks (concrete cisterns located beneath the exterior baghouse concrete slab) that had been part of the former Westinghouse laser-cutting process, will also be removed; see Figure 2.

In early 2021, Yort, as the current property owner, formalized plans to complete demolition of the existing building superstructure and outlying buildings on the property. Consistent with the BCA requirements, Yort prepared and submitted a 60-Day Change in Use notice to the NYSDEC on 2 December 2021 for Asbestos Abatement, and a revised 60-Day Change in Use notice on 17 March 2022 for the removal of building superstructures at the Site. Demolition of the buildings began on 1 April 2022. The buildings, apart from the Acid Neutralization Building, were demolished and the debris removed from the Site by October 2022. Additional phases of demolition, including removal of the building slabs, concrete aprons, and asphalt parking areas, are planned to be completed in 2023 under the approved ISMP. As part of this phase of the demolition, removal of the Acid Neutralization Building and subgrade piping are scheduled to be completed as an IRM.

1.1.1 Remedial Investigation Results

Initial sampling of areas of concern (AOCs) was completed in accordance with the NYSDEC-approved RIWP in 2015. A more comprehensive Site-wide soil investigation for the Site was conducted between 2019 and 2022 that characterized soil cover conditions in the vegetated areas of the Site. In addition,

investigations of soil conditions beneath portions of the building were completed in 2019 and 2021, to evaluate soil in six interior AOCs. A comprehensive *Site-wide Soil Data Summary Report* was compiled and submitted to the NYSDEC in November 2022, and a comprehensive *Sub-Slab Soil Investigation Data Summary Report* was submitted to the NYSDEC in June 2021. These reports included a summary of the soil results of each AOC that was investigated during the RI activities, the sampling data collected in AOC-2 during RI activities, and the sampling data collected from Interior AOC-1 during supplemental RI activities. The data from the RI activities has been presented to the NYSDEC in monthly progress reports, interim site data reports (IDRs), and in IRM Work Plans. Details on the findings are also included in the *Site-wide Soil Data Summary Report* and *Sub-Slab Soil Investigation Data Summary Report*, and the relevant areas in IRM-1 are summarized in the sections below. See Table I for the results of samples collected in each AOC and Figure 3 for historical sampling locations.

- **AOC-2, Quartz Metal Halide Bag Houses:** AOC-2 is located on the northeastern corner of the former Building 1 next to the Acid Neutralization Building. The AOC cover is composed of both vegetative cover and impervious concrete surfaces. During production, the facility maintained three small dust collection bag houses associated with Quartz Metal Halide (QMH) lamp production, which were located on a concrete pad before they were removed from the Site prior to RI activities.

  RI activities were conducted at AOC-2 between 2015 and 2020, in which borings were advanced at 11 locations to delineate the lateral and vertical extent of the soil detections during the initial RI and in subsequent supplemental sampling events in accordance with supplemental RIWPs. Soil samples were collected from the surficial (0 to 2 inches), shallow subsurface (1 to 2 feet), and subsurface (2 to 3 feet) soils and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) and Target Analyte List (TAL) metals. In addition, 25 percent of the samples were also analyzed for polychlorinated biphenyls (PCBs), pesticides, and semi-volatile organic compounds (SVOCs) during the initial RI phase completed in 2015.

  SVOCs were detected in samples collected from AOC-2 that exceeded Soil Cleanup Objective (SCO) criteria in the surficial (0 to 2 inches below the vegetative layer), and mercury and SVOCs were detected in samples collected from the shallow subsurface (2 to 24 inches below the vegetative layer). During interim RI events between 2016 and 2022, samples were analyzed for mercury and SVOCs following detections in the initial RI event. One sample collected in the shallow subsurface layer resulted in detections of mercury above the Restricted Industrial SCO, and five samples collected in both the surficial and shallow subsurface soils resulted in detections of SVOCs (primarily, the PAH benzo(a)pyrene) above the Restricted Industrial SCOs. Samples collected at 3 feet below ground surface (bgs) did not exhibit detections above Restricted Industrial SCOs.

- **Building 1 Interior Area of Concern 1 (IAOC-1)**: In 2019, a sub-slab soil sampling event was conducted at the Site to investigate and characterize soil beneath the building slab. Soil data were collected in areas beneath Building 1 in the vicinity of the interior acid drain lines (Interior Area of Concern 1 [IAOC-1]).

  During the investigation, borings were advanced at seven locations (See Figure 3) below the slab, and a total of 14 soil samples were collected and analyzed for VOCs, metals, PCBs, pesticides, and SVOCs at depths ranging from 6 inches to 11 feet bgs. Sample analysis resulted in the detection of VOCs, including trichloroethene (TCE), but generally at concentrations below Restricted Industrial SCOs and Protection of Groundwater (PoG) standards, except for one soil sample (See Table I). The sample collected at SB-B1-205 in the 0.5- to 1.5-foot range resulted in

a concentration of TCE at 0.49 milligrams per kilogram (mg/kg), which exceeds the PoG standards but is well below the Restricted Industrial SCO. In addition to these detections of TCE, other VOCs detected include acetone and methylene chloride at concentrations well below Industrial SCOs and PoG standards; these detections are suspected to be the result of laboratory artifacts, and these VOCs are not likely present at the Site.

Five samples, including shallow and deep samples, were also analyzed for the expanded analyte list that included SVOCs, PCBs, pesticides, cyanides, and metals. Except for the presence of metals, SVOCs, PCBs, pesticides, and cyanide were not detected or were slightly above laboratory detection limits. Sample results included detections of metals above laboratory detections limits, though well below the Restricted Industrial SCOs. The presence of metals in the samples, such as zinc and iron, is believed to the result of the native soil's composition and not from impacts from past manufacturing activities.

1.2 PURPOSE

The purpose of this IRM is to address soils with metals and PAH concentrations exceeding Restricted Industrial SCOs present in AOC-2 adjacent to the Acid Neutralization Building and overlying portions of the exterior acid piping. In addition, this IRM work will include the removal of the Acid Neutralization Building, the closure of influent and effluent acid drainpipes associated with the system, and the removal of the concrete slab and concrete cisterns that were used by Westinghouse in a former laser-cutting operation. After the removal and closure of the acid neutralization system as part of the building demolition plans, work at the Site will include the inspection and collection of post-removal soil samples to document the quality of soil conditions that were in contact with below-grade piping and treatment tanks in this area of the Site.

This plan outlines the procedures for the removal of the soil and concrete materials and procedures for collecting confirmation sampling after the excavation is completed. Post-removal sampling will include bottom and sidewall samples for the underground neutralization tank and laser cisterns, and bottom samples (0 to 6 inches beneath) along the length of the below-grade piping that is to be removed beneath the building slab. The post-removal sampling will be conducted in accordance with DER-10 requirements to document the completion of the IRM activities.

2. IRM Work Plan

2.1 GENERAL

The IRM soil work will be conducted in accordance with the soil screening procedures described in the RIWP and details summarized in the following sections. During demolition and soil removal activities, soil and debris will be screened visually and with a photoionization detector (PID) during the excavation and loading activities. The concrete and piping material debris (polyvinyl chloride [PVC], concrete, and steel pipes) excavated during the implementation of the IRM will be direct-loaded during excavation, then transported for disposal as construction and demolition (C&D) debris. Surficial and shallow subsurface soils removed from the area of AOC-2 which exceed Restricted Industrial SCOs will be relocated and temporarily placed on plastic on the asphalt roadway in an area northwest of the Acid Neutralization Building. Soil removed from the excavations of the Acid Neutralization Building, laser cisterns, and along the piping runs will be staged and sampled to determine if it is suitable for reuse as backfill below the soil cover at the Site.

Community air monitoring will be conducted during the building demolition, soil excavation, and ground intrusive activities in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan (CAMP), included as an appendix to the NYSDEC-approved RIWP. NYSDEC and NYSDOH will be notified within one business day of any exceedances that occur during active monitoring of soil activities. Details will be included on the cause of the exceedance and what actions were taken to correct the issue. The CAMP data summary will be provided to the NYSDEC on a weekly basis. A copy of the CAMP is included in Appendix A.

All Site personnel will work under a Health and Safety Plan (HASP) and the NYSDEC-approved RIWP. The HASP has been included in Appendix B.

2.2 SITE PREPARATION

Prior to implementing the IRM field work, the following activities will be conducted:

- **Permits:** A demolition permit will be obtained from the Town of Bath, New York prior to beginning the work. Based on the scope of the IRM-1 activities (demolition and direct-loading of C&D debris and staging and placement of soils at the Site) a Site-specific Stormwater Pollution Prevention Plan (SWPPP) will be implemented when Site work earth disturbance exceeds one acre. The Site-specific SWPPP that has been developed for building slab and asphalt cover system removal and excavation activities is included in Appendix C.
- **Decontamination:** The remedial contractor will provide facilities, equipment, and supplies for the decontamination (decon) of excavation equipment and field personnel involved in the performance of the IRM. A dedicated decon pad and appropriate decon material for the cleaning of excavation equipment, such as power washing and other equipment, will be available. All decon fluids generated from the cleaning of equipment will be containerized and then characterized in accordance with the management of investigation-derived waste (IDW) in the NYSDEC-approved RIWP (see Section 5.5 of the RIWP).
- **Exclusion Zone:** The remedial contractor will construct temporary barriers using standard access restrictions to prohibit access to the IRM work zone and staging work areas. Access to the work

areas will be limited to contractor and oversight personnel. General Site access is restricted to permitted personal via a site fence and vehicular gates.

- **Location Control Survey:** Prior to performing the IRM activities, the remedial contractor will use a permanent benchmark and record sufficient measurements from nearby reference points to triangulate the location of the soils and structures that are destined to be removed. The survey will also provide for elevation control, a boundary of the excavation area, including final excavation elevations, and location of post-removal sampling locations.
- **Runoff Control:** Prior to performing the IRM activities, the remedial contractor will be responsible for erosion and sediment controls (E&SCs) in the active excavation areas during the IRM implementation. The objective of the E&SCs will be to prevent erosion and the spreading of material within the IRM work area, to minimize the containment of water that may become impacted as a result of contact with debris, and to reduce the moisture contact of the materials to be removed during the implementation of the IRM. The E&SCs will be completed in accordance with NYSDEC guidance (New York State Standards and Specifications for Erosion and Sediment Control, August 2005) and the Site-specific SWPPP.

2.3 CONSTRUCTION SEQUENCING

2.3.1 Building Demolition and Soil Excavation Activities

Construction activities will include the demolition and removal of the Acid Neutralization Building structure and either removal or closure-in-place of intact and cleaned influent and effluent acid drainage piping. In addition, based on the results of the previous remedial investigation activities, surficial and shallow subsurface soils will be excavated from the limits of AOC-2 that contained metals and SVOCs at concentrations above the Restricted Industrial SCO criteria. These soils will be stockpiled and sampled to determine their use as backfill beneath the new soil cover system, and if acceptable (as described further in Section 2.3.4), the soils will be replaced in the excavations of the cistern and/or acid neutralization tank and covered with a demarcation layer and 1 foot of clean soil cover placed above the impacted soils.

Other activities will include the demolition and removal of the former water storage cisterns located beneath the concrete slab in the AOC-2 area, and the excavation and closure and/or removal of below-grade drainage piping associated with the acid etching operation. The excavation and removal of below-grade piping beneath the portion of the Building 1 concrete slab will be sequenced to be performed when the concrete slab for this portion of Building 1 is being removed. Refer to Figure 4 and the section below for additional details on the construction sequencing.

- **Acid Neutralization Building and Lined Pit:** The Acid Neutralization Building is a small, 20-foot by 14-foot brick building that contains a lined holding and treatment tank that is approximately 10 feet deep. The brick building will be demolished and removed, and the lined pit will be excavated and removed. Building materials, including brick, concrete, and other materials generated during the building demolition, will be removed and disposed as construction debris. Soils generated from the excavation of the foundation and lined tank will be staged and stockpiled on plastic on top of the asphalt roadway northwest of the Acid Neutralization Building for testing to determine if they may be reused as backfill in the excavations of the cistern and/or acid neutralization tank, and then covered with the demarcation layer and clean soil cover.

- **AOC-2 Soils:** The approximately 2,500-square-foot area is composed of both soil and impervious concrete surfaces that include a concrete retaining wall on the west side of the AOC, concrete walkways, and a concrete pad covering the water storage cisterns. After the removal of the Acid Neutralization Building, the concrete walkways and concrete pad covering the water cisterns will be removed, sized for acceptance at the landfill, and disposed as C&D debris. The surrounding surficial (0 to 1 foot) soils in AOC-2 which contain concentrations of metals and SVOCs above the Restricted Industrial SCOs will be excavated to a depth of at least 1 foot to remove known impacts based on characterization sampling. The estimated volume of impacted soil is approximately 90 cubic yards. If testing of the excavated soils demonstrates it is acceptable for reuse, then this impacted material would be used to backfill the excavations of the cistern and Acid Neutralization Building, and then covered with a demarcation layer and clean soil cover system as part of final Site restoration grading. However, if the material is not acceptable for reuse as backfill below a cover, then the material will be loaded for transport and disposal off Site at a permitted disposal facility.
- **Concrete Water Cisterns:** Two 8-foot by 8-foot precast concrete tanks are present beneath the 19-foot by 10-foot concrete pad that formerly contained the QMH baghouses. The concrete tanks were used for water storage as part of the former Westinghouse laser-cutting process. Two manhole covers located in the concrete pad provide access to the underground cisterns, and the two tanks contain approximately 15,600 gallons of water. Sampling of the water was completed as part of an agency-approved addendum to the *Sewer Inspection, Cleaning, and Closure Work Plan*, and the results of the water sampling summarized in the Structure Interim Data Report (IDR) do not suggest that the contents of any of the structures is impacted or would be a source of contaminants to the environment.

  Prior to removing the concrete tanks, the liquid in the tanks will be evacuated and removed for off-Site disposal. The residual liquids will be sampled for waste characterization prior to disposal. After the water in the tanks has been removed, the concrete tanks will be excavated and removed; the concrete will be broken up and transported off Site for disposal as C&D debris. After the concrete tanks have been removed, confirmation samples will be collected from the excavation in accordance with DER-10 requirements for underground storage tanks, including bottom and sidewall samples.

  Concrete materials generated from the excavation will be broken up and disposed as construction debris, and if acceptable for reuse as fill at the Site, soils generated during the excavation of the concrete tanks will be relocated and placed beneath the demarcation layer and clean soil cover in the area northwest of Building 1.
- **Acid Waste Drainage piping:** The Acid Neutralization System includes a network of 2-, 3-, and 4-inch PVC drainage piping that extends from the former etching area in Building 1 to the Acid Neutralization Building. The piping layout is shown on Figure 4. The smaller diameter 2-, 3-, and 4-inch drainage pipes are located immediately below the concrete building slab at depths of 6 inches to 1 foot, and the two primary lateral lines combine in a single 6-inch discharge line in a manhole located in the center of Building 1's concrete slab. The combined 6-inch line then extends from the manhole approximately 160 feet to the north, where it connects to the lined tank beneath the Acid Neutralization Building. The 6-inch drain line extending from the manhole on the interior of Building 1 to the Acid Neutralization Building was inspected and videoed in April 2023 as part of the ongoing sewer inspection program. The condition of the piping was found to be intact over a 106-foot length. Sediment and liquid are present in the 54-foot section of piping nearest the Acid Neutralization Building. As part of planned sewer cleaning work, the

sediment and liquid will be removed from this section of the piping, and the integrity of the piping that could not be initially inspected will be verified. Refer to Appendix D for the inspection video of the drainage piping conducted by Blood Hound, LLC.

Discharge from the treatment building is then routed through a 6-inch pipe that extends from the Acid Neutralization Building for 155 feet to a manhole connected to the facility's sanitary sewer system. Video camera inspection of the discharge piping could not be completed due to accumulated sediment; however, a sample from Manhole C-5 (shown on Figure 4) was collected for analysis. Approximately 400 linear feet of piping is located beneath the former Building 1 concrete slab, and the sequencing of the removal of piping beneath the building will be coordinated with the removal of the building slab as part of the demolition and cover system removal. The piping will be flushed prior to removal, and liquids will be containerized and characterized for off-Site disposal. The piping beneath the building will be excavated, and the piping material removed. The excavation of the pipe chase will begin at the furthest upstream floor drains and extend downstream to the manhole beneath Building 1 that was accessed to video inspect the influent line extending to the Acid Neutralization Building.

The condition of each pipe segment will be examined during demolition and excavation activities. Additional sampling and the potential need for expansion of the excavation of sections of pipe that are found to be damaged or contain grossly contaminated soils will be based on field observations and screening results. The soil removed during the excavation will be staged for testing, and if it is determined to be acceptable for backfill, it would be as used as fill material in the excavations of the cistern and acid neutralization tanks and will be covered with a demarcation layer and clean soil cover that is scheduled to be installed in this area of the Site during final Site restoration following the completion of the demolition activities.

2.3.2 Waste Disposal Summary

C&D material and piping from the construction activities will be brushed to remove soil that may adhere to the concrete and then direct-loaded and transported off Site for disposal at the Steuben County Landfill located at 5632 Turnpike Road, Bath, New York as C&D debris. Waste generated from the pipe cleaning will be temporarily contained in the acid neutralization pit, sampled for off-Site disposal, then managed appropriately prior to removing the subsurface pit. An estimated 200 cubic yards of soil will be excavated and staged on Site during the activities associated with IRM-1. The approximately 90 cubic yards of the soils excavated from AOC-2 will be segregated from other soils and sampled in accordance with DER-10, Table 5.4 (e) 10 requirements. An estimated one composite and three discrete samples will be analyzed to determine if the soil will be used on Site as fill material beneath the final Site cover system or loaded and transported off Site for disposal at an approved waste facility. The remaining 110 cubic yards of stockpiled soils will be staged separately from other excavated soils on Site for the potential reuse as fill to backfill the excavations and placed beneath a demarcation layer and cover system. Prior to use or transport, six discrete and two composite samples will be collected in accordance with DER-10, Table 5.4 (e) 10 requirements.

2.3.3 Soil Import and Approval

An estimated 450 cubic yards of clean fill will be required to be used as backfill for excavated areas requiring backfill, including excavated trenches and pits from the removal of the Acid Neutralization Building, water cisterns, and subgrade piping. An estimated 90 cubic yards of impacted soil removed from the AOC-2 excavation and 110 cubic yards of soil from the acid waste piping and building

excavations may be available to be reused as backfill material below a demarcation layer and the final cover, depending on the results of the soil sampling of the staged materials. At a minimum, 250 cubic yards of clean imported soil will need to be used to backfill the area; however, if on-Site soil cannot be reused, then up to 900 cubic yards of soil from an off-Site source will be imported to the Site as additional backfill and clean cover material. Backfill material will be transported to the Site from an NYSDEC-approved source and sampled in accordance with DER-10 requirements. For fill transported on Site and used as backfill in accordance with DER-10 requirements, discrete and composite samples will be collected and analyzed for approval in accordance with Table 5.4(e)10 of DER-10, and a NYSDEC Request to Reuse Soil/Fill profile will be completed and submitted prior to transport and Site use.

Discrete samples will be collected and analyzed for the following:

- Part 375-6.8(b) VOCs via U.S. Environmental Protection Agency (EPA) Method 8260;
- Composite samples for Part 375-6.8(b) Metals via EPA Methods 6010/7471;
- Part 375-6.8(b) SVOCs via EPA Method 8270;
- Part 375-6.8(b) Pesticides via EPA Method 8081;
- PCBs via EPA Method 8082; and
- Perfluorooctanesulfonic acid (PFOS)/perfluorooctanoic acid (PFOA) via EPA Method 1633.

2.3.4 Soil Reuse Evaluation

Excavated soil, as described above (Section 2.3.1), will be stockpiled on plastic on the asphalt surface northwest of the Acid Neutralization Building and sampled at a frequency of one sample for every 100 cubic yards of soil to determine suitability for reuse on Site as contaminated backfill to be relocated under a demarcation layer and 1 foot of clean fill cover; or for off-Site disposal. In addition to the analysis required for Site reuse, soil from AOC-2 will be analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals. Each of these three scenarios is further described below.

Stockpiles will be located in the areas designated in accordance with the source as identified in this work plan (see stockpile locations on Figure 4). Two separate stockpile areas will be designated for material excavated from AOC-2 and from the remaining excavations that include the cisterns, piping, and Acid Neutralization Building removal. Stockpiles will be staged on the plastic sheeting installed on the asphalt roadway northwest of the Acid Neutralization Building, and the stockpiled material would be covered with plastic sheeting until it is determined if the material is suitable for reuse or if it is required to be removed and disposed off Site. The staging areas will be segregated with berms/barriers as temporary erosion control to avoid the potential for soil erosion/runoff, as noted in the SWPPP included as Appendix C.

2.3.4.1 Backfill Material Reuse

If the soil testing results meet the Restricted Industrial Site Use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed and the NYSDEC Sampling, Analysis, and Assessment of per- and polyfluoroalkyl substances (PFAS) guidance values, then the material may be used as backfill in excavations and placed beneath a demarcation layer.

2.3.4.2 Contaminated Backfill Material Reuse

If the soil testing results do not meet the Restricted Industrial Site Use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, or the NYSDEC Sampling, Analysis, and Assessment of PFAS guidance values, then the soil/fill material will be considered contaminated. Contaminated backfill may be reused at the Site if the material is placed below the demarcation layer and at least 1 foot of clean soil cover material, and the results of all analytical testing meet the following specific criteria:

- TCE concentrations are less than the PoG SCO of 0.47 mg/kg;
- Total PAH concentrations in subsurface soils are less than 500 mg/kg in accordance with the NYSDEC CP-51/Soil Cleanup Policy;
- Total PCB concentrations in subsurface soils are less than 10 mg/kg, in accordance with the NYSDEC CP-51/Soil Cleanup Policy; and
- The soil/fill does not exhibit the characteristics of toxicity with the limits specified in 40 Code of Federal Regulations (CFR) Part 261.24. Representative total chemical concentrations of the soil would be compared to a value of 20 times the TCLP limits to determine the theoretical maximum leachate concentration. If the results of the total chemical concentration are less than 20 times the TCLP limits, then the soil would not be considered characteristically toxic and may potentially be reused on Site beneath a cover or if it is sufficient quality, for use as a soil cover. However, if the total chemical concentration has the potential to exceed 20 times the TCLP limits, then additional testing using EPA Test Method 1311 *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846[1] would be required to determine if the soil has potential to leach constituents at concentrations above those specified in 40 CFR Part 261.24.

2.3.4.3 Unacceptable Material Not Permitted for Reuse On Site

If the soil testing results do not meet the backfill or contaminated material reuse criteria presented above, then the material will not be acceptable for backfill and placement beneath demarcation layers and will be considered unacceptable for use at the Site. Unacceptable material will be handled and staged on Site in a manner consistent with DER-10 requirements prior to disposal. Material will be disposed off Site at an appropriate approved facility after a waste profile is prepared for the appropriate landfill prior to the transportation of soils.

2.3.4.4 Sewer Cleaning/Debris

Prior to completing pipe removal, the sections of the influent and effluent piping that contained sediment and liquid will be cleaned in accordance with procedures present in the approved *Sewer Inspection, Cleaning, and Closure Work Plan.* Sediment and liquid generated from the cleaning will be temporarily collected in the subsurface acid neutralization pit. The material will be analyzed for waste characterization criteria to determine if the material is hazardous or non-hazardous, and the results of the testing will be used to develop a waste profile. The sediment and liquid generated from the cleaning will be removed from the acid neutralization pit and direct-loaded for disposed at an off-Site appropriate approved facility permitted to accept the waste material.

3. Post-Construction Sampling

3.1 OBJECTIVES

The goal of the IRM is to perform demolition of the Acid Neutralization Building and holding/treatment tank, removal of the adjacent water cisterns, and excavation of in the upper 1 foot of contaminated soil from AOC-2, and removal and/or closure of the associated influent and effluent acid drainage piping. The removal of the structures will then allow for the collection of post-excavation soil samples from the in-situ material. The soil sampling will be completed in accordance with the field procedures for soil sampling described in Section 5 of the NYSDEC-approved RIWP and in accordance with the frequencies specified in DER-10 for piping and tank removals. The results of the post-removal sampling will be incorporated in the Construction Completion Report (CCR) that will be prepared following completion of the IRM.

Additional details on the post-removal sampling at IRM-1 are presented in the following subsection and included in Table II and Figure 5.

3.2 DER-10 SAMPLING REQUIREMENTS

Post-removal sampling to be completed at IRM-1 includes the collection of representative documentation soil samples from the in-situ soils from the sidewalls and bottom of the excavation areas and the general sampling strategy being employed for assessment of AOCs identified in the NYSDEC-approved RIWP. Accordingly, characterization samples will be collected at the following frequencies:

- One sample from the excavation bottom (i.e., 0 to 2 inches below the excavation bottom) for every 900 square feet of bottom area. An estimated two total excavation bottom samples will be collected, including one from the lined pit, and one from the water cisterns post-excavation.
- One sample from the excavation bottom (i.e., 0 to 6 inches below the excavation bottom) for the initial 15 feet of area excavated during the removal of the subgrade piping, and thereafter one sample from every 20 feet of excavated section of piping will be collected in accordance with DER-10 Part 3.9(a).6 – Underground Piping. Piping that has been surveyed, cleaned, and confirmed to be in good condition with no sediment or water observed will be closed-in-place. Samples will be collected from piping runs and from areas where pipe connections and floor drains were located. An estimated 16 samples will be collected from the excavation bottom beneath the removed piping; then screening of the section surveyed will be completed.
- One sample from the bottom of each sidewall for every 30 linear feet of sidewall. An estimated six sidewall samples will be collected from excavations after removal of the Acid Neutralization Building and water cistern structures. Four sidewall samples will be collected from the excavation to remove the lined pit below the Acid Neutralization Building, and two sidewall samples will be collected from the excavation to remove the water cistern structures. Sidewall samples will be collected at depths determined in the field following excavation of the associated structures.

Per the general sampling analysis strategy in the RI Work Plan for subsurface soil investigations, the characterization samples will be analyzed at an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for Part 375 VOCs via EPA Method 8260, Part 375-6.8(b) Metals via EPA Methods

6010/7471, Part 375-6.8(b) SVOCs via EPA Method 8270, and PCBs via EPA Method 8082. In addition, 20 percent of the samples will include the expanded list of constituents, including Part 375-6.8(b) Pesticides and Herbicides via EPA Method 8081 and cyanide.

If post-removal documentation samples exceed Restricted Industrial SCOs, the analytical data will be evaluated for additional actions. If the depth of the exceedance is surficial (in the top 1 foot of soil), additional excavation within the specific area (e.g., sidewall or bottom) will be conducted, and additional documentation sampling will be completed in accordance with the procedures described above for the analyte that did not meet the Restricted Industrial SCO criterion. If the depth of the exceedance is below the cover system, the response action will be dependent upon the concentration level, taking into consideration the value of 20 times the TCLP limits to determine the potential of leachability or if the soil contains concentrations exceeding the NYSDEC PoG SCOs.

4. Site Restoration

Following the removal of the Acid Neutralization Building and subgrade lined pit, concrete tanks, and piping, and after the post-removal sampling has been completed, the IRM-1 area restoration details are shown on Figure 5A and will be restored to meet the soil cover system criteria in the following manner:

- The remaining excavations from the removal of the lined pit beneath the Acid Neutralization Building, AOC-2, and the two water cisterns will be backfilled. A demarcation layer will be installed above the contaminated soil. A minimum of 12 inches of clean fill material will be used to complete the cover system to final grade conditions, including approximately 4 inches of topsoil to grade.
- The areas that were excavated to remove the drainage piping will be backfilled. A demarcation layer will be installed above the contaminated backfill soil. A minimum of 12 inches of clean fill material will be used to complete the cover system to final grade conditions, including approximately 4 inches of topsoil. The areas will be seeded in accordance with the general seed mix specified in NYSDEC guidance (New York State Standards and Specifications for Erosion and Sediment Control, August 2005).

5. Construction Completion Report Details

At the conclusion of the IRM-1 field activities, a CCR will be prepared in accordance with the requirements of NYSDEC DER-10. The CCR will include the following (at a minimum):

- Site description and background;
- A summary of the implemented IRM, including any problems that were encountered during construction, and any changes to the design that were made (including NYSDEC approvals of the changes);
- A summary of the quantities of materials removed and where the materials were disposed; and
- A summary of the CAMP data collected during the construction activities in an Appendix; a summary of any monitoring exceedances and effective solutions will be provided.

The results of the post-removal soil sampling discussed in Section 3 (above) will also be included and discussed; however, as noted, the post-removal sampling data will also be incorporated in the Remedial Investigation Report that is being prepared in accordance with the NYSDEC-approved RIWP, and the results of the post-removal sampling will be incorporated in the overall characterization of the environmental conditions at the Site.

The CCR will include supporting tables and figures, including the limits of any stockpiled soils and location of all post-removal sampling locations. Copies of all executed bills of lading documenting the off-Site transport and disposal of the solid waste will be provided, along with supporting photographs of the construction activities during the implementation of the IRM.

The CCR will be prepared, stamped, and include the required certification signed by a New York state-licensed professional engineer.

6. Project Schedule

The project implementation schedule for the IRM-1 activities is included as Figure 6 and describes the anticipated sequence and duration of IRM activities, but not specific start/completion dates. The actual start of the work is contingent upon a number of factors, including project sequencing and other complementary demolition activities, including the removal of the existing building slabs to provide access to subgrade acid drainage piping beneath Building 1. Once the schedule for implementation of IRM-1 has been determined, an updated schedule/sequencing with be provided, and the NYSDEC will be notified at least seven days prior to commencement of field activities.

References

1. DER-10, *Technical Guidance for Site Investigations, New York State Department of Environmental Conservation, DEC Program Policy*, May 2010.

2. *Remedial Investigation Work Plan, Philips Lighting Company Site, Bath, New York*, Haley & Aldrich of New York, May 1, 2014.

3. *Report on Amended Site Soil Screening Supplemental Work Plan, Philips Lighting Company Bath Facility, Bath, New York*, Haley & Aldrich of New York, December 2017.

4. *Report on Site-Wide Soil Cover Data Summary Report, Philips Lighting Company Bath Facility, Bath, New York*, Haley & Aldrich of New York, April 2019.

5. Response to NYSDEC Comments, Site Wide Soil Cover Data Report, Philips BCP Site (C851044), Bath, New York, Haley & Aldrich of New York, January 2020.

6. *Revised AOC-32 Stormwater and Sanitary Sewer Inspection, Cleaning, and Closure Work Plan, Bath, New York, BCP Site #C851044, Haley & Aldrich of New York, January 2023.*

7. *Side-wide Soil Data Summary Report, Philips BCP Site (C851044), Bath, New York*, Haley & Aldrich of New York, November 2022.

8. *Sub-slab Soil Sampling Data Report, Philips BCP Site (C851044), Bath, New York*, Haley & Aldrich of New York, October 2019.

9. *Supplemental Soils RIWP, Philips Lighting Company Site, Bath, New York*, Haley & Aldrich of New York, April 2016.

10. *Supplemental Sub-Slab Soil Sampling Data Report, Philips BCP Site (C851044), Bath, New York*, Haley & Aldrich of New York, June 2021.

11. *Revised AOC-32 Stormwater and Sanitary Sewer Inspection, Cleaning, and Closure Work Plan, Bath, New York, BCP Site #C851044,* Haley & Aldrich of New York, January 2023.

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TABLES

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-103	SB-A02-103	SB-A02-103
Sample Date			04/27/2015	11/19/2020	11/19/2020	11/19/2020	11/19/2020	04/27/2015	04/27/2015	12/20/2016	12/20/2016	11/19/2020	04/27/2015	12/21/2016	
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sample Depth (bgs)			1 - 2 (ft)	0 - 1 (ft)	0 - 1 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	2 - 3 (ft)	3 - 4 (ft)	1 - 2 (ft)	2 - 3 (ft)	
Sample Name			SB-A02-101-1.0-2.0	A02-101-0.0-1.0	4125-111920-0002	A02-101-1.0-2.0	A02-101-2.0-3.0	SB-A02-102-0.0-0.2	SB-A02-102-1.0-2.0	SB-A02-102-1.0-2.0-122016	SB-A02-102-2.0-3.0	A02-102-3.0-4.0	SB-A02-103-1.0-2.0	SB-A02-103-2.0-3.0	
Volatile Organic Compounds (mg/kg)															
1,1,1-Trichloroethane	1000	0.68	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
1,1,2,2-Tetrachloroethane	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
1,1,2-Trichloroethane	-	-	0.12 U	- -	- -	- -	- -	0.001 U	0.0011 U	- -	- -	- -	0.11 U	- -	
1,1-Dichloroethane	480	0.27	0.12 U	- -	- -	- -	- -	0.001 U	0.0011 U	- -	- -	- -	0.11 U	- -	
1,1-Dichloroethene	1000	0.33	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
1,2,3-Trichlorobenzene	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,2,4-Trichlorobenzene	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,2,4-Trimethylbenzene	380	3.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
1,2-Dibromo-3-chloropropane (DBCP)	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,2-Dibromoethane (Ethylene Dibromide)	-	-	0.32 U	- -	- -	- -	- -	0.0028 U	0.0029 U	- -	- -	- -	0.3 U	- -	
1,2-Dichlorobenzene	1000	1.1	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,2-Dichloroethane	60	0.02	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
1,2-Dichloroethene (total)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
1,2-Dichloropropane	-	-	0.28 U	- -	- -	- -	- -	0.0024 U	0.0026 U	- -	- -	- -	0.27 U	- -	
1,3,5-Trimethylbenzene	380	8.4	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
1,3-Dichlorobenzene	560	2.4	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,3-Dichloropropene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
1,4-Dichlorobenzene	250	1.8	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
1,4-Dioxane	250	0.1	7.9 U	- -	- -	- -	- -	0.069 U	0.074 U	- -	- -	- -	7.6 U	- -	
2-Butanone (Methyl Ethyl Ketone)	1000	0.12	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
2-Hexanone (Methyl Butyl Ketone)	-	-	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
2-Phenylbutane (sec-Butylbenzene)	1000	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	-	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
Acetone	1000	0.05	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
Benzene	89	0.06	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Bromodichloromethane	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Bromoform	-	-	0.32 U	- -	- -	- -	- -	0.0028 U	0.0029 U	- -	- -	- -	0.3 U	- -	
Bromomethane (Methyl Bromide)	-	-	0.16 U	- -	- -	- -	- -	0.0014 U	0.0015 U	- -	- -	- -	0.15 U	- -	
Carbon disulfide	-	-	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
Carbon tetrachloride	44	0.76	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Chlorobenzene	1000	1.1	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Chlorobromomethane	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
Chloroethane	-	-	0.16 U	- -	- -	- -	- -	0.0014 U	0.0015 U	- -	- -	- -	0.15 U	- -	
Chloroform (Trichloromethane)	700	0.37	0.12 U	- -	- -	- -	- -	0.001 U	0.0011 U	- -	- -	- -	0.11 U	- -	
Chloromethane (Methyl Chloride)	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
cis-1,2-Dichloroethene	1000	0.25	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
cis-1,3-Dichloropropene	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Cyclohexane	-	-	1.6 U	- -	- -	- -	- -	0.014 U	0.015 U	- -	- -	- -	1.5 U	- -	
Cymene (p-Isopropyltoluene)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
Dibromochloromethane	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Dichlorodifluoromethane (CFC-12)	-	-	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
Ethylbenzene	780	1	0.079 U	- -	- -	- -	- -	**0.00017** J	0.00074 U	- -	- -	- -	0.076 U	- -	
Isopropylbenzene (Cumene)	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
m,p-Xylenes	-	-	0.16 U	- -	- -	- -	- -	**0.00065** J	**0.00019** J	- -	- -	- -	0.15 U	- -	
Methyl acetate	-	-	**0.42** J	- -	- -	- -	- -	0.014 U	0.015 U	- -	- -	- -	**6.3** -	- -	
Methyl Tert Butyl Ether (MTBE)	1000	0.93	0.16 U	- -	- -	- -	- -	0.0014 U	0.0015 U	- -	- -	- -	0.15 U	- -	
Methylcyclohexane	-	-	0.32 U	- -	- -	- -	- -	0.0028 U	**0.00032** J	- -	- -	- -	0.3 U	- -	
Methylene chloride (Dichloromethane)	1000	0.05	0.79 U	- -	- -	- -	- -	0.0069 U	0.0074 U	- -	- -	- -	0.76 U	- -	
Naphthalene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
n-Butylbenzene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
n-Propylbenzene	1000	3.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
o-Xylene	-	-	0.16 U	- -	- -	- -	- -	**0.00025** J	0.0015 U	- -	- -	- -	0.15 U	- -	
Styrene	-	-	0.16 U	- -	- -	- -	- -	0.0014 U	0.0015 U	- -	- -	- -	0.15 U	- -	
tert-Butylbenzene	1000	5.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
Tetrachloroethene	300	1.3	**0.022** J	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Toluene	1000	0.7	**0.026** J	- -	- -	- -	- -	0.001 U	0.0011 U	- -	- -	- -	**0.022** J	- -	
trans-1,2-Dichloroethene	1000	0.19	0.12 U	- -	- -	- -	- -	0.001 U	0.0011 U	- -	- -	- -	0.11 U	- -	
trans-1,3-Dichloropropene	-	-	0.079 U	- -	- -	- -	- -	0.00069 U	0.00074 U	- -	- -	- -	0.076 U	- -	
Trichloroethene	400	0.47	0.079 U	- -	- -	- -	- -	**0.00079** -	**0.00037** J	- -	- -	- -	**0.16** -	- -	
Trichlorofluoromethane (CFC-11)	-	-	0.4 U	- -	- -	- -	- -	0.0034 U	0.0037 U	- -	- -	- -	0.38 U	- -	
Trifluorotrichloroethane (Freon 113)	-	-	1.6 U	- -	- -	- -	- -	0.014 U	0.015 U	- -	- -	- -	1.5 U	- -	
Vinyl chloride	27	0.02	0.16 U	- -	- -	- -	- -	0.0014 U	0.0015 U	- -	- -	- -	0.15 U	- -	
Xylene (Total)	1000	1.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-103	SB-A02-103	
Sample Date			04/27/2015	11/19/2020	11/19/2020	11/19/2020	11/19/2020	04/27/2015	04/27/2015	12/20/2016	12/20/2016	11/19/2020	04/27/2015	12/21/2016	
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sample Depth (bgs)			1 - 2 (ft)	0 - 1 (ft)	0 - 1 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	2 - 3 (ft)	3 - 4 (ft)	1 - 2 (ft)	2 - 3 (ft)	
Sample Name			SB-A02-101-1.0-2.0	A02-101-0.0-1.0	4125-111920-0002	A02-101-1.0-2.0	A02-101-2.0-3.0	SB-A02-102-0.0-0.2	SB-A02-102-1.0-2.0	SB-A02-102-1.0-2.0-122016	SB-A02-102-2.0-3.0	A02-102-3.0-4.0	SB-A02-103-1.0-2.0	SB-A02-103-2.0-3.0	
Semi-Volatile Organic Compounds (mg/kg)															
1,2,4,5-Tetrachlorobenzene	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2,2'-oxybis(1-Chloropropane)	-	-	-	-	-	-	-	-	-	0.27	U	-	-	0.44	U	0.22	U	-	-	-	-	-	-	-	-
2,3,4,6-Tetrachlorophenol	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	-	-	-	-	-	-	-	-	-	0.14	U	-	-	0.22	U	0.11	U	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	-	-	-	-	-	-	-	-	-	0.2	U	-	-	0.33	U	0.16	U	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	-	-	-	-	-	-	-	-	-	1.1	U	-	-	1.8	U	0.87	U	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2-Chloronaphthalene	-	-	-	0.2	U	0.2	U	0.18	U	0.18	U	0.23	U	-	-	0.37	U	0.18	U	0.17	U	-	-	-	-
2-Chlorophenol	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2-Methylnaphthalene	-	-	-	0.24	U	0.24	U	0.22	U	0.21	U	**0.76**	-	-	-	**0.046**	J	**0.084**	J	0.21	U	-	-	-	-
2-Methylphenol (o-Cresol)	1000	0.33	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2-Nitroaniline	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
2-Nitrophenol	-	-	-	-	-	-	-	-	-	0.49	U	-	-	0.8	U	0.39	U	-	-	-	-	-	-	-	-
3&4-Methylphenol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
3-Methylphenol	1000	0.33	-	-	-	-	-	-	-	0.33	U	-	-	0.53	U	0.26	U	-	-	-	-	-	-	-	-
3-Nitroaniline	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	-	-	-	-	-	-	-	-	-	0.59	U	-	-	0.96	U	0.47	U	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether (BDE-3)	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4-Chloroaniline	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4-Nitroaniline	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
4-Nitrophenol	-	-	-	-	-	-	-	-	-	0.32	U	-	-	0.52	U	0.25	U	-	-	-	-	-	-	-	-
Acenaphthene	1000	98	-	0.16	U	0.16	U	0.15	U	0.14	U	**8.4**	-	-	-	**0.48**	-	**0.8**	-	0.14	U	-	-	-	-
Acenaphthylene	1000	107	-	0.16	U	0.16	U	0.15	U	0.14	U	**0.98**	-	-	-	**0.074**	J	**0.1**	J	0.14	U	-	-	-	-
Acetophenone	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Anthracene	1000	1000	-	0.12	U	0.12	U	0.11	U	0.1	U	**11**	-	-	-	**0.84**	-	**1.5**	-	0.1	U	-	-	-	-
Atrazine	-	-	-	-	-	-	-	-	-	0.18	U	-	-	0.3	U	0.14	U	-	-	-	-	-	-	-	-
Benzaldehyde	-	-	-	-	-	-	-	-	-	**0.21**	J	-	-	0.49	U	0.24	U	-	-	-	-	-	-	-	-
Benzo(a)anthracene	11	1	-	**0.072**	J	**0.17**	J	**0.068**	J	0.1	U	**42**	-	-	-	**3.1**	-	**4.9**	-	0.1	U	-	-	-	-
Benzo(a)pyrene	1.1	22	-	**0.085**	J	**0.23**	J	**0.074**	J	0.14	U	**45**	-	-	-	**3.5**	-	**5.8**	-	0.14	U	-	-	-	-
Benzo(b)fluoranthene	11	1.7	-	**0.12**	J	**0.28**	J	**0.086**	J	0.1	U	**60**	-	-	-	**4.7**	-	**8.2**	-	0.1	U	-	-	-	-
Benzo(g,h,i)perylene	1000	1000	-	**0.065**	J	**0.16**	-	**0.051**	J	0.14	U	**30**	-	-	-	**2.5**	-	**5**	-	0.14	U	-	-	-	-
Benzo(k)fluoranthene	110	1.7	-	0.12	U	**0.1**	J	**0.03**	J	0.1	U	**24**	-	-	-	**1.6**	-	**2**	-	0.1	U	-	-	-	-
Biphenyl	-	-	-	-	-	-	-	-	-	**0.31**	J	0.84	U	0.41	U	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	-	-	-	-	-	-	-	-	-	0.24	U	0.4	U	0.2	U	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	-	-	-	-	-	-	-	-	-	0.2	U	0.33	U	0.16	U	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	0.23	U	0.37	U	0.18	U	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	-	-	-	-	-	-	-	-	-	0.23	U	0.37	U	0.18	U	-	-	-	-	-	-	-	-	-	-
Caprolactam	-	-	-	-	-	-	-	-	-	0.23	U	0.37	U	0.18	U	-	-	-	-	-	-	-	-	-	-
Carbazole	-	-	-	-	-	-	-	-	-	-	-	**0.87**	-	**1.4**	-	-	-	-	-	-	-	-	-	-	-
Chrysene	110	1	-	**0.078**	J	**0.19**	J	**0.061**	J	0.1	U	**42**	-	-	-	**3.4**	-	**5.3**	-	0.1	U	-	-	-	-
Dibenz(a,h)anthracene	1.1	1000	-	0.12	U	**0.027**	J	0.11	U	0.1	U	**6**	-	-	-	**0.45**	-	**0.84**	-	0.1	U	-	-	-	-
Dibenzofuran	1000	210	-	-	-	-	-	-	-	-	-	**4**	-	-	-	**0.22**	J	**0.4**	-	-	-	-	-	-	-
Diethyl phthalate	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Dimethyl phthalate	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Fluoranthene	1000	1000	-	**0.21**	J	**0.49**	J	**0.18**	-	0.1	U	**120**	-	-	-	**9.7**	-	**16**	-	0.1	U	-	-	-	-
Fluorene	1000	386	-	0.2	U	0.2	U	0.18	U	0.18	U	**6.9**	-	-	-	**0.39**	-	**0.67**	-	0.17	U	-	-	-	-
Hexachlorobenzene	12	3.2	-	-	-	-	-	-	-	0.14	U	-	-	0.22	U	0.11	U	-	-	-	-	-	-	-	-
Hexachlorobutadiene	-	-	-	-	-	-	-	-	-	0.23	U	-	-	0.37	U	0.18	U	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	-	-	-	-	-	-	-	-	-	0.65	U	-	-	1	U	0.52	U	-	-	-	-	-	-	-	-
Hexachloroethane	-	-	-	-	-	-	-	-	-	0.18	U	-	-	0.3	U	0.14	U	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	11	8.2	-	**0.062**	J	**0.16**	-	**0.048**	J	0.14	U	**35**	-	-	-	**2.6**	-	**5.3**	-	0.14	U	-	-	-	-
Isophorone	-	-	-	-	-	-	-	-	-	0.2	U	-	-	0.33	U	0.16	U	-	-	-	-	-	-	-	-
Naphthalene	1000	12	-	0.2	U	0.2	U	0.18	U	0.18	U	**2.3**	-	-	-	**0.15**	J	**0.25**	-	0.17	U	-	-	-	-
Nitrobenzene	-	-	-	-	-	-	-	-	-	0.2	U	-	-	0.33	U	0.16	U	-	-	-	-	-	-	-	-

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-103	SB-A02-103	
Sample Date			04/27/2015	11/19/2020	11/19/2020	11/19/2020	11/19/2020	04/27/2015	04/27/2015	12/20/2016	12/20/2016	11/19/2020	04/27/2015	12/21/2016	
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sample Depth (bgs)			1 - 2 (ft)	0 - 1 (ft)	0 - 1 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	2 - 3 (ft)	3 - 4 (ft)	1 - 2 (ft)	2 - 3 (ft)	
Sample Name			SB-A02-101-1.0-2.0	A02-101-0.0-1.0	4125-111920-0002	A02-101-1.0-2.0	A02-101-2.0-3.0	SB-A02-102-0.0-0.2	SB-A02-102-1.0-2.0	SB-A02-102-1.0-2.0-122016	SB-A02-102-2.0-3.0	A02-102-3.0-4.0	SB-A02-103-1.0-2.0	SB-A02-103-2.0-3.0	
N-Nitrosodi-n-propylamine	-	-	- -	- -	- -	- -	- -	0.23 U	- -	0.37 U	0.18 U	- -	- -	- -	
N-Nitrosodiphenylamine	-	-	- -	- -	- -	- -	- -	0.18 U	- -	0.3 U	0.14 U	- -	- -	- -	
Pentachlorophenol	55	0.8	- -	- -	- -	- -	- -	0.18 U	- -	0.3 U	0.14 U	- -	- -	- -	
Phenanthrene	1000	1000	- -	**0.12** J	**0.26** J	**0.11** -	0.1 U	**72** -	- -	**5.8** -	**9.5** -	0.1 U	- -	- -	
Phenol	1000	0.33	- -	- -	- -	- -	- -	0.23 U	- -	0.37 U	0.18 U	- -	- -	- -	
Pyrene	1000	1000	- -	**0.18** J	**0.42** J	**0.16** -	0.1 U	**100** -	- -	**8** -	**13** -	0.1 U	- -	- -	
PCBs (mg/kg)															
Aroclor-1016 (PCB-1016)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1221 (PCB-1221)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1232 (PCB-1232)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1242 (PCB-1242)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1248 (PCB-1248)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1254 (PCB-1254)	-	-	- -	- -	- -	- -	- -	**0.664** -	- -	- -	- -	- -	- -	- -	
Aroclor-1260 (PCB-1260)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1262 (PCB-1262)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Aroclor-1268 (PCB-1268)	-	-	- -	- -	- -	- -	- -	0.044 U	- -	- -	- -	- -	- -	- -	
Polychlorinated biphenyls (PCBs)	25	3.2	- -	- -	- -	- -	- -	**0.664** -	- -	- -	- -	- -	- -	- -	
Pesticides (mg/kg)															
4,4'-DDD	180	14	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
4,4'-DDE	120	17	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
4,4'-DDT	94	136	- -	- -	- -	- -	- -	0.0396 U	- -	- -	- -	- -	- -	- -	
Aldrin	1.4	0.19	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
alpha-BHC	6.8	0.02	- -	- -	- -	- -	- -	0.0088 U	- -	- -	- -	- -	- -	- -	
alpha-Chlordane	47	2.9	- -	- -	- -	- -	- -	0.0264 U	- -	- -	- -	- -	- -	- -	
beta-BHC	14	0.09	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
Chlordane	-	-	- -	- -	- -	- -	- -	0.172 U	- -	- -	- -	- -	- -	- -	
delta-BHC	1000	0.25	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
Dieldrin	2.8	0.1	- -	- -	- -	- -	- -	0.0132 U	- -	- -	- -	- -	- -	- -	
Endosulfan I	920	102	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
Endosulfan II	920	102	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
Endosulfan sulfate	920	1000	- -	- -	- -	- -	- -	0.0088 U	- -	- -	- -	- -	- -	- -	
Endrin	410	0.06	- -	- -	- -	- -	- -	0.0088 U	- -	- -	- -	- -	- -	- -	
Endrin aldehyde	-	-	- -	- -	- -	- -	- -	0.0264 U	- -	- -	- -	- -	- -	- -	
Endrin ketone	-	-	- -	- -	- -	- -	- -	0.0211 U	- -	- -	- -	- -	- -	- -	
gamma-BHC (Lindane)	23	0.1	- -	- -	- -	- -	- -	0.0088 U	- -	- -	- -	- -	- -	- -	
gamma-Chlordane	-	-	- -	- -	- -	- -	- -	0.0264 U	- -	- -	- -	- -	- -	- -	
Heptachlor	29	0.38	- -	- -	- -	- -	- -	0.0106 U	- -	- -	- -	- -	- -	- -	
Heptachlor epoxide	-	-	- -	- -	- -	- -	- -	0.0396 U	- -	- -	- -	- -	- -	- -	
Methoxychlor	-	-	- -	- -	- -	- -	- -	0.0396 U	- -	- -	- -	- -	- -	- -	
Toxaphene	-	-	- -	- -	- -	- -	- -	0.396 U	- -	- -	- -	- -	- -	- -	
Inorganic Compounds (mg/kg)															
Aluminum	-	-	**9600** -	- -	- -	- -	- -	**6000** -	**8900** -	- -	- -	- -	**9700** -	- -	
Antimony	-	-	4.5 U	- -	- -	- -	- -	5.4 U	4.3 U	- -	- -	- -	**0.72** J	- -	
Arsenic	16	16	**8.4** -	- -	- -	- -	- -	**9.8** -	**13** -	- -	- -	- -	**8.9** -	- -	
Barium	10000	820	**83** -	- -	- -	- -	- -	**100** -	**64** -	- -	- -	- -	**79** -	- -	
Beryllium	2700	47	**0.41** J	- -	- -	- -	- -	**0.27** J	**0.36** J	- -	- -	- -	**0.37** J	- -	
Cadmium	60	7.5	0.9 U	- -	- -	- -	- -	**0.1** J	0.87 U	- -	- -	- -	**0.29** J	- -	
Calcium	-	-	**18000** -	- -	- -	- -	- -	**20000** -	**47000** -	- -	- -	- -	**15000** -	- -	
Chromium	-	-	**12** -	- -	- -	- -	- -	**11** -	**13** -	- -	- -	- -	**12** -	- -	
Cobalt	-	-	**8.1** -	- -	- -	- -	- -	**6.2** -	**7.9** -	- -	- -	- -	**7.6** -	- -	
Copper	10000	1720	**28** -	- -	- -	- -	- -	**58** -	**29** -	- -	- -	- -	**43** -	- -	
Iron	-	-	**18000** -	- -	- -	- -	- -	**15000** -	**21000** -	- -	- -	- -	**16000** -	- -	
Lead	3900	450	**7.6** -	- -	- -	- -	- -	**24** -	**9.3** -	- -	- -	- -	**20** -	- -	
Magnesium	-	-	**5600** -	- -	- -	- -	- -	**9200** -	**18000** -	- -	- -	- -	**4300** -	- -	
Manganese	10000	2000	**610** -	- -	- -	- -	- -	**390** -	**600** -	- -	- -	- -	**560** -	- -	
Mercury	5.7	0.73	**0.11** -	- -	- -	- -	- -	**1.3** -	**0.14** -	- -	- -	- -	**7.4** -	**0.06** J	
Nickel	10000	130	**19** -	- -	- -	- -	- -	**21** -	**20** -	- -	- -	- -	**19** -	- -	
Potassium	-	-	**870** -	- -	- -	- -	- -	**530** -	**420** -	- -	- -	- -	**760** -	- -	

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-101	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-102	SB-A02-103	SB-A02-103
Sample Date			04/27/2015	11/19/2020	11/19/2020	11/19/2020	11/19/2020	04/27/2015	04/27/2015	12/20/2016	12/20/2016	11/19/2020	04/27/2015	12/21/2016
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sample Depth (bgs)			1 - 2 (ft)	0 - 1 (ft)	0 - 1 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	2 - 3 (ft)	3 - 4 (ft)	1 - 2 (ft)	2 - 3 (ft)
Sample Name			SB-A02-101-1.0-2.0	A02-101-0.0-1.0	4125-111920-0002	A02-101-1.0-2.0	A02-101-2.0-3.0	SB-A02-102-0.0-0.2	SB-A02-102-1.0-2.0	SB-A02-102-1.0-2.0-122016	SB-A02-102-2.0-3.0	A02-102-3.0-4.0	SB-A02-103-1.0-2.0	SB-A02-103-2.0-3.0
Selenium	6800	4	1.8 U	- -	- -	- -	- -	2.1 U	1.7 U	- -	- -	- -	1.8 U	- -
Silver	6800	8.3	0.9 U	- -	- -	- -	- -	1.1 U	0.87 U	- -	- -	- -	**0.19** J	- -
Sodium	-	-	**82** J	- -	- -	- -	- -	**38** J	**57** J	- -	- -	- -	**89** J	- -
Thallium	-	-	1.8 U	- -	- -	- -	- -	2.1 U	1.7 U	- -	- -	- -	1.8 U	- -
Vanadium	-	-	**14** -	- -	- -	- -	- -	**10** -	**14** -	- -	- -	- -	**15** -	- -
Zinc	10000	2480	**79** J	- -	- -	- -	- -	**110** J	**93** J	- -	- -	- -	**120** J	- -
Other														
Total Solids (%)	-	-	- -	**83.9** -	**82.8** -	**89.9** -	**92.9** -	- -	- -	**87.5** -	**89.3** -	**95** -	- -	**85.6** -
Cyanide (mg/kg)	10000	40	- -	- -	- -	- -	- -	1.3 U	- -	- -	- -	- -	- -	- -

Notes:

1. *Results in* ***bold*** *are detected.*
2. *Results qualifiers defined as follows:*
   U: Not detected above the indicated reporting limit.
   UJ: Not detected above indicated reporting limit, however reporting limit is approximate and may or may not represent the actual limit of quantitation.
   J: Estimated result.
   J+: Estimated result, biased high.
   J-: Estimated result, biased low.
   R: Rejected during validation.
3. *Protection of Groundwater criteria only is applicable to trichloroethene.*
4. *mg/kg = milligrams per kilogram*

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-103	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-105	SB-A02-105	SB-A02-105	SB-A02-201	SB-A02-201	SB-A02-202
Sample Date			12/21/2016	04/27/2015	04/27/2015	04/27/2015	12/20/2016	04/27/2015	04/27/2015	12/20/2016	12/20/2016	12/20/2016	12/20/2016
Sample Type	Industrial	Protection of Groundwater	Duplicate	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sample Depth (bgs)			2 - 3 (ft)	0 - 0.2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)
Sample Name			0710-122116-0001	SB-A02-104-0.0-0.2	0123-042715-0002	SB-A02-104-1.0-2.0	SB-A02-104-2.0-3.0	SB-A02-105-0.0-0.2	SB-A02-105-1.0-2.0	SB-A02-105-1.0-2.0-122016	SB-A02-201-0.0-0.2	SB-A02-201-1.0-2.0	SB-A02-202-0.0-0.2
Volatile Organic Compounds (mg/kg)													
1,1,1-Trichloroethane	1000	0.68	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
1,1,2,2-Tetrachloroethane	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
1,1,2-Trichloroethane	-	-	- -	0.0015 U	0.0014 U	0.043 U	- -	0.0016 U	0.00093 U	- -	- -	- -	- -
1,1-Dichloroethane	480	0.27	- -	0.0015 U	0.0014 U	0.043 U	- -	0.0016 U	0.00093 U	- -	- -	- -	- -
1,1-Dichloroethene	1000	0.33	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
1,2,3-Trichlorobenzene	-	-	- -	0.0051 UJ	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,2,4-Trichlorobenzene	-	-	- -	0.0051 UJ	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,2,4-Trimethylbenzene	380	3.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2-Dibromo-3-chloropropane (DBCP)	-	-	- -	0.0051 U	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,2-Dibromoethane (Ethylene Dibromide)	-	-	- -	0.0041 U	0.0036 U	0.11 U	- -	0.0044 U	0.0025 U	- -	- -	- -	- -
1,2-Dichlorobenzene	1000	1.1	- -	0.0051 UJ	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,2-Dichloroethane	60	0.02	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
1,2-Dichloroethene (total)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,2-Dichloropropane	-	-	- -	0.0036 U	0.0032 U	0.1 U	- -	0.0038 U	0.0022 U	- -	- -	- -	- -
1,3,5-Trimethylbenzene	380	8.4	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,3-Dichlorobenzene	560	2.4	- -	0.0051 UJ	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,3-Dichloropropene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1,4-Dichlorobenzene	250	1.8	- -	0.0051 UJ	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
1,4-Dioxane	250	0.1	- -	0.1 U	0.091 U	2.8 U	- -	0.11 U	0.062 U	- -	- -	- -	- -
2-Butanone (Methyl Ethyl Ketone)	1000	0.12	- -	0.01 U	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
2-Hexanone (Methyl Butyl Ketone)	-	-	- -	0.01 UJ	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
2-Phenylbutane (sec-Butylbenzene)	1000	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	-	- -	0.01 U	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
Acetone	1000	0.05	- -	0.01 U	0.0091 U	**0.15** J	- -	0.011 U	0.0062 U	- -	- -	- -	- -
Benzene	89	0.06	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	**0.00007** J	- -	- -	- -	- -
Bromodichloromethane	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Bromoform	-	-	- -	0.0041 U	0.0036 U	0.11 U	- -	0.0044 U	0.0025 U	- -	- -	- -	- -
Bromomethane (Methyl Bromide)	-	-	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
Carbon disulfide	-	-	- -	**0.0022** J	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
Carbon tetrachloride	44	0.76	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Chlorobenzene	1000	1.1	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Chlorobromomethane	-	-	- -	0.0051 U	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
Chloroethane	-	-	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
Chloroform (Trichloromethane)	700	0.37	- -	0.0015 U	0.0014 U	0.043 U	- -	0.0016 U	0.00093 U	- -	- -	- -	- -
Chloromethane (Methyl Chloride)	-	-	- -	0.0051 U	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
cis-1,2-Dichloroethene	1000	0.25	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
cis-1,3-Dichloropropene	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Cyclohexane	-	-	- -	0.02 U	0.018 U	0.57 U	- -	0.022 U	0.012 U	- -	- -	- -	- -
Cymene (p-Isopropyltoluene)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Dibromochloromethane	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Dichlorodifluoromethane (CFC-12)	-	-	- -	0.01 U	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
Ethylbenzene	780	1	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Isopropylbenzene (Cumene)	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
m,p-Xylenes	-	-	- -	0.002 U	0.0018 U	0.057 U	- -	**0.00046** J	**0.00023** J	- -	- -	- -	- -
Methyl acetate	-	-	- -	0.02 UJ	0.018 U	0.57 U	- -	0.022 U	0.012 U	- -	- -	- -	- -
Methyl Tert Butyl Ether (MTBE)	1000	0.93	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
Methylcyclohexane	-	-	- -	0.0041 U	0.0036 U	0.11 U	- -	0.0044 U	**0.00025** J	- -	- -	- -	- -
Methylene chloride (Dichloromethane)	1000	0.05	- -	0.01 U	0.0091 U	0.28 U	- -	0.011 U	0.0062 U	- -	- -	- -	- -
Naphthalene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
n-Butylbenzene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
n-Propylbenzene	1000	3.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
o-Xylene	-	-	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
Styrene	-	-	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
tert-Butylbenzene	1000	5.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Tetrachloroethene	300	1.3	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Toluene	1000	0.7	- -	**0.00075** J	0.0014 U	**0.0073** J	- -	0.0016 U	0.00093 U	- -	- -	- -	- -
trans-1,2-Dichloroethene	1000	0.19	- -	0.0015 U	0.0014 U	0.043 U	- -	0.0016 U	0.00093 U	- -	- -	- -	- -
trans-1,3-Dichloropropene	-	-	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	0.00062 U	- -	- -	- -	- -
Trichloroethene	400	0.47	- -	0.001 U	0.00091 U	0.028 U	- -	0.0011 U	**0.00061** J	- -	- -	- -	- -
Trichlorofluoromethane (CFC-11)	-	-	- -	0.0051 U	0.0046 U	0.14 U	- -	0.0055 U	0.0031 U	- -	- -	- -	- -
Trifluorotrichloroethane (Freon 113)	-	-	- -	0.02 U	0.018 U	0.57 U	- -	0.022 U	0.012 U	- -	- -	- -	- -
Vinyl chloride	27	0.02	- -	0.002 U	0.0018 U	0.057 U	- -	0.0022 U	0.0012 U	- -	- -	- -	- -
Xylene (Total)	1000	1.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-103	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-105	SB-A02-105	SB-A02-105	SB-A02-201	SB-A02-201	SB-A02-202	
Sample Date			12/21/2016	04/27/2015	04/27/2015	04/27/2015	12/20/2016	04/27/2015	04/27/2015	12/20/2016	12/20/2016	12/20/2016	12/20/2016	
Sample Type	Industrial	Protection of Groundwater	Duplicate	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sample Depth (bgs)			2 - 3 (ft)	0 - 0.2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	
Sample Name			0710-122116-0001	SB-A02-104-0.0-0.2	0123-042715-0002	SB-A02-104-1.0-2.0	SB-A02-104-2.0-3.0	SB-A02-105-0.0-0.2	SB-A02-105-1.0-2.0	SB-A02-105-1.0-2.0-122016	SB-A02-201-0.0-0.2	SB-A02-201-1.0-2.0	SB-A02-202-0.0-0.2	
Semi-Volatile Organic Compounds (mg/kg)														
1,2,4,5-Tetrachlorobenzene	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2,2'-oxybis(1-Chloropropane)	-	-	-	-	0.23 U	0.23 U	-	-	-	-	0.23 U	-	-	0.22 U	0.22 U	0.21 U	0.24 U
2,3,4,6-Tetrachlorophenol	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2,4,5-Trichlorophenol	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2,4,6-Trichlorophenol	-	-	-	-	0.12 U	0.12 U	-	-	-	-	0.12 U	-	-	0.11 U	0.11 U	0.1 U	0.12 U
2,4-Dichlorophenol	-	-	-	-	0.17 U	0.17 U	-	-	-	-	0.18 U	-	-	0.17 U	0.16 U	0.15 U	0.18 U
2,4-Dimethylphenol	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2,4-Dinitrophenol	-	-	-	-	0.92 U	0.92 U	-	-	-	-	0.94 U	-	-	0.89 U	0.86 U	0.83 U	0.97 U
2,4-Dinitrotoluene	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2,6-Dinitrotoluene	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2-Chloronaphthalene	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2-Chlorophenol	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2-Methylnaphthalene	-	-	-	-	0.23 U	0.23 U	-	-	-	-	0.23 U	-	-	0.22 U	0.22 U	0.21 U	0.24 U
2-Methylphenol (o-Cresol)	1000	0.33	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2-Nitroaniline	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
2-Nitrophenol	-	-	-	-	0.42 U	0.41 U	-	-	-	-	0.42 U	-	-	0.4 U	0.39 U	0.37 U	0.44 U
3&4-Methylphenol	-	-	-	-	- -	- -	-	-	-	-	- -	-	-	- -	- -	- -	- -
3,3'-Dichlorobenzidine	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
3-Methylphenol	1000	0.33	-	-	0.28 U	0.28 U	-	-	-	-	0.28 U	-	-	0.27 U	0.26 U	0.25 U	0.29 U
3-Nitroaniline	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4,6-Dinitro-2-methylphenol	-	-	-	-	0.5 U	0.5 U	-	-	-	-	0.51 U	-	-	0.48 U	0.46 U	0.45 U	0.53 U
4-Bromophenyl phenyl ether (BDE-3)	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4-Chloro-3-methylphenol	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4-Chloroaniline	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4-Chlorophenyl phenyl ether	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4-Nitroaniline	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
4-Nitrophenol	-	-	-	-	0.27 U	0.27 U	-	-	-	-	0.27 U	-	-	0.26 U	0.25 U	0.24 U	0.28 U
Acenaphthene	1000	98	-	-	**0.063** J	**0.08** J	-	-	-	-	**0.16** -	-	-	**0.11** J	**0.02** J	0.14 U	**0.11** J
Acenaphthylene	1000	107	-	-	0.15 U	0.15 U	-	-	-	-	**0.063** J	-	-	0.15 U	0.14 U	0.14 U	**0.04** J
Acetophenone	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Anthracene	1000	1000	-	-	**0.13** -	**0.2** -	-	-	-	-	**0.47** -	-	-	**0.13** -	**0.043** J	0.1 U	**0.47** -
Atrazine	-	-	-	-	0.15 U	0.15 U	-	-	-	-	0.16 U	-	-	0.15 U	0.14 U	0.14 U	0.16 U
Benzaldehyde	-	-	-	-	0.25 U	**0.22** J	-	-	-	-	**0.24** J	-	-	0.25 U	0.24 U	0.23 U	**0.18** J
Benzo(a)anthracene	11	1	-	-	**0.56** -	**0.97** -	-	-	-	-	**2.4** -	-	-	**0.47** -	**0.083** J	0.1 U	**2.9** -
Benzo(a)pyrene	1.1	22	-	-	**0.62** -	**1.1** -	-	-	-	-	**2.6** -	-	-	**0.51** -	**0.066** J	0.14 U	**3.3** -
Benzo(b)fluoranthene	11	1.7	-	-	**0.86** J	**1.6** J	-	-	-	-	**3.8** -	-	-	**0.69** -	**0.12** -	0.1 U	**4.8** -
Benzo(g,h,i)perylene	1000	1000	-	-	**0.46** -	**0.83** -	-	-	-	-	**1.9** -	-	-	**0.38** -	**0.063** J	0.14 U	**2.4** -
Benzo(k)fluoranthene	110	1.7	-	-	**0.34** -	**0.58** -	-	-	-	-	**1.4** -	-	-	**0.25** -	**0.041** J	0.1 U	**1.5** -
Biphenyl	-	-	-	-	0.44 U	0.44 U	-	-	-	-	0.44 U	-	-	0.42 U	0.41 U	0.39 U	0.46 U
bis(2-Chloroethoxy)methane	-	-	-	-	0.21 U	0.21 U	-	-	-	-	0.21 U	-	-	0.2 U	0.19 U	0.18 U	0.22 U
bis(2-Chloroethyl)ether	-	-	-	-	0.17 U	0.17 U	-	-	-	-	0.18 U	-	-	0.17 U	0.16 U	0.15 U	0.18 U
bis(2-Ethylhexyl)phthalate	-	-	-	-	**0.097** J	**0.25** J	-	-	-	-	**0.068** J	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Butyl benzylphthalate (BBP)	-	-	-	-	0.19 U	**0.24** -	-	-	-	-	**0.056** J	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Caprolactam	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Carbazole	-	-	-	-	**0.13** J	**0.17** J	-	-	-	-	**0.36** -	-	-	**0.14** J	0.18 U	0.17 U	**0.47** -
Chrysene	110	1	-	-	**0.64** J	**1.1** J	-	-	-	-	**2.7** -	-	-	**0.56** -	**0.11** -	0.1 U	**3.5** -
Dibenz(a,h)anthracene	1.1	1000	-	-	**0.094** J	**0.16** -	-	-	-	-	**0.42** -	-	-	**0.079** J	0.11 U	0.1 U	**0.54** -
Dibenzofuran	1000	210	-	-	0.19 U	0.19 U	-	-	-	-	**0.079** J	-	-	**0.063** J	**0.035** J	0.17 U	**0.075** J
Diethyl phthalate	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Dimethyl phthalate	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Di-n-butylphthalate (DBP)	-	-	-	-	**0.051** J	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Di-n-octyl phthalate (DnOP)	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Fluoranthene	1000	1000	-	-	**1.5** J	**2.6** J	-	-	-	-	**5.9** -	-	-	**1.5** -	**0.29** -	0.1 U	**7.8** -
Fluorene	1000	386	-	-	**0.072** J	**0.072** J	-	-	-	-	**0.18** J	-	-	**0.093** J	0.18 U	0.17 U	**0.14** J
Hexachlorobenzene	12	3.2	-	-	0.12 U	0.12 U	-	-	-	-	0.12 U	-	-	0.11 U	0.11 U	0.1 U	0.12 U
Hexachlorobutadiene	-	-	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	0.19 U	0.18 U	0.17 U	0.2 U
Hexachlorocyclopentadiene	-	-	-	-	0.55 U	0.55 U	-	-	-	-	0.56 U	-	-	0.53 U	0.51 U	0.49 U	0.58 U
Hexachloroethane	-	-	-	-	0.15 U	0.15 U	-	-	-	-	0.16 U	-	-	0.15 U	0.14 U	0.14 U	0.16 U
Indeno(1,2,3-cd)pyrene	11	8.2	-	-	**0.47** -	**0.87** -	-	-	-	-	**2.2** -	-	-	**0.41** -	**0.053** J	0.14 U	**2.6** -
Isophorone	-	-	-	-	0.17 U	0.17 U	-	-	-	-	0.18 U	-	-	0.17 U	0.16 U	0.15 U	0.18 U
Naphthalene	1000	12	-	-	0.19 U	0.19 U	-	-	-	-	0.2 U	-	-	**0.06** J	0.18 U	0.17 U	0.2 U
Nitrobenzene	-	-	-	-	0.17 U	0.17 U	-	-	-	-	0.18 U	-	-	0.17 U	0.16 U	0.15 U	0.18 U

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-103	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-105	SB-A02-105	SB-A02-105	SB-A02-201	SB-A02-201	SB-A02-202	
Sample Date			12/21/2016	04/27/2015	04/27/2015	04/27/2015	12/20/2016	04/27/2015	04/27/2015	12/20/2016	12/20/2016	12/20/2016	12/20/2016	
Sample Type	Industrial	Protection of Groundwater	Duplicate	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sample Depth (bgs)			2 - 3 (ft)	0 - 0.2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	
Sample Name			0710-122116-0001	SB-A02-104-0.0-0.2	0123-042715-0002	SB-A02-104-1.0-2.0	SB-A02-104-2.0-3.0	SB-A02-105-0.0-0.2	SB-A02-105-1.0-2.0	SB-A02-105-1.0-2.0-122016	SB-A02-201-0.0-0.2	SB-A02-201-1.0-2.0	SB-A02-202-0.0-0.2	
N-Nitrosodi-n-propylamine	-	-	- -	0.19 U	0.19 U	- -	- -	0.2 U	- -	0.19 U	0.18 U	0.17 U	0.2 U	
N-Nitrosodiphenylamine	-	-	- -	0.15 U	0.15 U	- -	- -	0.16 U	- -	0.15 U	0.14 U	0.14 U	0.16 U	
Pentachlorophenol	55	0.8	- -	0.15 U	0.15 U	- -	- -	0.16 U	- -	0.15 U	0.14 U	0.14 U	0.16 U	
Phenanthrene	1000	1000	- -	**0.87** -	**1.2** -	- -	- -	**2.7** -	- -	**1.1** -	**0.26** -	0.1 U	**2.9** -	
Phenol	1000	0.33	- -	0.19 U	0.19 U	- -	- -	0.2 U	- -	0.19 U	0.18 U	0.17 U	0.2 U	
Pyrene	1000	1000	- -	**1.2** J	**2.1** J	- -	- -	**4.7** -	- -	**1.2** -	**0.3** -	0.1 U	**6.1** -	
PCBs (mg/kg)														
Aroclor-1016 (PCB-1016)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1221 (PCB-1221)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1232 (PCB-1232)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1242 (PCB-1242)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1248 (PCB-1248)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1254 (PCB-1254)	-	-	- -	**0.544** -	**0.551** -	- -	- -	**0.61** -	- -	- -	- -	- -	- -	
Aroclor-1260 (PCB-1260)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1262 (PCB-1262)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Aroclor-1268 (PCB-1268)	-	-	- -	0.0378 U	0.0382 U	- -	- -	0.0388 U	- -	- -	- -	- -	- -	
Polychlorinated biphenyls (PCBs)	25	3.2	- -	**0.544** -	**0.551** -	- -	- -	**0.61** -	- -	- -	- -	- -	- -	
Pesticides (mg/kg)														
4,4'-DDD	180	14	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
4,4'-DDE	120	17	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
4,4'-DDT	94	136	- -	0.00333 U	0.0033 U	- -	- -	0.00344 U	- -	- -	- -	- -	- -	
Aldrin	1.4	0.19	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
alpha-BHC	6.8	0.02	- -	0.00074 U	0.000734 U	- -	- -	0.000765 U	- -	- -	- -	- -	- -	
alpha-Chlordane	47	2.9	- -	0.00222 U	0.0022 U	- -	- -	0.0023 U	- -	- -	- -	- -	- -	
beta-BHC	14	0.09	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
Chlordane	-	-	- -	0.0144 U	0.0143 U	- -	- -	0.0149 U	- -	- -	- -	- -	- -	
delta-BHC	1000	0.25	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
Dieldrin	2.8	0.1	- -	0.00111 U	0.0011 U	- -	- -	0.00115 U	- -	- -	- -	- -	- -	
Endosulfan I	920	102	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
Endosulfan II	920	102	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
Endosulfan sulfate	920	1000	- -	0.00074 U	0.000734 U	- -	- -	0.000765 U	- -	- -	- -	- -	- -	
Endrin	410	0.06	- -	0.00074 U	0.000734 U	- -	- -	0.000765 U	- -	- -	- -	- -	- -	
Endrin aldehyde	-	-	- -	0.00222 U	0.0022 U	- -	- -	0.0023 U	- -	- -	- -	- -	- -	
Endrin ketone	-	-	- -	0.00178 U	0.00176 U	- -	- -	0.00184 U	- -	- -	- -	- -	- -	
gamma-BHC (Lindane)	23	0.1	- -	0.00074 U	0.000734 U	- -	- -	0.000765 U	- -	- -	- -	- -	- -	
gamma-Chlordane	-	-	- -	0.00222 U	0.0022 U	- -	- -	0.0023 U	- -	- -	- -	- -	- -	
Heptachlor	29	0.38	- -	0.000889 U	0.000881 U	- -	- -	0.000918 U	- -	- -	- -	- -	- -	
Heptachlor epoxide	-	-	- -	0.00333 U	0.0033 U	- -	- -	0.00344 U	- -	- -	- -	- -	- -	
Methoxychlor	-	-	- -	0.00333 U	0.0033 U	- -	- -	0.00344 U	- -	- -	- -	- -	- -	
Toxaphene	-	-	- -	0.0333 U	0.033 U	- -	- -	0.0344 U	- -	- -	- -	- -	- -	
Inorganic Compounds (mg/kg)														
Aluminum	-	-	- -	**7100** -	**7100** -	**7500** -	- -	**8800** -	**8200** -	- -	- -	- -	- -	
Antimony	-	-	- -	4.4 U	**1.3** J	**0.99** J	- -	**1.4** J	4.1 U	- -	- -	- -	- -	
Arsenic	16	16	- -	**11** -	**11** -	**7.8** -	- -	**14** -	**14** -	- -	- -	- -	- -	
Barium	10000	820	- -	**67** -	**68** -	**55** -	- -	**71** -	**31** -	- -	- -	- -	- -	
Beryllium	2700	47	- -	**0.3** J	**0.31** J	**0.29** J	- -	**0.4** J	**0.28** J	- -	- -	- -	- -	
Cadmium	60	7.5	- -	**0.22** J	**0.34** J	0.89 U	- -	0.92 U	0.82 U	- -	- -	- -	- -	
Calcium	-	-	- -	**25000** -	**29000** -	**29000** -	- -	**11000** -	**45000** -	- -	- -	- -	- -	
Chromium	-	-	- -	**17** -	**18** -	**11** -	- -	**15** -	**12** -	- -	- -	- -	- -	
Cobalt	-	-	- -	**6.9** -	**7.1** -	**6.9** -	- -	**8.2** -	**8** -	- -	- -	- -	- -	
Copper	10000	1720	- -	**90** -	**120** -	**43** -	- -	**38** -	**38** -	- -	- -	- -	- -	
Iron	-	-	- -	**18000** -	**18000** -	**16000** -	- -	**21000** -	**21000** -	- -	- -	- -	- -	
Lead	3900	450	- -	**18** -	**18** -	**9.7** -	- -	**24** -	**6.8** -	- -	- -	- -	- -	
Magnesium	-	-	- -	**6700** -	**6800** -	**6400** -	- -	**5300** -	**9300** -	- -	- -	- -	- -	
Manganese	10000	2000	- -	**430** -	**450** -	**420** -	- -	**500** -	**530** -	- -	- -	- -	- -	
Mercury	5.7	0.73	**0.07** J	**2.8** -	**2.9** -	**1.4** -	**0.55** -	**0.41** -	**0.03** J	- -	0.07 U	0.07 U	**0.18** -	
Nickel	10000	130	- -	**21** -	**22** -	**17** -	- -	**22** -	**21** -	- -	- -	- -	- -	
Potassium	-	-	- -	**610** -	**580** -	**500** -	- -	**690** -	**350** -	- -	- -	- -	- -	

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02
Location			SB-A02-103	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-104	SB-A02-105	SB-A02-105	SB-A02-105	SB-A02-201	SB-A02-201	SB-A02-202
Sample Date			12/21/2016	04/27/2015	04/27/2015	04/27/2015	12/20/2016	04/27/2015	04/27/2015	12/20/2016	12/20/2016	12/20/2016	12/20/2016
Sample Type	Industrial	Protection of Groundwater	Duplicate	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sample Depth (bgs)			2 - 3 (ft)	0 - 0.2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	2 - 3 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)
Sample Name			0710-122116-0001	SB-A02-104-0.0-0.2	0123-042715-0002	SB-A02-104-1.0-2.0	SB-A02-104-2.0-3.0	SB-A02-105-0.0-0.2	SB-A02-105-1.0-2.0	SB-A02-105-1.0-2.0-122016	SB-A02-201-0.0-0.2	SB-A02-201-1.0-2.0	SB-A02-202-0.0-0.2
Selenium	6800	4	- -	**0.44** J	1.8 U	1.8 U	- -	1.8 U	1.6 U	- -	- -	- -	- -
Silver	6800	8.3	- -	**0.38** J	**0.29** J	**0.18** J	- -	0.92 U	0.82 U	- -	- -	- -	- -
Sodium	-	-	- -	**45** J	**46** J	**56** J	- -	**39** J	**57** J	- -	- -	- -	- -
Thallium	-	-	- -	1.7 U	1.8 U	1.8 U	- -	1.8 U	1.6 U	- -	- -	- -	- -
Vanadium	-	-	- -	**13** -	**12** -	**10** -	- -	**15** -	**14** -	- -	- -	- -	- -
Zinc	10000	2480	- -	**170** J	**160** J	**97** J	- -	**100** J	**100** J	- -	- -	- -	- -
Other													
Total Solids (%)	-	-	**85.1** -	- -	- -	- -	**91.3** -	- -	- -	**88.7** -	**91.1** -	**94.6** -	**82.1** -
Cyanide (mg/kg)	10000	40	- -	1.1 U	**0.36** J	- -	- -	1.1 U	- -	- -	- -	- -	- -

Notes:

*1. Results in **bold** are detected.*
2. Results qualifiers defined as follows:
U: Not detected above the indicated reporting limit.
UJ: Not detected above indicated reporting limit, however reporting limit is appr
and may or may not represent the actual limit of quantitation.
J: Estimated result.
J+: Estimated result, biased high.
J-: Estimated result, biased low.
R: Rejected during validation.
3. Protection of Groundwater criteria only is applicable to trichloroethene.
4. mg/kg = milligrams per kilogram

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	Building 1	Building 1	Building 1
Location			SB-A02-202	SB-A02-203	SB-A02-203	SB-A02-203	SB-A02-204	SB-A02-204	SB-A02-205	SB-A02-205	SB-A02-301	SB-B1-201	SB-B1-201	SB-B1-202
Sample Date			12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	11/19/2020	06/05/2019	06/05/2019	06/05/2019
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sample Depth (bgs)			1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 1 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)
Sample Name			SB-A02-202-1.0-2.0	SB-A02-203-0.0-0.2	SB-A02-203-1.0-2.0	0710-122016-0001	SB-A02-204-0.0-0.2	SB-A02-204-1.0-2.0	SB-A02-205-0.0-0.2	SB-A02-205-1.0-2.0	A02-301-0.0-1.0	SB-B1-201-0.6-1.6	SB-B1-201-6.0-7.0	SB-B1-202-0.6-1.6
Volatile Organic Compounds (mg/kg)														
1,1,1-Trichloroethane	1000	0.68	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
1,1,2,2-Tetrachloroethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
1,1,2-Trichloroethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,1-Dichloroethane	480	0.27	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,1-Dichloroethene	1000	0.33	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,2,3-Trichlorobenzene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,2,4-Trichlorobenzene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,2,4-Trimethylbenzene	380	3.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,2-Dibromo-3-chloropropane (DBCP)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0028 U	0.0025 U	0.0019 U
1,2-Dibromoethane (Ethylene Dibromide)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,2-Dichlorobenzene	1000	1.1	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,2-Dichloroethane	60	0.02	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,2-Dichloroethene (total)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,2-Dichloropropane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
1,3,5-Trimethylbenzene	380	8.4	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	**0.00018** J	0.0012 U
1,3-Dichlorobenzene	560	2.4	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,3-Dichloropropene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
1,4-Dichlorobenzene	250	1.8	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
1,4-Dioxane	250	0.1	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.074 U	0.067 U	0.05 U
2-Butanone (Methyl Ethyl Ketone)	1000	0.12	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
2-Hexanone (Methyl Butyl Ketone)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
2-Phenylbutane (sec-Butylbenzene)	1000	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
Acetone	1000	0.05	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	**0.0064** J	**0.011** -
Benzene	89	0.06	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
Bromodichloromethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
Bromoform	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
Bromomethane (Methyl Bromide)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
Carbon disulfide	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
Carbon tetrachloride	44	0.76	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Chlorobenzene	1000	1.1	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
Chlorobromomethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
Chloroethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
Chloroform (Trichloromethane)	700	0.37	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0014 U	0.0012 U	0.00094 U
Chloromethane (Methyl Chloride)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
cis-1,2-Dichloroethene	1000	0.25	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
cis-1,3-Dichloropropene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
Cyclohexane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
Cymene (p-Isopropyltoluene)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Dibromochloromethane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Dichlorodifluoromethane (CFC-12)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0092 U	0.0084 U	0.0062 U
Ethylbenzene	780	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Isopropylbenzene (Cumene)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
m,p-Xylenes	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	**0.00054** J	0.0012 U
Methyl acetate	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
Methyl Tert Butyl Ether (MTBE)	1000	0.93	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
Methylcyclohexane	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
Methylene chloride (Dichloromethane)	1000	0.05	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0046 U	0.0042 U	0.0031 U
Naphthalene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
n-Butylbenzene	1000	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
n-Propylbenzene	1000	3.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
o-Xylene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Styrene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
tert-Butylbenzene	1000	5.9	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0018 U	0.0017 U	0.0012 U
Tetrachloroethene	300	1.3	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00046 U	0.00042 U	0.00031 U
Toluene	1000	0.7	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
trans-1,2-Dichloroethene	1000	0.19	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0014 U	0.0012 U	0.00094 U
trans-1,3-Dichloropropene	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Trichloroethene	400	0.47	- -	- -	- -	- -	- -	- -	- -	- -	- -	**0.0018** -	**0.004** -	**0.0024** -
Trichlorofluoromethane (CFC-11)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
Trifluorotrichloroethane (Freon 113)	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.0037 U	0.0034 U	0.0025 U
Vinyl chloride	27	0.02	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	0.00084 U	0.00062 U
Xylene (Total)	1000	1.6	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00092 U	**0.00054** J	0.00062 U

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		Building 1		Building 1		Building 1	
Location			SB-A02-202		SB-A02-203		SB-A02-203		SB-A02-203		SB-A02-204		SB-A02-204		SB-A02-205		SB-A02-205		SB-A02-301		SB-B1-201		SB-B1-201		SB-B1-202	
Sample Date			12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		11/19/2020		06/05/2019		06/05/2019		06/05/2019	
Sample Type	Industrial	Protection of Groundwater	Primary		Primary		Primary		Duplicate		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Sample Depth (bgs)			1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		0 - 1 (ft)		0.6 - 1.6 (ft)		6 - 7 (ft)		0.6 - 1.6 (ft)	
Sample Name			SB-A02-202-1.0-2.0		SB-A02-203-0.0-0.2		SB-A02-203-1.0-2.0		0710-122016-0001		SB-A02-204-0.0-0.2		SB-A02-204-1.0-2.0		SB-A02-205-0.0-0.2		SB-A02-205-1.0-2.0		A02-301-0.0-1.0		SB-B1-201-0.6-1.6		SB-B1-201-6.0-7.0		SB-B1-202-0.6-1.6	
Semi-Volatile Organic Compounds (mg/kg)																										
1,2,4,5-Tetrachlorobenzene	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2,2'-oxybis(1-Chloropropane)	-	-	0.22	U	0.26	U	0.22	U	0.21	U	0.3	U	0.24	U	0.27	U	0.22	U	-	-	-	-	0.2	U	-	-
2,3,4,6-Tetrachlorophenol	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2,4,5-Trichlorophenol	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2,4,6-Trichlorophenol	-	-	0.11	U	0.13	U	0.11	U	0.11	U	0.15	U	0.12	U	0.13	U	0.11	U	-	-	-	-	0.1	U	-	-
2,4-Dichlorophenol	-	-	0.16	U	0.2	U	0.16	U	0.16	U	0.22	U	0.18	U	0.2	U	0.16	U	-	-	-	-	0.15	U	-	-
2,4-Dimethylphenol	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2,4-Dinitrophenol	-	-	0.86	U	1	U	0.87	U	0.85	U	1.2	U	0.94	U	1.1	U	0.88	U	-	-	-	-	0.8	U	-	-
2,4-Dinitrotoluene	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2,6-Dinitrotoluene	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2-Chloronaphthalene	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	0.2	U	-	-	0.17	U	-	-
2-Chlorophenol	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2-Methylnaphthalene	-	-	0.22	U	0.26	U	0.22	U	0.21	U	0.3	U	0.24	U	**0.03**	J	0.22	U	0.24	U	-	-	0.2	U	-	-
2-Methylphenol (o-Cresol)	1000	0.33	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2-Nitroaniline	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
2-Nitrophenol	-	-	0.39	U	0.48	U	0.39	U	0.38	U	0.53	U	0.42	U	0.48	U	0.39	U	-	-	-	-	0.36	U	-	-
3&4-Methylphenol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	U	-	-
3,3'-Dichlorobenzidine	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	UJ	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
3-Methylphenol	1000	0.33	0.26	U	0.32	U	0.26	U	0.26	U	0.35	U	0.28	U	0.32	U	0.26	U	-	-	-	-	-	-	-	-
3-Nitroaniline	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4,6-Dinitro-2-methylphenol	-	-	0.47	U	0.57	U	0.47	U	0.46	U	0.64	U	0.51	U	0.58	U	0.47	U	-	-	-	-	0.44	U	-	-
4-Bromophenyl phenyl ether (BDE-3)	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4-Chloro-3-methylphenol	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4-Chloroaniline	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4-Chlorophenyl phenyl ether	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4-Nitroaniline	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
4-Nitrophenol	-	-	0.25	U	0.31	U	0.25	U	0.25	U	0.34	U	0.27	U	0.31	U	0.26	U	-	-	-	-	0.23	U	-	-
Acenaphthene	1000	98	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	**0.13**	J	0.15	U	0.16	U	-	-	0.13	U	-	-
Acenaphthylene	1000	107	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	0.18	U	0.15	U	0.16	U	-	-	0.13	U	-	-
Acetophenone	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Anthracene	1000	1000	0.11	U	0.13	U	0.11	U	0.11	U	**0.056**	J	0.12	U	**0.25**	-	0.11	U	**0.084**	J	-	-	0.1	U	-	-
Atrazine	-	-	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	0.18	U	0.15	U	-	-	-	-	0.13	U	-	-
Benzaldehyde	-	-	0.24	U	**0.094**	J	0.24	U	0.24	U	**0.1**	J	**0.059**	J	0.3	U	0.24	U	-	-	-	-	0.22	U	-	-
Benzo(a)anthracene	11	1	**0.16**	-	**0.11**	J	**0.02**	J	0.11	U	**0.32**	-	**0.042**	J	**0.68**	-	0.11	U	**0.54**	-	-	-	0.1	U	-	-
Benzo(a)pyrene	1.1	22	**0.18**	-	**0.12**	J	0.14	U	0.14	U	**0.38**	-	0.16	U	**0.74**	-	0.15	U	**0.66**	-	-	-	0.13	U	-	-
Benzo(b)fluoranthene	11	1.7	**0.28**	-	**0.17**	-	0.11	U	0.11	U	**0.52**	-	**0.057**	J	**0.94**	-	0.11	U	**0.88**	-	-	-	0.1	U	-	-
Benzo(g,h,i)perylene	1000	1000	**0.15**	-	**0.085**	J	0.14	U	0.14	U	**0.29**	-	**0.031**	J	**0.54**	-	0.15	U	**0.46**	-	-	-	0.13	U	-	-
Benzo(k)fluoranthene	110	1.7	**0.086**	J	**0.05**	J	0.11	U	0.11	U	**0.18**	-	0.12	U	**0.34**	-	0.11	U	**0.3**	-	-	-	0.1	U	-	-
Biphenyl	-	-	0.41	U	0.5	U	0.41	U	0.41	U	0.56	U	0.45	U	0.51	U	0.42	U	-	-	-	-	0.38	U	-	-
bis(2-Chloroethoxy)methane	-	-	0.19	U	0.24	U	0.19	U	0.19	U	0.27	U	0.21	U	0.24	U	0.2	U	-	-	-	-	0.18	U	-	-
bis(2-Chloroethyl)ether	-	-	0.16	U	0.2	U	0.16	U	0.16	U	0.22	U	0.18	U	0.2	U	0.16	U	-	-	-	-	0.15	U	-	-
bis(2-Ethylhexyl)phthalate	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Butyl benzylphthalate (BBP)	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Caprolactam	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Carbazole	-	-	**0.019**	J	0.22	U	0.18	U	0.18	U	**0.058**	J	0.2	U	**0.22**	-	0.18	U	-	-	-	-	0.17	U	-	-
Chrysene	110	1	**0.2**	-	**0.12**	J	0.11	U	0.11	U	**0.39**	-	**0.045**	J	**0.76**	-	0.11	U	**0.63**	-	-	-	0.1	U	-	-
Dibenz(a,h)anthracene	1.1	1000	**0.03**	J	0.13	U	0.11	U	0.11	U	**0.063**	J	0.12	U	**0.11**	J	0.11	U	**0.1**	J	-	-	0.1	U	-	-
Dibenzofuran	1000	210	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	**0.095**	J	0.18	U	-	-	-	-	0.17	U	-	-
Diethyl phthalate	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Dimethyl phthalate	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Di-n-butylphthalate (DBP)	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Di-n-octyl phthalate (DnOP)	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Fluoranthene	1000	1000	**0.38**	-	**0.26**	-	**0.036**	J	0.11	U	**0.82**	-	**0.092**	J	**2.1**	-	**0.031**	J	**1.4**	-	-	-	0.1	U	-	-
Fluorene	1000	386	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	**0.15**	J	0.18	U	**0.024**	J	-	-	0.17	U	-	-
Hexachlorobenzene	12	3.2	0.11	U	0.13	U	0.11	U	0.11	U	0.15	U	0.12	U	0.13	U	0.11	U	-	-	-	-	0.1	U	-	-
Hexachlorobutadiene	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Hexachlorocyclopentadiene	-	-	0.51	U	0.63	U	0.52	U	0.51	U	0.7	U	0.56	U	0.64	U	0.52	U	-	-	-	-	0.48	U	-	-
Hexachloroethane	-	-	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	0.18	U	0.15	U	-	-	-	-	0.13	U	-	-
Indeno(1,2,3-cd)pyrene	11	8.2	**0.16**	-	**0.093**	J	0.14	U	0.14	U	**0.3**	-	**0.033**	J	**0.55**	-	0.15	U	**0.48**	-	-	-	0.13	U	-	-
Isophorone	-	-	0.16	U	0.2	U	0.16	U	0.16	U	0.22	U	0.18	U	0.2	U	0.16	U	-	-	-	-	0.15	U	-	-
Naphthalene	1000	12	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	**0.11**	J	0.18	U	0.2	U	-	-	0.17	U	-	-
Nitrobenzene	-	-	0.16	U	0.2	U	0.16	U	0.16	U	0.22	U	0.18	U	0.2	U	0.16	U	-	-	-	-	0.15	U	-	-

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		AOC-02		Building 1		Building 1		Building 1	
Location			SB-A02-202		SB-A02-203		SB-A02-203		SB-A02-203		SB-A02-204		SB-A02-204		SB-A02-205		SB-A02-205		SB-A02-301		SB-B1-201		SB-B1-201		SB-B1-202	
Sample Date			12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		12/20/2016		11/19/2020		06/05/2019		06/05/2019		06/05/2019	
Sample Type			Primary		Primary		Primary		Duplicate		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Sample Depth (bgs)			1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		0 - 0.2 (ft)		1 - 2 (ft)		0 - 1 (ft)		0.6 - 1.6 (ft)		6 - 7 (ft)		0.6 - 1.6 (ft)	
Sample Name	Industrial	Protection of Groundwater	SB-A02-202-1.0-2.0		SB-A02-203-0.0-0.2		SB-A02-203-1.0-2.0		0710-122016-0001		SB-A02-204-0.0-0.2		SB-A02-204-1.0-2.0		SB-A02-205-0.0-0.2		SB-A02-205-1.0-2.0		A02-301-0.0-1.0		SB-B1-201-0.6-1.6		SB-B1-201-6.0-7.0		SB-B1-202-0.6-1.6	
N-Nitrosodi-n-propylamine	-	-	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
N-Nitrosodiphenylamine	-	-	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	0.18	U	0.15	U	-	-	-	-	0.13	U	-	-
Pentachlorophenol	55	0.8	0.14	U	0.18	U	0.14	U	0.14	U	0.2	U	0.16	U	0.18	U	0.15	U	-	-	-	-	0.13	U	-	-
Phenanthrene	1000	1000	**0.12**	-	**0.13**	-	**0.022**	J	0.11	U	**0.36**	-	**0.045**	J	**1.6**	-	0.11	U	**0.46**	-	-	-	0.1	U	-	-
Phenol	1000	0.33	0.18	U	0.22	U	0.18	U	0.18	U	0.25	U	0.2	U	0.22	U	0.18	U	-	-	-	-	0.17	U	-	-
Pyrene	1000	1000	**0.29**	-	**0.2**	-	**0.031**	J	0.11	U	**0.66**	-	**0.08**	J	**1.7**	-	**0.028**	J	**1.1**	-	-	-	0.1	U	-	-
PCBs (mg/kg)																										
Aroclor-1016 (PCB-1016)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1221 (PCB-1221)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1232 (PCB-1232)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1242 (PCB-1242)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1248 (PCB-1248)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1254 (PCB-1254)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1260 (PCB-1260)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1262 (PCB-1262)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Aroclor-1268 (PCB-1268)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Polychlorinated biphenyls (PCBs)	25	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0334	U	-	-
Pesticides (mg/kg)																										
4,4'-DDD	180	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
4,4'-DDE	120	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
4,4'-DDT	94	136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0029	U	-	-
Aldrin	1.4	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
alpha-BHC	6.8	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000646	U	-	-
alpha-Chlordane	47	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00194	U	-	-
beta-BHC	14	0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
Chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0126	U	-	-
delta-BHC	1000	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
Dieldrin	2.8	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000968	U	-	-
Endosulfan I	920	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
Endosulfan II	920	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
Endosulfan sulfate	920	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000646	U	-	-
Endrin	410	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000646	U	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00194	U	-	-
Endrin ketone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00155	U	-	-
gamma-BHC (Lindane)	23	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000646	U	-	-
gamma-Chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00194	U	-	-
Heptachlor	29	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000775	U	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0029	U	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0029	U	-	-
Toxaphene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.029	U	-	-
Inorganic Compounds (mg/kg)																										
Aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**8610**	-	-	-
Antimony	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.97	U	-	-
Arsenic	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**7.46**	J	-	-
Barium	10000	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**42.3**	-	-	-
Beryllium	2700	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.048**	J	-	-
Cadmium	60	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.841**	-	-	-
Calcium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**54500**	-	-	-
Chromium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**14**	-	-	-
Cobalt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**12**	-	-	-
Copper	10000	1720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**36.7**	-	-	-
Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20100**	-	-	-
Lead	3900	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**14**	-	-	-
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**10200**	-	-	-
Manganese	10000	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**494**	-	-	-
Mercury	5.7	0.73	0.08	U	**0.19**	-	0.08	U	0.08	U	**0.4**	-	**0.15**	-	**0.25**	-	**0.09**	-	-	-	-	-	0.064	U	-	-
Nickel	10000	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**19.6**	-	-	-
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**598**	-	-	-

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	AOC-02	Building 1	Building 1	Building 1
Location			SB-A02-202	SB-A02-203	SB-A02-203	SB-A02-203	SB-A02-204	SB-A02-204	SB-A02-205	SB-A02-205	SB-A02-301	SB-B1-201	SB-B1-201	SB-B1-202
Sample Date			12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016	11/19/2020	06/05/2019	06/05/2019	06/05/2019
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sample Depth (bgs)			1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 0.2 (ft)	1 - 2 (ft)	0 - 1 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)
Sample Name			SB-A02-202-1.0-2.0	SB-A02-203-0.0-0.2	SB-A02-203-1.0-2.0	0710-122016-0001	SB-A02-204-0.0-0.2	SB-A02-204-1.0-2.0	SB-A02-205-0.0-0.2	SB-A02-205-1.0-2.0	A02-301-0.0-1.0	SB-B1-201-0.6-1.6	SB-B1-201-6.0-7.0	SB-B1-202-0.6-1.6
Selenium	6800	4	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1.59 U	- -
Silver	6800	8.3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.794 U	- -
Sodium	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**68.6** J	- -
Thallium	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1.59 U	- -
Vanadium	-	-	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**18.6** -	- -
Zinc	10000	2480	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	**97.8** J	- -
Other														
Total Solids (%)	-	-	**91.9** -	**74.6** -	**92.1** -	**91.8** -	**67.2** -	**82.4** -	**74** -	**90.5** -	**81.5** -	**93.6** -	**97.3** -	**94.8** -
Cyanide (mg/kg)	10000	40	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.99 UJ	- -

Notes:

*1. Results in **bold** are detected.*
2. Results qualifiers defined as follows:
U: Not detected above the indicated reporting limit.
UJ: Not detected above indicated reporting limit, however reporting limit is appr
and may or may not represent the actual limit of quantitation.
J: Estimated result.
J+: Estimated result, biased high.
J-: Estimated result, biased low.
R: Rejected during validation.
3. Protection of Groundwater criteria only is applicable to trichloroethene.
4. mg/kg = milligrams per kilogram

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1
Location			SB-B1-202	SB-B1-203	SB-B1-203	SB-B1-204	SB-B1-204	SB-B1-205	SB-B1-205	SB-B1-206	SB-B1-206	SB-B1-207	SB-B1-207	SB-B1-207
Sample Date			06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/17/2019	06/17/2019	06/17/2019
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate
Sample Depth (bgs)			10 - 11 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.5 - 1.5 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.4 - 1.4 (ft)	6 - 7 (ft)	6 - 7 (ft)
Sample Name			SB-B1-202-10.0-11.0	SB-B1-203-0.6-1.6	SB-B1-203-6.0-7.0	SB-B1-204-0.6-1.6	SB-B1-204-6.0-7.0	SB-B1-205-0.5-1.5	SB-B1-205-6.0-7.0	SB-B1-206-0.6-1.6	SB-B1-206-6.0-7.0	SB-B1-207_0.4-1.4	SB-B1-207_6.0-7.0	4125-061719-0001
Volatile Organic Compounds (mg/kg)														
1,1,1-Trichloroethane	1000	0.68	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
1,1,2,2-Tetrachloroethane	-	-	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
1,1,2-Trichloroethane	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	**0.00011** J	0.00068 U	0.00069 U	0.0007 U
1,1-Dichloroethane	480	0.27	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,1-Dichloroethene	1000	0.33	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,2,3-Trichlorobenzene	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,2,4-Trichlorobenzene	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,2,4-Trimethylbenzene	380	3.6	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,2-Dibromo-3-chloropropane (DBCP)	-	-	0.0012 U	0.14 U	0.0024 U	0.0021 U	0.0022 U	0.12 U	0.0029 U	0.0018 U	0.0013 U	0.002 U	0.0021 U	0.0021 U
1,2-Dibromoethane (Ethylene Dibromide)	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,2-Dichlorobenzene	1000	1.1	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,2-Dichloroethane	60	0.02	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,2-Dichloroethene (total)	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,2-Dichloropropane	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
1,3,5-Trimethylbenzene	380	8.4	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,3-Dichlorobenzene	560	2.4	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,3-Dichloropropene	-	-	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
1,4-Dichlorobenzene	250	1.8	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
1,4-Dioxane	250	0.1	0.031 U	3.8 U	0.063 U	0.056 U	0.059 U	3.4 U	0.078 U	0.048 U	0.034 U	0.055 U	0.055 U	0.056 U
2-Butanone (Methyl Ethyl Ketone)	1000	0.12	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 U	0.0069 U	0.007 U
2-Hexanone (Methyl Butyl Ketone)	-	-	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 U	0.0069 U	0.007 U
2-Phenylbutane (sec-Butylbenzene)	1000	11	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	-	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 U	0.0069 U	0.007 U
Acetone	1000	0.05	**0.002** J	0.48 U	0.0079 U	**0.0084** -	0.0074 U	0.42 U	**0.12** -	**0.011** -	0.0042 U	**0.0044** J	0.0069 U	0.007 U
Benzene	89	0.06	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
Bromodichloromethane	-	-	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
Bromoform	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
Bromomethane (Methyl Bromide)	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Carbon disulfide	-	-	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 UJ	0.0069 UJ	0.007 UJ
Carbon tetrachloride	44	0.76	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Chlorobenzene	1000	1.1	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
Chlorobromomethane	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Chloroethane	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Chloroform (Trichloromethane)	700	0.37	0.00058 U	0.071 U	0.0012 U	**0.00014** J	0.0011 U	0.063 U	0.0015 U	**0.0001** J	0.00064 U	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl Chloride)	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
cis-1,2-Dichloroethene	1000	0.25	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
cis-1,3-Dichloropropene	-	-	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	0.00021 U	0.00034 U	0.00034 U	0.00035 U
Cyclohexane	-	-	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 U	0.0069 U	0.007 U
Cymene (p-Isopropyltoluene)	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Dibromochloromethane	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Dichlorodifluoromethane (CFC-12)	-	-	0.0039 U	0.48 U	0.0079 U	0.007 U	0.0074 U	0.42 U	0.0098 U	0.006 U	0.0042 U	0.0068 U	0.0069 U	0.007 U
Ethylbenzene	780	1	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Isopropylbenzene (Cumene)	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
m,p-Xylenes	-	-	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Methyl acetate	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	**0.0015** J	0.0028 U	0.0028 U
Methyl Tert Butyl Ether (MTBE)	1000	0.93	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Methylcyclohexane	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
Methylene chloride (Dichloromethane)	1000	0.05	0.0019 U	**0.22** J	0.0039 U	0.0035 U	0.0037 U	**0.2** J	0.0049 U	0.003 U	0.0021 U	0.0034 U	0.0034 U	0.0035 U
Naphthalene	1000	12	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
n-Butylbenzene	1000	12	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
n-Propylbenzene	1000	3.9	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
o-Xylene	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Styrene	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
tert-Butylbenzene	1000	5.9	0.00078 U	0.095 U	0.0016 U	0.0014 U	0.0015 U	0.084 U	0.002 U	0.0012 U	0.00085 U	0.0014 U	0.0014 U	0.0014 U
Tetrachloroethene	300	1.3	0.00019 U	0.024 U	0.00039 U	0.00035 U	0.00037 U	0.021 U	0.00049 U	0.0003 U	**0.00011** J	0.00034 U	0.00034 U	0.00035 U
Toluene	1000	0.7	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
trans-1,2-Dichloroethene	1000	0.19	0.00058 U	0.071 U	0.0012 U	0.001 U	0.0011 U	0.063 U	0.0015 U	0.00089 U	0.00064 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	-	-	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U
Trichloroethene	400	0.47	**0.0023** -	**0.44** -	**0.0062** -	**0.0026** -	**0.0052** -	0.49 -	**0.0047** -	**0.017** -	**0.0036** -	**0.0023** -	**0.0022** J	**0.01** J
Trichlorofluoromethane (CFC-11)	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
Trifluorotrichloroethane (Freon 113)	-	-	0.0016 U	0.19 U	0.0031 U	0.0028 U	0.0029 U	0.17 U	0.0039 U	0.0024 U	0.0017 U	0.0027 U	0.0028 U	0.0028 U
Vinyl chloride	27	0.02	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 UJ	0.00069 UJ	0.0007 UJ
Xylene (Total)	1000	1.6	0.00039 U	0.048 U	0.00079 U	0.0007 U	0.00074 U	0.042 U	0.00098 U	0.0006 U	0.00042 U	0.00068 U	0.00069 U	0.0007 U

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1
Location			SB-B1-202	SB-B1-203	SB-B1-203	SB-B1-204	SB-B1-204	SB-B1-205	SB-B1-205	SB-B1-206	SB-B1-206	SB-B1-207	SB-B1-207	SB-B1-207	
Sample Date			06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/17/2019	06/17/2019	06/17/2019	
Sample Type			Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate	
Sample Depth (bgs)			10 - 11 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.5 - 1.5 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.4 - 1.4 (ft)	6 - 7 (ft)	6 - 7 (ft)	
Sample Name	Industrial	Protection of Groundwater	SB-B1-202-10.0-11.0	SB-B1-203-0.6-1.6	SB-B1-203-6.0-7.0	SB-B1-204-0.6-1.6	SB-B1-204-6.0-7.0	SB-B1-205-0.5-1.5	SB-B1-205-6.0-7.0	SB-B1-206-0.6-1.6	SB-B1-206-6.0-7.0	SB-B1-207_0.4-1.4	SB-B1-207_6.0-7.0	4125-061719-0001	
Semi-Volatile Organic Compounds (mg/kg)															
1,2,4,5-Tetrachlorobenzene	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2,2'-oxybis(1-Chloropropane)	-	-	- -	- -	- -	0.21 U	- -	0.21 U	- -	- -	- -	- -	0.2 U	0.2 U	
2,3,4,6-Tetrachlorophenol	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2,4,5-Trichlorophenol	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2,4,6-Trichlorophenol	-	-	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
2,4-Dichlorophenol	-	-	- -	- -	- -	0.16 U	- -	0.16 U	- -	- -	- -	- -	0.15 U	0.15 U	
2,4-Dimethylphenol	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2,4-Dinitrophenol	-	-	- -	- -	- -	0.85 U	- -	0.83 U	- -	- -	- -	- -	0.81 U	0.81 U	
2,4-Dinitrotoluene	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2,6-Dinitrotoluene	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2-Chloronaphthalene	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2-Chlorophenol	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2-Methylnaphthalene	-	-	- -	- -	- -	0.21 U	- -	0.21 U	- -	- -	- -	- -	0.2 U	0.2 U	
2-Methylphenol (o-Cresol)	1000	0.33	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2-Nitroaniline	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
2-Nitrophenol	-	-	- -	- -	- -	0.38 U	- -	0.38 U	- -	- -	- -	- -	0.36 U	0.36 U	
3&4-Methylphenol	-	-	- -	- -	- -	0.25 U	- -	0.25 U	- -	- -	- -	- -	0.24 U	0.24 U	
3,3'-Dichlorobenzidine	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 UJ	0.17 UJ	
3-Methylphenol	1000	0.33	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	
3-Nitroaniline	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4,6-Dinitro-2-methylphenol	-	-	- -	- -	- -	0.46 U	- -	0.45 U	- -	- -	- -	- -	0.44 U	0.44 U	
4-Bromophenyl phenyl ether (BDE-3)	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4-Chloro-3-methylphenol	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4-Chloroaniline	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4-Chlorophenyl phenyl ether	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4-Nitroaniline	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
4-Nitrophenol	-	-	- -	- -	- -	0.25 U	- -	0.24 U	- -	- -	- -	- -	0.24 U	0.24 U	
Acenaphthene	1000	98	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Acenaphthylene	1000	107	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Acetophenone	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Anthracene	1000	1000	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Atrazine	-	-	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Benzaldehyde	-	-	- -	- -	- -	0.23 U	- -	0.23 U	- -	- -	- -	- -	0.22 U	0.22 U	
Benzo(a)anthracene	11	1	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Benzo(a)pyrene	1.1	22	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Benzo(b)fluoranthene	11	1.7	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Benzo(g,h,i)perylene	1000	1000	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Benzo(k)fluoranthene	110	1.7	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Biphenyl	-	-	- -	- -	- -	0.4 U	- -	0.4 U	- -	- -	- -	- -	0.38 UJ	0.38 UJ	
bis(2-Chloroethoxy)methane	-	-	- -	- -	- -	0.19 U	- -	0.19 U	- -	- -	- -	- -	0.18 U	0.18 U	
bis(2-Chloroethyl)ether	-	-	- -	- -	- -	0.16 U	- -	0.16 U	- -	- -	- -	- -	0.15 U	0.15 U	
bis(2-Ethylhexyl)phthalate	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	**0.24** -	
Butyl benzylphthalate (BBP)	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 UJ	**1** J	
Caprolactam	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Carbazole	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 UJ	0.17 UJ	
Chrysene	110	1	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Dibenz(a,h)anthracene	1.1	1000	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Dibenzofuran	1000	210	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Diethyl phthalate	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Dimethyl phthalate	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Di-n-butylphthalate (DBP)	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Di-n-octyl phthalate (DnOP)	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Fluoranthene	1000	1000	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Fluorene	1000	386	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Hexachlorobenzene	12	3.2	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U	
Hexachlorobutadiene	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Hexachlorocyclopentadiene	-	-	- -	- -	- -	0.5 U	- -	0.5 U	- -	- -	- -	- -	0.48 UJ	0.48 UJ	
Hexachloroethane	-	-	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Indeno(1,2,3-cd)pyrene	11	8.2	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U	
Isophorone	-	-	- -	- -	- -	0.16 U	- -	0.16 U	- -	- -	- -	- -	0.15 U	0.15 U	
Naphthalene	1000	12	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U	
Nitrobenzene	-	-	- -	- -	- -	0.16 U	- -	0.16 U	- -	- -	- -	- -	0.15 U	0.15 U	

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1
Location			SB-B1-202	SB-B1-203	SB-B1-203	SB-B1-204	SB-B1-204	SB-B1-205	SB-B1-205	SB-B1-206	SB-B1-206	SB-B1-207	SB-B1-207	SB-B1-207
Sample Date			06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/17/2019	06/17/2019	06/17/2019
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate
Sample Depth (bgs)			10 - 11 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.5 - 1.5 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.4 - 1.4 (ft)	6 - 7 (ft)	6 - 7 (ft)
Sample Name			SB-B1-202-10.0-11.0	SB-B1-203-0.6-1.6	SB-B1-203-6.0-7.0	SB-B1-204-0.6-1.6	SB-B1-204-6.0-7.0	SB-B1-205-0.5-1.5	SB-B1-205-6.0-7.0	SB-B1-206-0.6-1.6	SB-B1-206-6.0-7.0	SB-B1-207_0.4-1.4	SB-B1-207_6.0-7.0	4125-061719-0001
N-Nitrosodi-n-propylamine	-	-	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U
N-Nitrosodiphenylamine	-	-	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U
Pentachlorophenol	55	0.8	- -	- -	- -	0.14 U	- -	0.14 U	- -	- -	- -	- -	0.13 U	0.14 U
Phenanthrene	1000	1000	- -	- -	- -	0.1 U	- -	0.1 U	- -	- -	- -	- -	0.1 U	0.1 U
Phenol	1000	0.33	- -	- -	- -	0.18 U	- -	0.17 U	- -	- -	- -	- -	0.17 U	0.17 U
Pyrene	1000	1000	- -	- -	- -	0.1 U	- -	**0.017** J	- -	- -	- -	- -	0.1 U	0.1 U
PCBs (mg/kg)														
Aroclor-1016 (PCB-1016)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1221 (PCB-1221)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1232 (PCB-1232)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1242 (PCB-1242)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1248 (PCB-1248)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1254 (PCB-1254)	-	-	- -	- -	- -	0.0352 U	- -	**0.0247** J	- -	- -	- -	- -	0.0335 U	**0.0327** J
Aroclor-1260 (PCB-1260)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1262 (PCB-1262)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Aroclor-1268 (PCB-1268)	-	-	- -	- -	- -	0.0352 U	- -	0.035 U	- -	- -	- -	- -	0.0335 U	0.0339 U
Polychlorinated biphenyls (PCBs)	25	3.2	- -	- -	- -	0.0352 U	- -	**0.0247** J	- -	- -	- -	- -	0.0335 U	**0.0327** J
Pesticides (mg/kg)														
4,4'-DDD	180	14	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
4,4'-DDE	120	17	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
4,4'-DDT	94	136	- -	- -	- -	0.00307 U	- -	0.00313 U	- -	- -	- -	- -	0.00297 U	0.003 U
Aldrin	1.4	0.19	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
alpha-BHC	6.8	0.02	- -	- -	- -	0.000683 U	- -	0.000696 U	- -	- -	- -	- -	0.000659 U	0.000668 U
alpha-Chlordane	47	2.9	- -	- -	- -	0.00205 U	- -	0.00209 U	- -	- -	- -	- -	0.00198 U	0.002 U
beta-BHC	14	0.09	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
Chlordane	-	-	- -	- -	- -	0.0133 U	- -	0.0136 U	- -	- -	- -	- -	0.0128 U	0.013 U
delta-BHC	1000	0.25	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
Dieldrin	2.8	0.1	- -	- -	- -	0.00102 U	- -	0.00104 U	- -	- -	- -	- -	0.000989 U	**0.00063** J
Endosulfan I	920	102	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
Endosulfan II	920	102	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
Endosulfan sulfate	920	1000	- -	- -	- -	0.000683 U	- -	0.000696 U	- -	- -	- -	- -	0.000659 U	0.000668 U
Endrin	410	0.06	- -	- -	- -	0.000683 U	- -	0.000696 U	- -	- -	- -	- -	0.000659 U	0.000668 U
Endrin aldehyde	-	-	- -	- -	- -	0.00205 U	- -	0.00209 U	- -	- -	- -	- -	0.00198 U	0.002 U
Endrin ketone	-	-	- -	- -	- -	0.00164 U	- -	0.00167 U	- -	- -	- -	- -	0.00158 U	0.0016 U
gamma-BHC (Lindane)	23	0.1	- -	- -	- -	0.000683 U	- -	0.000696 U	- -	- -	- -	- -	0.000659 U	0.000668 U
gamma-Chlordane	-	-	- -	- -	- -	0.00205 U	- -	0.00209 U	- -	- -	- -	- -	0.00198 U	0.002 U
Heptachlor	29	0.38	- -	- -	- -	0.00082 U	- -	0.000836 U	- -	- -	- -	- -	0.000791 U	0.000802 U
Heptachlor epoxide	-	-	- -	- -	- -	0.00307 U	- -	0.00313 U	- -	- -	- -	- -	0.00297 U	0.003 U
Methoxychlor	-	-	- -	- -	- -	0.00307 U	- -	0.00313 U	- -	- -	- -	- -	0.00297 U	0.003 U
Toxaphene	-	-	- -	- -	- -	0.0307 U	- -	0.0313 U	- -	- -	- -	- -	0.0297 U	0.03 U
Inorganic Compounds (mg/kg)														
Aluminum	-	-	- -	- -	- -	**7500** -	- -	**8150** -	- -	- -	- -	- -	**9020** -	**7740** -
Antimony	-	-	- -	- -	- -	4.23 U	- -	**0.361** J	- -	- -	- -	- -	**0.713** R	**0.942** R
Arsenic	16	16	- -	- -	- -	**9.65** J	- -	**10.3** J	- -	- -	- -	- -	**7.31** -	**9.05** -
Barium	10000	820	- -	- -	- -	**29** -	- -	**43.7** -	- -	- -	- -	- -	**42** -	**41.2** -
Beryllium	2700	47	- -	- -	- -	**0.313** J	- -	**0.311** J	- -	- -	- -	- -	**0.321** J	**0.292** J
Cadmium	60	7.5	- -	- -	- -	**0.786** J	- -	**0.916** -	- -	- -	- -	- -	**0.431** J	**0.422** J
Calcium	-	-	- -	- -	- -	**24000** -	- -	**30900** -	- -	- -	- -	- -	**38500** -	**50800** -
Chromium	-	-	- -	- -	- -	**10.4** -	- -	**11.8** -	- -	- -	- -	- -	**11.9** -	**11.5** -
Cobalt	-	-	- -	- -	- -	**8.75** -	- -	**8.5** -	- -	- -	- -	- -	**10.2** -	**8.95** -
Copper	10000	1720	- -	- -	- -	**34.6** -	- -	**36** -	- -	- -	- -	- -	**33.4** -	**29.6** -
Iron	-	-	- -	- -	- -	**19600** -	- -	**22100** -	- -	- -	- -	- -	**17600** -	**17500** -
Lead	3900	450	- -	- -	- -	**15.2** -	- -	**12.2** -	- -	- -	- -	- -	**7** -	**10.4** -
Magnesium	-	-	- -	- -	- -	**4600** -	- -	**9100** -	- -	- -	- -	- -	**13400** -	**16500** -
Manganese	10000	2000	- -	- -	- -	**621** -	- -	**509** -	- -	- -	- -	- -	**1040** -	**706** -
Mercury	5.7	0.73	- -	- -	- -	0.072 U	- -	0.083 U	- -	- -	- -	- -	0.067 U	0.073 U
Nickel	10000	130	- -	- -	- -	**17.8** -	- -	**20.6** -	- -	- -	- -	- -	**25.9** -	**23.6** -
Potassium	-	-	- -	- -	- -	**437** -	- -	**366** -	- -	- -	- -	- -	**889** -	**790** -

TABLE I
SUMMARY OF SOIL ANALYTICAL RESULTS - AOC-02 AND BUILDING 1
PHILIPS LIGHTING COMPANY - BATH FACILITY
BATH, NEW YORK
BCP SITE #C851044

Area of Interest	Cleanup Objectives Protection of Public Health		Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1	Building 1
Location			SB-B1-202	SB-B1-203	SB-B1-203	SB-B1-204	SB-B1-204	SB-B1-205	SB-B1-205	SB-B1-206	SB-B1-206	SB-B1-207	SB-B1-207	SB-B1-207
Sample Date			06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/05/2019	06/17/2019	06/17/2019	06/17/2019
Sample Type	Industrial	Protection of Groundwater	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate
Sample Depth (bgs)			10 - 11 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.5 - 1.5 (ft)	6 - 7 (ft)	0.6 - 1.6 (ft)	6 - 7 (ft)	0.4 - 1.4 (ft)	6 - 7 (ft)	6 - 7 (ft)
Sample Name			SB-B1-202-10.0-11.0	SB-B1-203-0.6-1.6	SB-B1-203-6.0-7.0	SB-B1-204-0.6-1.6	SB-B1-204-6.0-7.0	SB-B1-205-0.5-1.5	SB-B1-205-6.0-7.0	SB-B1-206-0.6-1.6	SB-B1-206-6.0-7.0	SB-B1-207_0.4-1.4	SB-B1-207_6.0-7.0	4125-061719-0001
Selenium	6800	4	- -	- -	- -	1.69 U	- -	1.68 U	- -	- -	- -	- -	1.57 U	1.62 U
Silver	6800	8.3	- -	- -	- -	0.845 U	- -	0.84 U	- -	- -	- -	- -	0.783 U	0.812 U
Sodium	-	-	- -	- -	- -	**69.3** J	- -	**46.7** J	- -	- -	- -	- -	**98.8** J	**98.4** J
Thallium	-	-	- -	- -	- -	1.69 U	- -	1.68 U	- -	- -	- -	- -	**0.548** J	1.62 U
Vanadium	-	-	- -	- -	- -	**13.8** -	- -	**14.8** -	- -	- -	- -	- -	**15.1** -	**14.1** -
Zinc	10000	2480	- -	- -	- -	**104** J	- -	**122** J	- -	- -	- -	- -	**81.9** -	**80.4** -
Other														
Total Solids (%)	-	-	**95.9** -	**90.9** -	**97.4** -	**93.3** -	**96.6** -	**93.6** -	**93.9** -	**90** -	**96.7** -	**94.2** -	**97.9** -	**97.4** -
Cyanide (mg/kg)	10000	40	- -	- -	- -	1 UJ	- -	1 UJ	- -	- -	- -	- -	1 UJ	1 UJ

Notes:

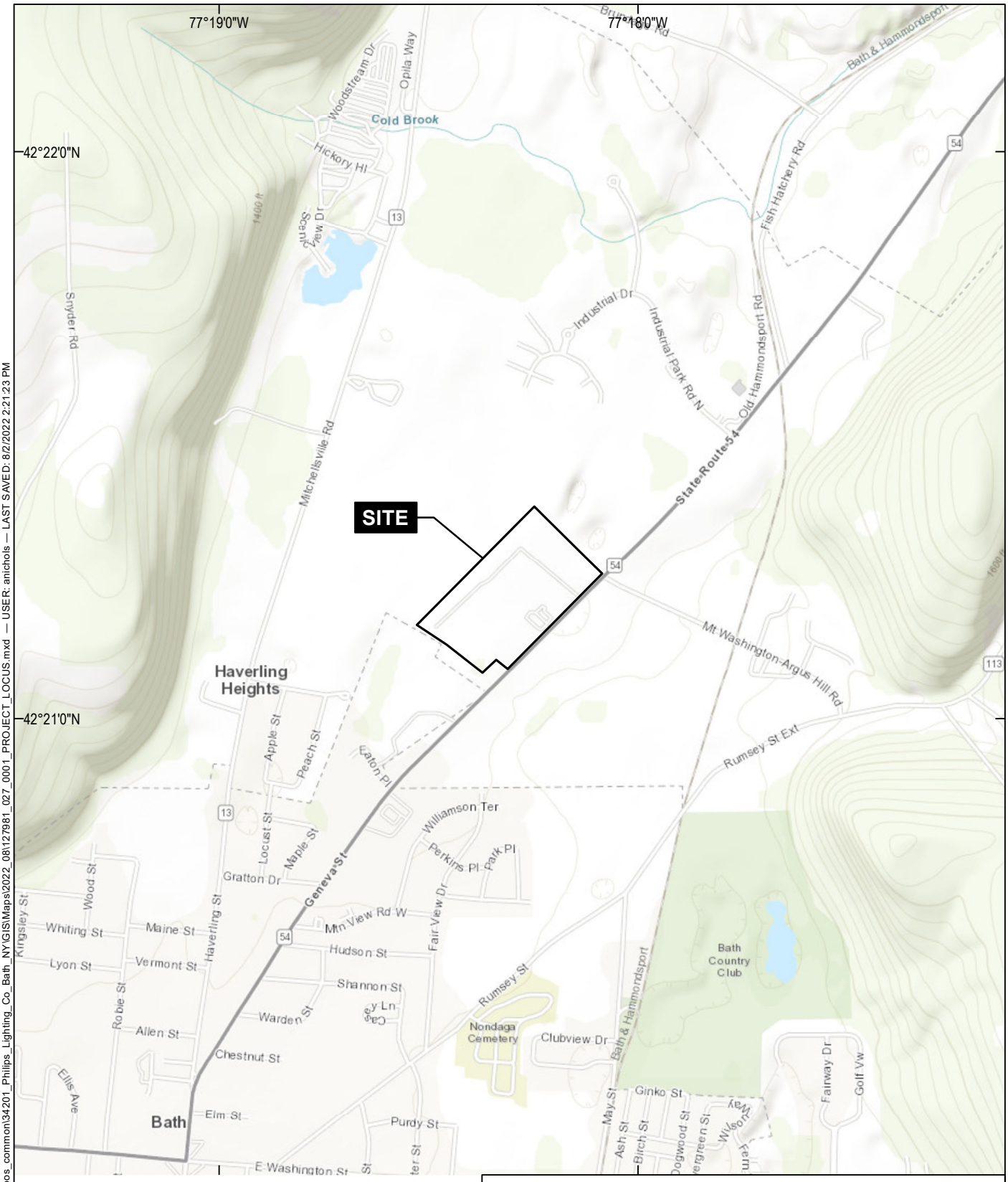
1. *Results in* ***bold*** *are detected.*
2. *Results qualifiers defined as follows:*
   U: Not detected above the indicated reporting limit.
   UJ: Not detected above indicated reporting limit, however reporting limit is appr
   and may or may not represent the actual limit of quantitation.
   J: Estimated result.
   J+: Estimated result, biased high.
   J-: Estimated result, biased low.
   R: Rejected during validation.
3. *Protection of Groundwater criteria only is applicable to trichloroethene.*
4. *mg/kg = milligrams per kilogram*

TABLE II
IRM-1 SAMPLING ANALYSIS PLAN
PHILIPS LIGHTNING COMPANY BATH FACILITY
BATH, NEW YORK
BCP SITE #851044

IRM	Area Description	Sample Matrix	Sample Description	Location ID	Collection Method	Sample Depth (Feet b.g.s)	Minimum No. Samples	Sample Type	Analytical Method
IRM-1	Acid Neutralization Building	Soil	Post-Removal Sampling per DER-10	Bottom Excavation samples	Hand Auger or shovel	Surface: 0-2 and 0-6 inches below surface	18	Grab	All Samples: Part 375 VOCs via EPA 8260B, Part 375 Metals via EPA Methods 6010/7471A, Part 375 SVOCs via EPA Method 8270, and PCBs via EPA Method 8082. 25% of Samples: Part 375 Pesticides via EPA Method 8081 and cyanide.
				Sidewall samples	Hand Auger or shovel	Varying depths based on excvation depth; halfway down excavation	6	Grab	All Samples: Part 375 VOCs via EPA 8260B, Part 375 Metals via EPA Methods 6010/7471A, Part 375 SVOCs via EPA Method 8270, and PCBs via EPA Method 8082. 25% of Samples: Part 375 Pesticides via EPA Method 8081 and cyanide.
			Sampling for backfill of soils from AOC-2	AOC-2	Hand Auger	N/A	1 Discrete	Grab	Part 375 VOCs via EPA 8260B, Part 375 Metals via EPA Methods 6010/7471A, Part 375 SVOCs via EPA Method 8270, Part 375 Pesticides via EPA Method 8081, PCBs via EPA Method 8082, PFOS/PFOA, TCLP Metals via EPA Method 1311
			Sampling for reuse of Excavated soils	Acid Waste Trench and Acid Waste Building Excavations	Hand Auger	N/A	2 Discrete	Grab	Part 375 VOCs via EPA 8260B, Part 375 Metals via EPA Methods 6010/7471A, Part 375 SVOCs via EPA Method 8270, Part 375 Pesticides via EPA Method 8081, PCBs via EPA Method 8082, PFOS/PFOA
			Sampling of Import per DER-10	To be determined	Hand Auger	N/A	3 Discrete 1 Composite	Grab/ Composite	Discrete: Part 375 VOCs via EPA 8260B. Composite: Part 375 Metals via EPA Methods 6010/7471A, Part 375 SVOCs via EPA Method 8270, Part 375 Pesticides via EPA Method 8081, PCBs via EPA Method 8082, PFOS/PFOA

Notes & Abbreviations:
DER-10: NYSDEC Technical Guidance for Site Investigation and Remediation
EPA: Environmental Protection Agency
Part 375: Constituents included in NYSDEC Division of Environmental Remediation 6 NYCRR Part 375 Table 375-6.8(b)
PCBs: Polychlorinated Biphenyls
PFOS/PFOA: Perfluorooctane sulfonate/perfluorooctanoic acid
SCO: Soil Cleanup Objective
SVOCs: Semi-volatile Organic Compounds
TCLP: Toxicity Characteristic Leaching Procedure
VOCs: Volatile Organic Compounds

FIGURES



PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

PROJECT LOCUS

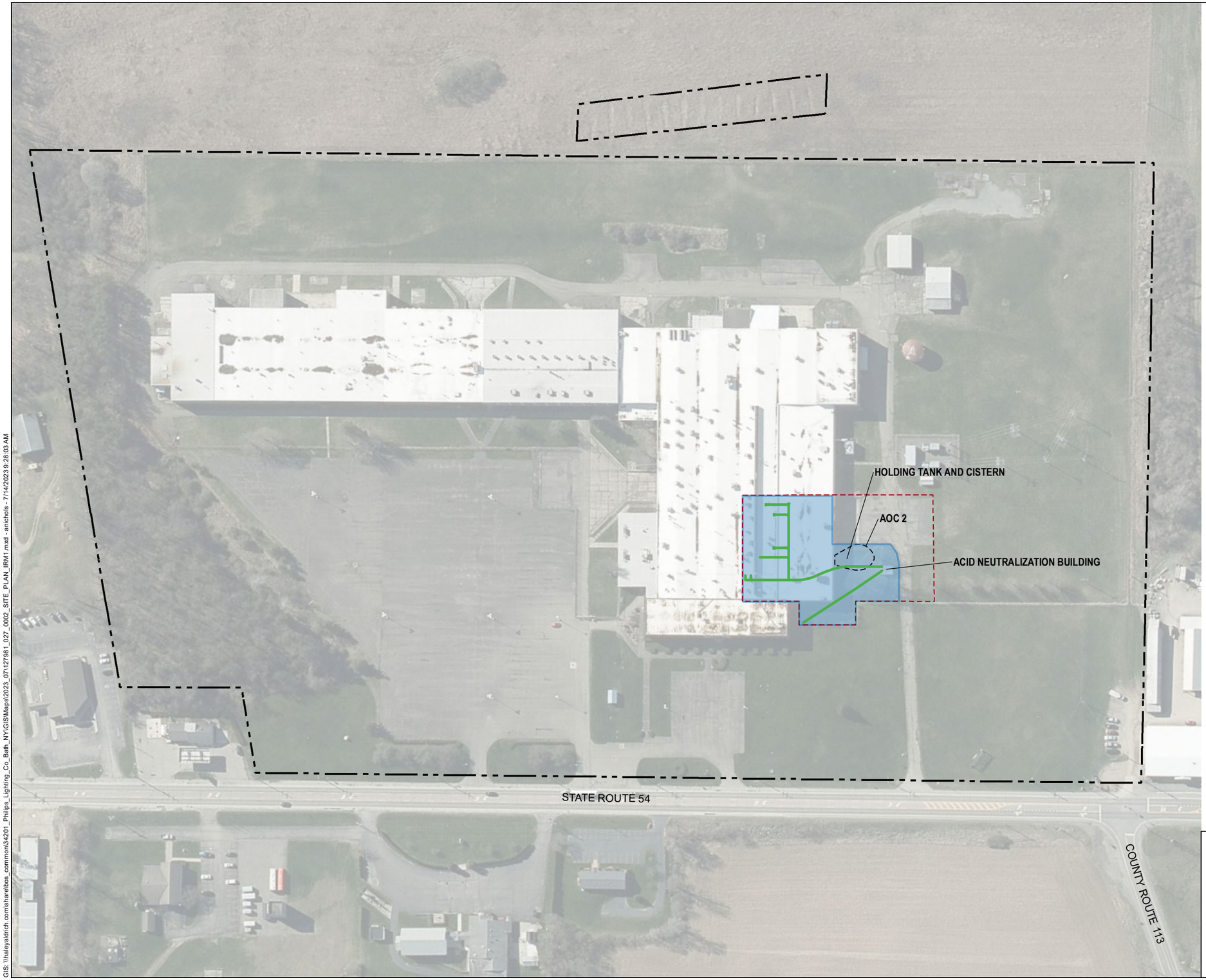
MAP SOURCE: ESRI
SITE COORDINATES: 42°21'18"N, 77°18'20"W

APPROXIMATE SCALE: 1 IN = 2000 FT
APRIL 2023

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\shared\bos_common\34201_Philips_Lighting_Co_Bath_NY\GIS\Maps\2022_08\127981_027_0001_PROJECT_LOCUS.mxd — USER: anichols — LAST SAVED: 8/2/2022 2:21:23 PM

DRAFT



LEGEND

- ACID DRAIN
- IRM-1 AREA
- IRM-1 CONSTRUCTION AREA
- AREA OF CONCERN (AOC) TO BE ADDRESSED AS PART OF IRM-1
- BROWNFIELD CLEANUP PROGRAM (BCP) SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. ACID DRAIN DATA SOURCES: McFARLAND AND JOHNSON ENGINEERING BUILDING PLANS (1985), HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY (2020), PLAN A-100-7 EXISTING YARD SERVICES (1970).

3. AERIAL IMAGERY SOURCE: NEW YORK STATE, 2020

0 160 320
SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

SITE PLAN
IRM-1

JULY 2023

FIGURE 2

GIS: \\haleyaldrich.com\share\bos_common\34201_Philips_Lighting_Co_Bath_NY\GIS\Maps\2023_07\127981_027_0002_SITE_PLAN_IRM1.mxd - anichols - 7/14/2023 9:28:03 AM

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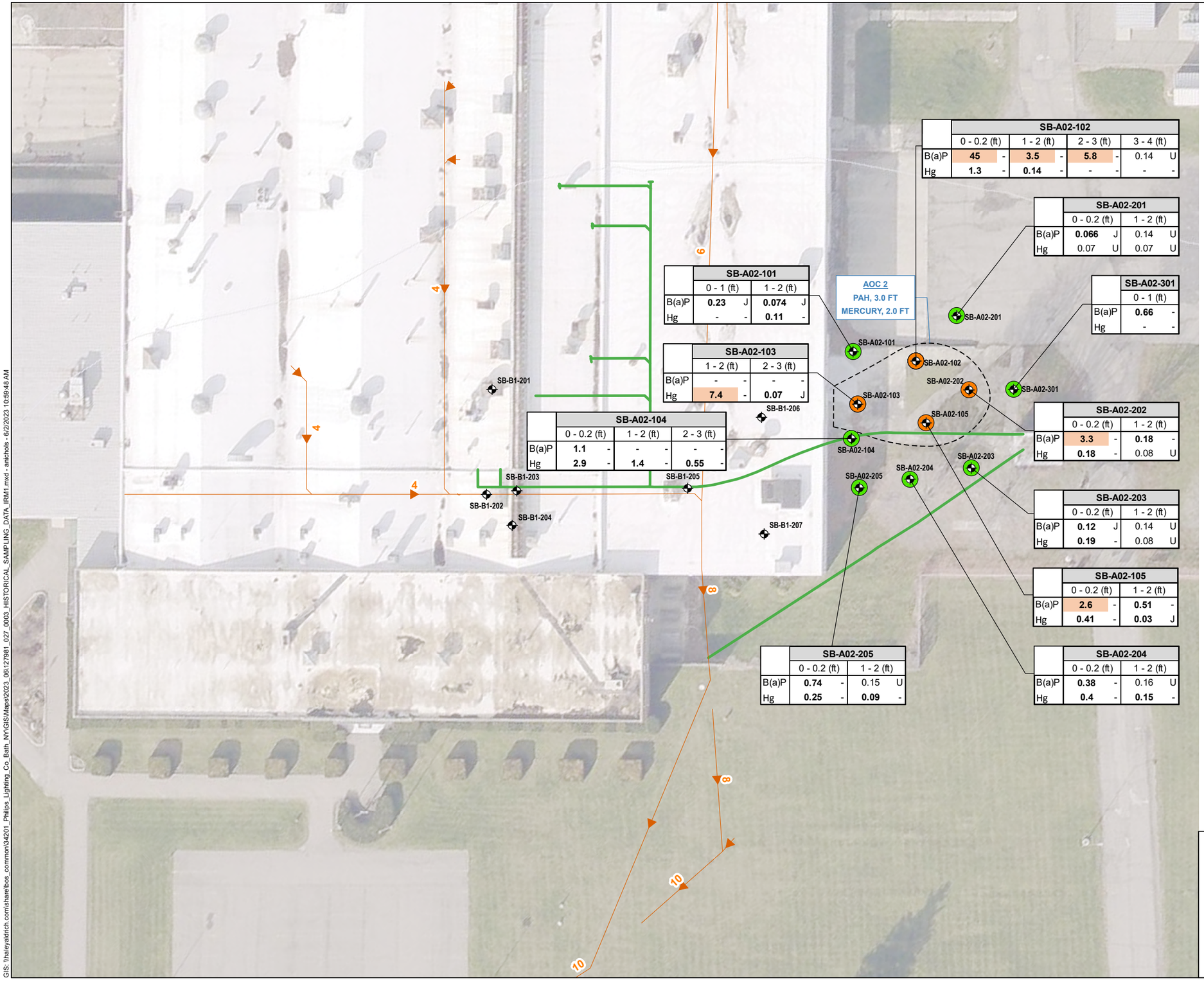

LEGEND

- SOIL BORING
- SOIL SAMPLE WITH CONTAMINANT CONCENTRATION EXCEEDING NYSDEC INDUSTRIAL SCOs
- SOIL SAMPLE WITH CONTAMINANT CONCENTRATION BELOW NYSDEC INDUSTRIAL SCOs
- SANITARY SEWER, WITH PIPE DIAMETER (IN) AND FLOW DIRECTION
- ACID DRAIN
- AREA OF CONCERN, WITH DEPTH OF SOIL IMPACTS, IN FEET

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. SANITARY SEWER PIPE AND ACID DRAIN DATA SOURCES: McFARLAND AND JOHNSON ENGINEERING BUILDING PLANS (1985), HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY (2020), PLAN A-100-7 EXISTING YARD SERVICES (1970).

3. SANITARY SEWER AND ACID DRAIN SURFACE FEATURE SOURCE: HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY

4. VALUES SHOWN IN DATABOXES ARE THE MAXIMUM CONCENTRATIONS OF BENZO(A)PYRENE (B(a)P) AND MERCURY (Hg) DETECTED AT THE LOCATION.

5. AERIAL IMAGERY SOURCE: EAGLEVIEW, 15 NOVEMBER 2017

	Industrial SCOs (mg/kg)
Benzo(a)pyrene (B(a)P)	1.1
Mercury (Hg)	5.7

0 40 80
SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

HISTORICAL SAMPLING LOCATIONS AND DATA IRM-1

JUNE 2023

FIGURE 3

GIS: \\haleyaldrich.com\share\bos_common\34201_Philips_Lighting_Co_Bath_NY\GIS\Maps\2023_06\127981_027_0003_HISTORICAL_SAMPLING_DATA_IRM1.mxd - anichols - 6/2/2023 10:59:48 AM

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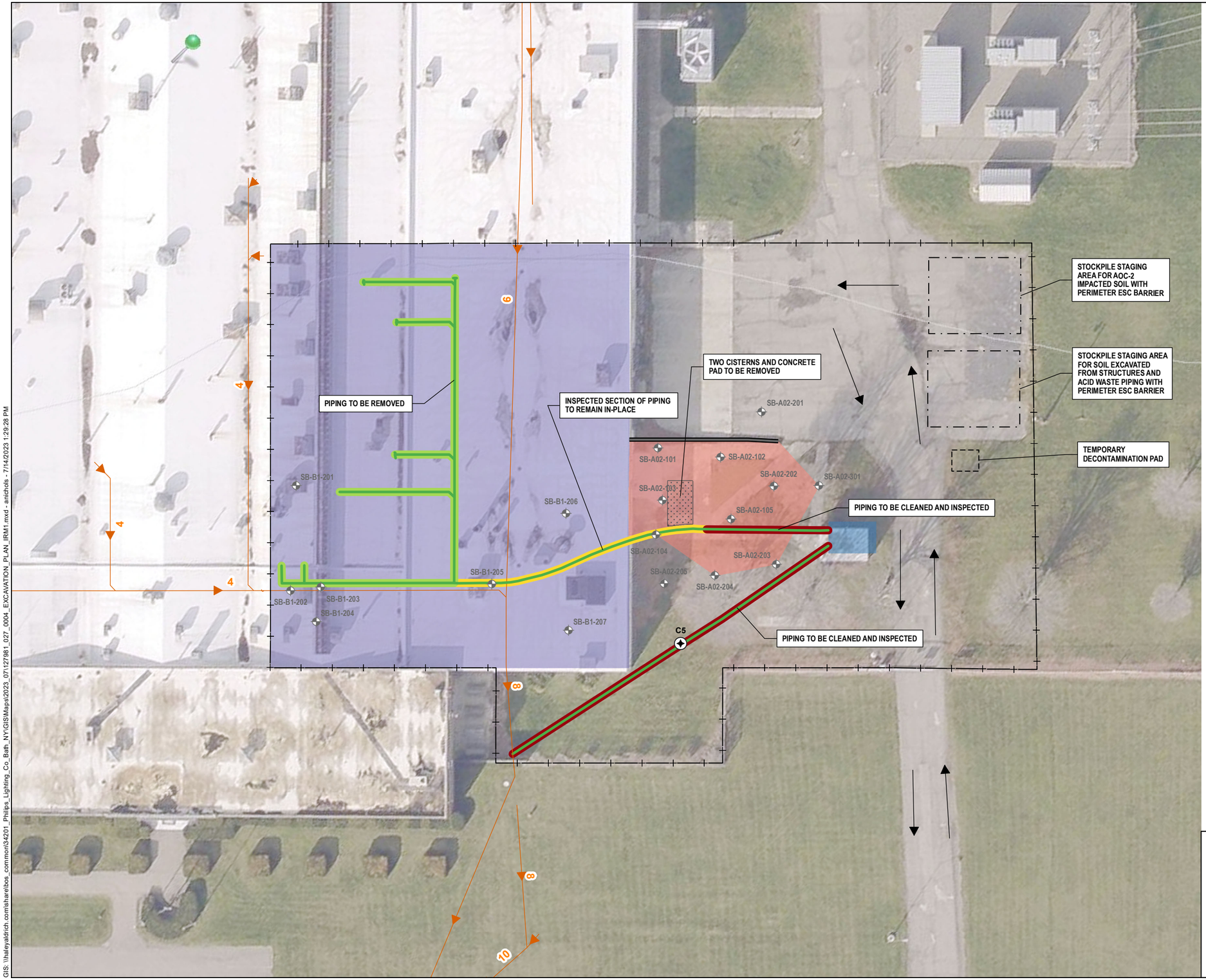

LEGEND

- PREVIOUS SOIL BORING
- SAMPLED MANHOLE
- SANITARY SEWER, WITH PIPE DIAMETER (IN) AND FLOW DIRECTION
- ACID DRAIN

ACID DRAIN PIPING STATUS

- INSPECTED SECTION OF PIPING TO REMAIN IN-PLACE
- PIPING TO BE REMOVED
- PIPING TO BE CLEANED AND INSPECTED
- IRM-1 CONSTRUCTION AREA
- TEMPORARY DECONTAMINATION PAD
- PROPOSED SOIL STOCKPILE AREA
- EXCAVATE AND REMOVE TWO CISTERNS AND CONCRETE PAD
- AOC-2 EXCAVATION OF TOP 1-FT OF SOIL
- REMOVAL OF ACID NEUTRALIZATION BUILDING AND UNDERGROUND LINED PIT
- CONCRETE SLAB REMOVAL
- CONCRETE RETAINING WALL
- PROPOSED TRUCK ROUTE

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SANITARY SEWER PIPE AND ACID DRAIN DATA SOURCES: McFARLAND AND JOHNSON ENGINEERING BUILDING PLANS (1985), HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY (2020), PLAN A-100-7 EXISTING YARD SERVICES (1970).
3. SANITARY SEWER AND ACID DRAIN SURFACE FEATURE SOURCE: HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY
4. AERIAL IMAGERY SOURCE: EAGLEVIEW, 15 NOVEMBER 2017
5. VIDEO INSPECTION AND MANHOLE SAMPLING ACTIVITIES WERE CONDUCTED IN APRIL 2023 AS PART OF NYSDEC-APPROVED SEWER INSPECTION, CLEANING, AND CLOSURE WORK PLAN.

0 40 80
SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

EXCAVATION PLAN
IRM-1

JULY 2023

FIGURE 4

GIS: \\haleyaldrich.com\sharelbos_common\34201_Philips_Lighting_Co_Bath_NY\GIS\Maps\2023_07\127981_027_0004_EXCAVATION_PLAN_IRM1.mxd - anichols - 7/14/2023 1:29:28 PM

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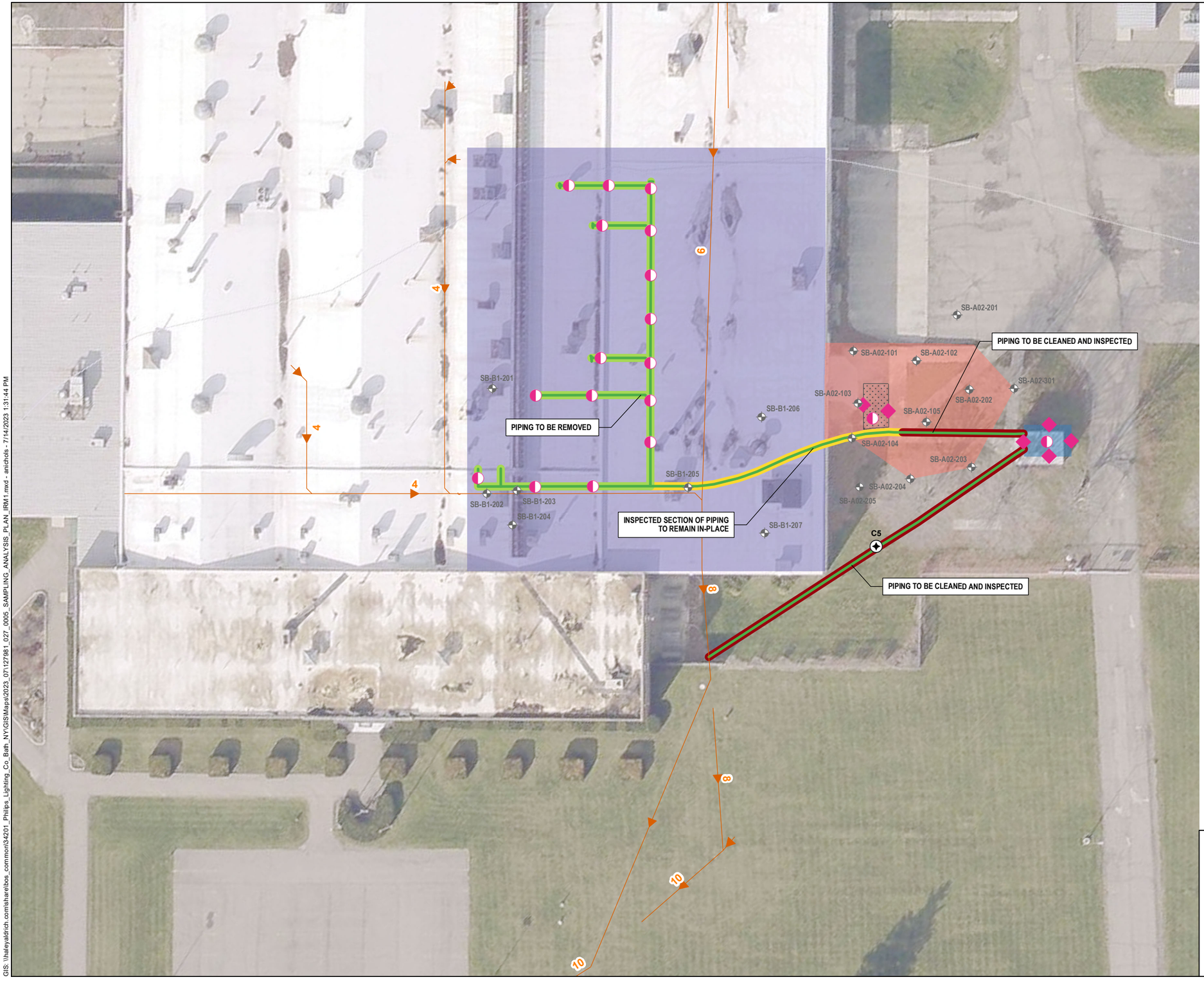

LEGEND

- PREVIOUS SOIL BORING
- SAMPLED MANHOLE

PROPOSED DOCUMENTATION SAMPLE TYPE

- EXCAVATION BOTTOM
- EXCAVATION SIDEWALL
- SANITARY SEWER, WITH PIPE DIAMETER (IN) AND FLOW DIRECTION
- ACID DRAIN

ACID DRAIN PIPING STATUS

- INSPECTED SECTION OF PIPING TO REMAIN IN-PLACE
- PIPING TO BE REMOVED
- PIPING TO BE CLEANED AND INSPECTED
- EXCAVATE AND REMOVE TWO CISTERNS AND CONCRETE PAD
- AOC-2 EXCAVATION OF TOP 1-FT OF SOIL
- REMOVAL OF ACID NEUTRALIZATION BUILDING AND UNDERGROUND LINED PIT
- CONCRETE SLAB REMOVAL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SANITARY SEWER PIPE AND ACID DRAIN DATA SOURCES: McFARLAND AND JOHNSON ENGINEERING BUILDING PLANS (1985), HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY (2020), PLAN A-100-7 EXISTING YARD SERVICES (1970).
3. SANITARY SEWER AND ACID DRAIN SURFACE FEATURE SOURCE: HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY
4. AERIAL IMAGERY SOURCE: EAGLEVIEW, 15 NOVEMBER 2017
5. VIDEO INSPECTION AND MANHOLE SAMPLING ACTIVITIES WERE CONDUCTED IN APRIL 2023 AS PART OF NYSDEC-APPROVED SEWER INSPECTION, CLEANING, AND CLOSURE WORK PLAN.

0 40 80
SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

SAMPLING AND ANALYSIS PLAN IRM-1

JULY 2023

FIGURE 5

GIS: \\haleyaldrich.com\sharebos_common\34201_Philips_Lighting_Co_Bath_NY\GISMaps\2023_07\127981_027_0005_SAMPLING_ANALYSIS_PLAN_IRM1.mxd - anichols - 7/14/2023 1:31:44 PM

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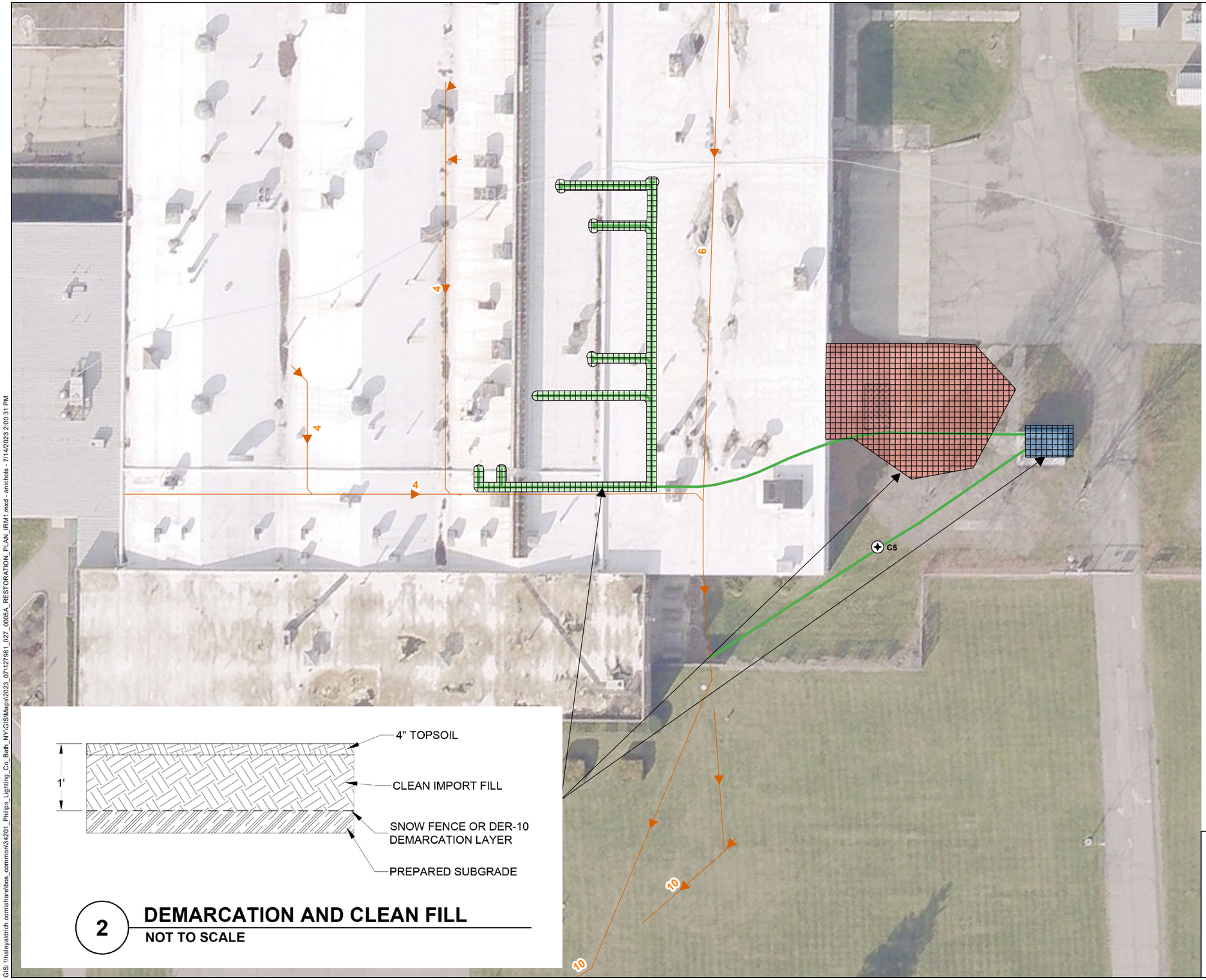


2 DEMARCATION AND CLEAN FILL
NOT TO SCALE

LEGEND

- SAMPLED MANHOLE
- SANITARY SEWER, WITH PIPE DIAMETER (IN) AND FLOW DIRECTION
- ACID DRAIN
- PIPING TO BE REMOVED
- EXCAVATE AND REMOVE TWO CISTERNS AND CONCRETE PAD
- AOC-2 EXCAVATION OF TOP 1-FT OF SOIL
- REMOVAL OF ACID NEUTRALIZATION BUILDING AND UNDERGROUND LINED PIT
- PLACEMENT OF DEMARCATION LAYER AND CLEAN FILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. SANITARY SEWER PIPE AND ACID DRAIN DATA SOURCES: McFARLAND AND JOHNSON ENGINEERING BUILDING PLANS (1985), HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY (2020), PLAN A-100-7 EXISTING YARD SERVICES (1970).

3. SANITARY SEWER AND ACID DRAIN SURFACE FEATURE SOURCE: HOFFMAN LAND SURVEYING AND GEOMATICS TOPOGRAPHIC SURVEY

4. AERIAL IMAGERY SOURCE: EAGLEVIEW, 15 NOVEMBER 2017

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

RESTORATION PLAN IRM-1

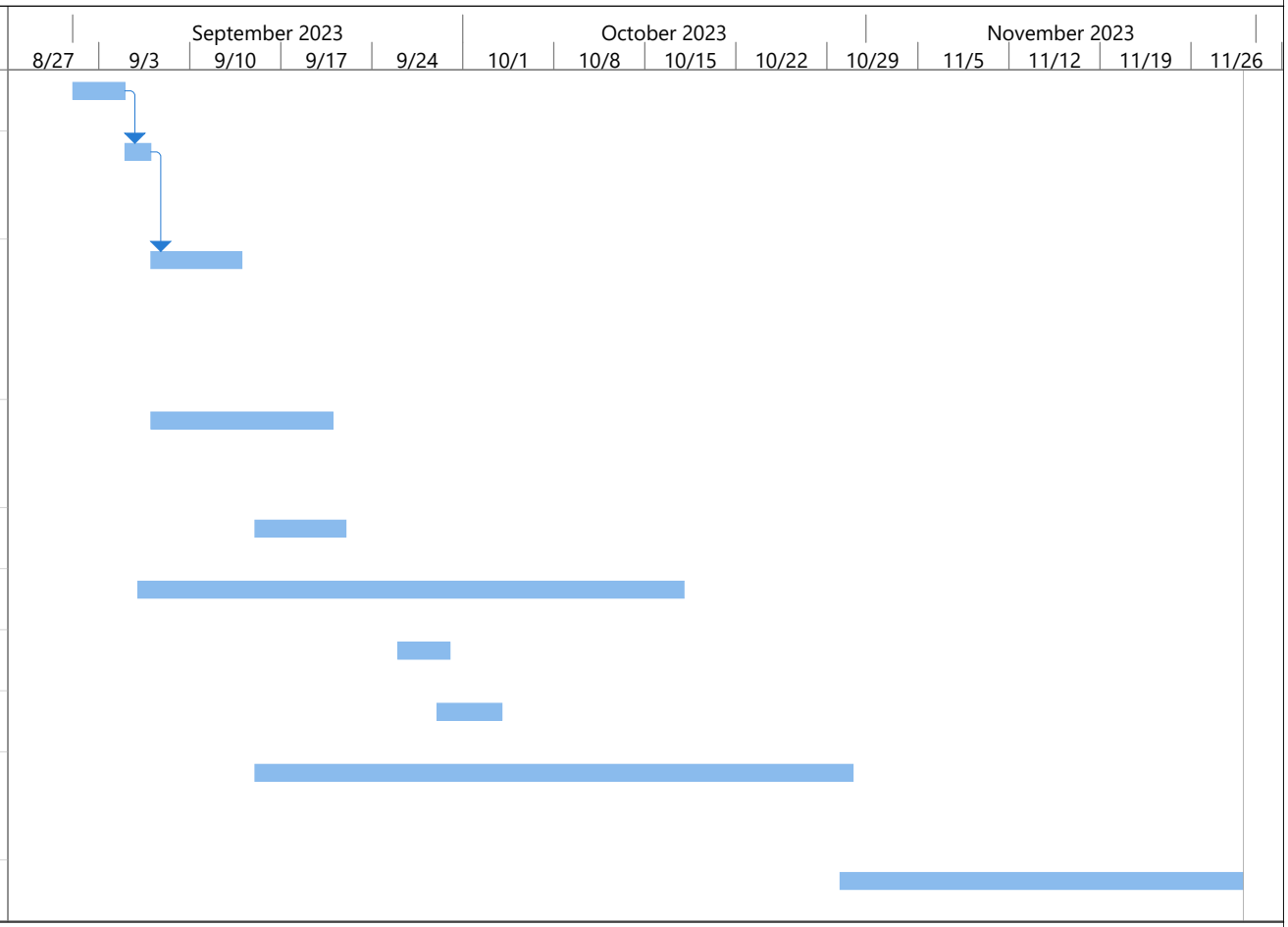
JULY 2023

FIGURE 5A

GIS: \\haleyaldrich.com\sharedbos_common\34201_Philips_Lighting_Co_Bath_NY\GIS\Maps\2023_07\127981_027_0005A_RESTORATION_PLAN_IRM1.mxd - anichols - 7/14/2023 2:00:31 PM

FIGURE 6
IRM1 Construction Schedule

ID	Task Name	Duration
1	Mobilize to site	2 days
2	Prepare site and install erosion controls	2 days
3	Demolish and excavate Acid Neutralization Building and water cisterns	1 wk
4	Excavate and remove Acid Drainage piping	2 wks
5	Excavate Surficial Soils and sta	5 days
6	Transportation and disposal	6 wks
7	Restore & seed	4 days
8	Demobilize	3 days
9	Laboratory analysis and validation	6.4 wks
10	Complete IRM 1 CCR	4.6 wks



Project: 2023-0714_IRM1 Sched
Date: Fri 7/14/23

Task	Inactive Summary	External Tasks
Split	Manual Task	External Milestone
Milestone	Duration-only	Deadline
Summary	Manual Summary Rollup	Progress
Project Summary	Manual Summary	Manual Progress
Inactive Task	Start-only	
Inactive Milestone	Finish-only	

APPENDIX A
Community Air Monitoring Plan

New York State Department of Health
Bath Site-Specific
Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a **continuous** basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. NYSDEC and NYSDOH will be notified within one business day of any exceedances that occur during active monitoring of the sewer cleaning activities. Notifications will include details of the cause of the exceedance and what actions were taken to correct the issue. The CAMP data summary will be provided to the NYSDEC on a weekly basis. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored **continuously** at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

NYSDEC and NYSDOH will be notified within one business day of any exceedances that occur during active monitoring of the sewer cleaning activities. Notifications will include details of the cause of the exceedance and what actions were taken to correct the issue. The CAMP data summary will be provided to the NYSDEC on a weekly basis.

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a)) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e)) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10; (g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger; (l) Operating Temperature: -10 to 50o C (14 to 122o F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) check s, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to

allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential-- such as solidification and treatment involving materials like kiln dust and lime --will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a)) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping; (d) Hauling materials in properly tarped or watertight containers; (e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX B
Health and Safety Plan

HALEY & ALDRICH OF NEW YORK
SITE-SPECIFIC HEALTH & SAFETY PLAN

For

Philips Lighting Company Bath Facility
Supplemental Remedial Investigation

7265 State Route 54
Bath, NY

Project/File No. 0127981-029

Prepared By: Robert Lydell	**Date:** 11/12/2020
Revised By: Santa McKenna	**Date:** 1/20/2023
Approvals: The following signatures constitute approval of this Health & Safety Plan.	
Local H&S Coordinator: Margaret Holt	**Date1/20/2023**
	
Project Manager: Steve Phillips	**Date: 1/20/2023**
HASP Valid Through: January 2024	

Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

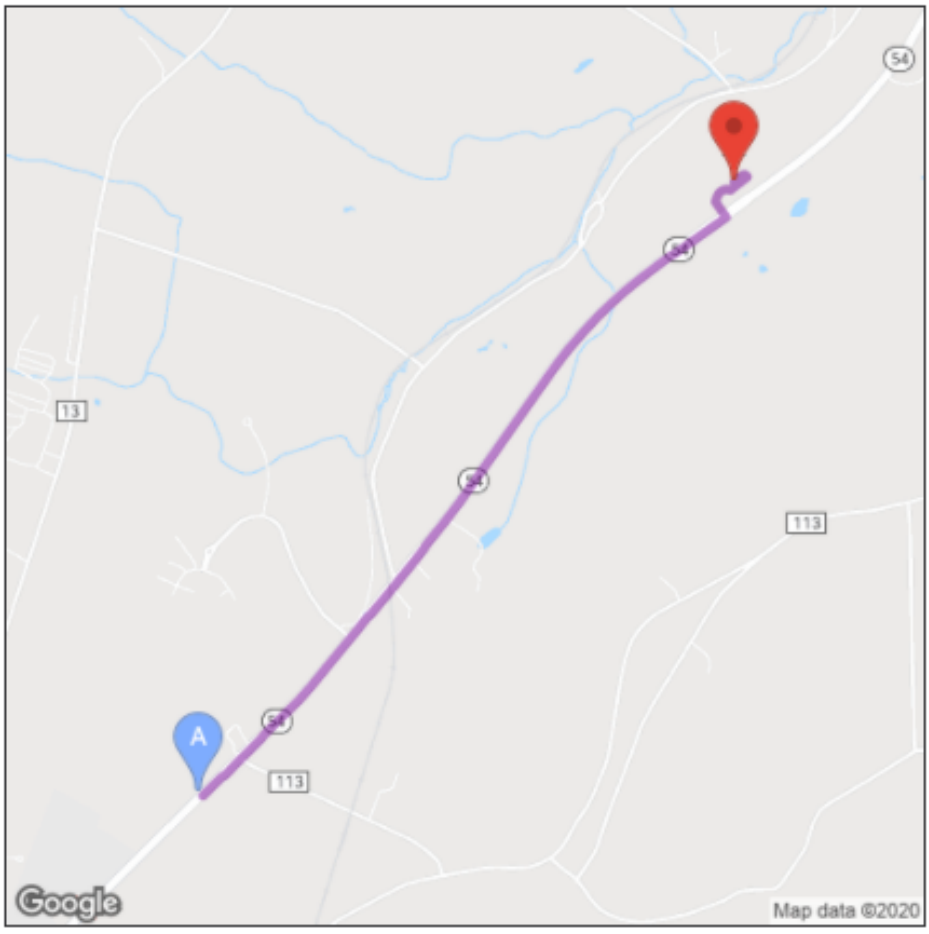
TABLE OF CONTENTS

PROJECT INFORMATION AND EMERGENCY RESOURCES

Project Name: Philips Lighting Facility – Supplemental Remedial Investigation	**H&A File No.: 0127981-029**
Location: 7265 State Route 54, Bath, NY (and neighboring properties included in investigation)	
Client/Site Contact: Phone Number: Emergency Phone Number:	Emil Filc, Manager – US & Canada Liability Portfolio 937.241.1867
Steuben County Industrial Development Agency Contact: **Phone Number:**	Jamie Johnson 607-776-5039
Scofield Automotive	David Scofield 607-569-7001
Credit Union	Randy – Property Manger Debbie – Branch Manger Bank phone number - 607-776-9139
FLCH Construction Site	Chris Wegener 585-247-2907
General Contractor: **Project Manager:** Work Phone Number:	Nothnagle Drilling, Inc. Steve DiLaura 585-538-2328 Additional Contacts to be added as work is awarded
H&A Field Representative: Cell Phone Number:	Emma Loubsky-Lonergan 585-465-9282
H&A Project Manager: Phone Number: Emergency Phone Number:	Steve Phillips 585-321-4240 585-370-6678
Local Health & Safety Coordinator: Emergency Phone Number:	Margaret B. Holt 585-321-4214 585-721-2426
Nearest Hospital: Address: (see map on next page) Phone Number:	Ira Davenport Memorial Hospital 7571 New York 54, Bath, NY 14810 (607) 776-8500
Nearest Occ. Health Clinic: http://www.talispoint.com/liberty/ext/ Address: (see map on next page) Phone Number	WellNOW 830 County Road 64 Elmira, NY 14903 (607) 846-2030

Liberty Mutual Claim Policy	**WC6Z11254100033**
Emergency Response Number:	**911**
Other Local Emergency Response Number:	911
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911
WorkCare (to be contacted in nonemergency (non 911) incidents needing medical attention)	888-449-7787

Directions to the Nearest Hospital:



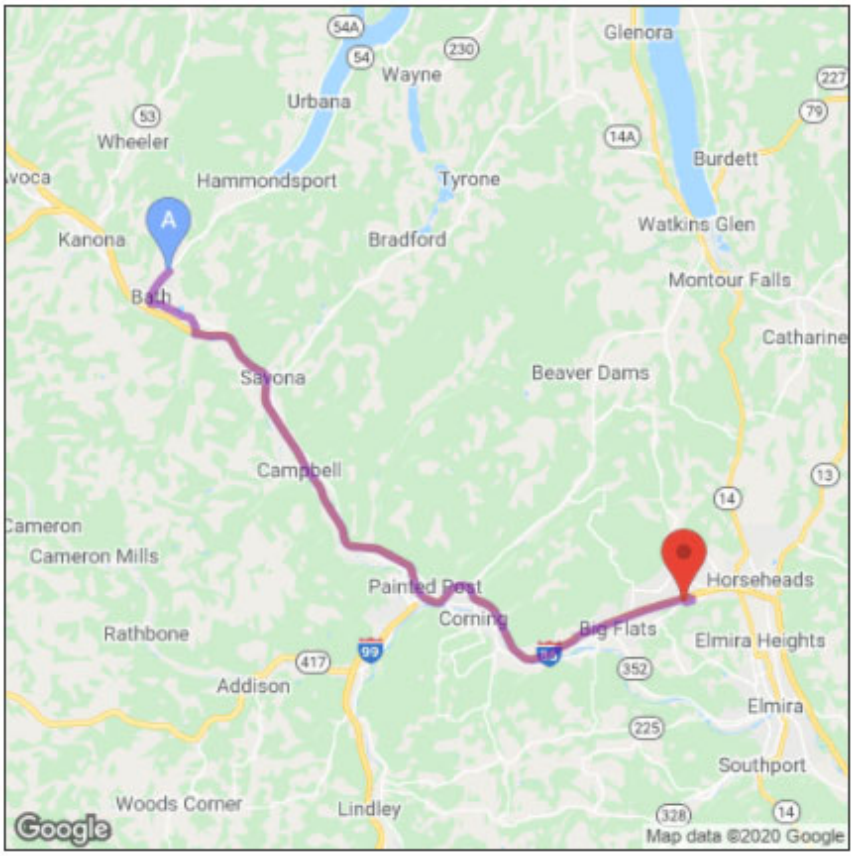
Driving Directions

From: 7265 Sate Route 54
Bath, NY
New Start Address

To: 7571 State Route 54
Bath, NY 14810

1. Head **northeast** on **NY-54 N** toward **Mt Washington Rd**	1.9 mi
2. Turn **left**	243 ft
3. Turn **right**	276 ft
4. Turn **left**	272 ft
5. Turn **left**	213 ft
Destination will be on the right	
Estimated driving time: 4 minutes	2.1 mi

Directions to the Nearest Urgent Care: Contact Workcare to find other authorized location to decrease distance.



Driving Directions

From: 7265 State Route 54
Bath, NY
New Start Address

To: 830 County Road 64
Elmira, NY 14903

1. Head **southwest** on **NY-54 S**	1.4 mi
2. Continue onto **Liberty St**	0.2 mi
3. At Community Bank, N.A., **Liberty St** turns **left** and becomes **E Steuben St**	0.6 mi
4. Continue onto **NY-415 S/E Morris St.**	1.2 mi
Continue to follow NY-415 S	
5. Continue straight onto **Babcock Hollow Rd**	0.7 mi
6. Turn **left** to merge onto **I-86 E/NY-15 S/NY-17 E** toward **Binghamton**	29.4 mi
Continue to follow I-86 E/NY-17 E	
7. Take exit **51A** for **Chambers Rd** toward **Shopping Malls**	0.2 mi
8. Keep **right** at the fork to continue toward **Chambers Rd**	243 ft
9. Turn **right** onto **Chambers Rd**	348 ft
10. Turn **right** at the 1st cross street onto **Big Flats Rd**	0.2 mi
11. Turn **left** at the 1st cross street	128 ft
12. Continue straight	240 ft
13. Turn **right**	463 ft
Estimated driving time: 37 minutes	34.2 mi

Work Scope:

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be employed by all Haley & Aldrich employees participating in the site Remedial Investigation, remedial measures, and demolition activities at the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other project sites. The scope of work for the Supplemental Remedial Investigations include:

Task #1: Site Wide Soil Sampling:

Haley & Aldrich personnel will oversee and monitor the geoprobe sampling of site soils in various Areas of Concern (AOCs). Monitoring will include screening with a PID, logging soil types, logging daily field activities, and collecting soil samples.

Task #2: Sub Slab Soil Sampling

Haley & Aldrich personnel will oversee and monitor the concrete coring and geoprobe sampling, and collectionof site soils for analysis. Monitoring will include screening soil with a PID, carbon monoxide with a gas meter, logging soil types, logging daily field activities, and collecting documentation soil samples. Site soil sample locations may include access under excavated concrete slabs and sewer pipes.

Task #3: Water Level Monitoring and Groundwater Sampling

Haley & Aldrich personnel will complete manual water level measurements and download data from submerged transducers installed in select wells. Initial round of groundwater sampling will be conducted at all wells. Following the site wide gauging event, groundwater sampling will be collected periodically using passive diffusion bag (PDB) samplers, in accordance with investigation procedures in the NYSDEC-approved Groundwater SRIWP dated 5 April 2016. Groundwater samples are collected to determine the concentrations of VOCs.

~~Task #4: MIP Profiling and Confirmation Sampling~~

~~Haley & Aldrich personnel will oversee and monitor the MIP probe profile site soils in AOC-8 and confirmation sampling. Monitoring will include screening with a PID, logging soil types, logging daily field activities, and collecting soil samples.~~

Task #5: Offsite Soil Vapor, Sub Slab Vapor and Indoor/Outdoor Air Sampling

Haley and Aldrich personnel will perform soil vapor, sub slab and indoor/outdoor air sampling at 3 offsite properties in proximity to the facility, (Scofield Automotive, The Credit Union and the FLCH construction site). Haley & Aldrich will oversee geoprobe soil vapor installation at the Scofield and FLCH construction site. Geoprobe depths will vary based on slab elevation and

current ground surface elevation. Haley & Aldrich personnel will construct and install the soil vapor points. Haley & Aldrich personnel with install a sub-slab vapor sample location at the credit union and will be installed using a rotary drill to bore through the floor to the sub slab. A shop vacuum with HEPA® Filter and filter bag will be administered to control and collect dust emissions during drilling. A Helium leak test will be performed on the sub slab locations to ensure integrity of the sampling point. Indoor/outdoor air samples will be collected on the Scofield Automotive, Credit Union, and FLCH construction site properties. Indoor Air and sub slab vapors will be monitored and screened with a PID (PPB Rae) during installation and sampling. Sampling activities will include setup of summa canisters and flow controllers, starting the test, checking in on the test, and retrieving the summa canisters and flow controllers. Haley & Aldrich personnel will restore surfaces impacted (topsoil, asphalt, concrete). The activities and information will be documented on field sampling forms. Activities will be performed in accordance with access agreements.

Task # 6: Offsite Sediment and Surface Water Sampling

Haley & Aldrich personnel will oversee and monitor hand augering sampling of sediment in AOC-32 (located across the street in a currently undeveloped property). Monitoring will include screening with a PID, logging soil types, logging daily field activities, and collecting sediment samples. Surface water samples will be collected in the pond to access water quality and if sufficient standing water from the upstream channel using a surface water sampler. Contractor may be required to clear brush and small trees to access selected areas.

Task # 7: Sub-slab Depressurization System Installation

Haley & Aldrich personnel will oversee the installation of a sub-slab depressurization system (SSDS) at the Steuben County Industrial Development (IDA) property located across the street). A subcontractor will install a 0.25 horsepower (Hp) SSD blower (fan). The blower will be installed on an exterior wall of the building. Suction points to be installed using a 5-inch diameter core drill to advance borings through the concrete floor. After the concrete has been cored, approximately one cubic foot of sub-base material would be hand excavated. The suction pits will then be connected to the vertical conveyance piping, and the concrete surrounding the suction pits would be restored. 3-inch schedule 40 polyvinyl chloride (PVC) vertical and 3-inch and 4-inch horizontal conveyance piping will be routed from the individual suction points to the SSD blower. The conveyance piping within the building, where the piping exits the building, and penetrations would be made to facilitate the installation of the SSD piping.

Task # 8: Onsite Sewer Inspection and Closure

Haley & Aldrich personnel will oversee subcontractors performing inspection, cleaning, and closure/decommissioning of the existing sewer systems (sanitary and SPDES) at the Site. This task includes the collection of sediment accumulated within the pipes for characterization, removal of all treatment units, outfall lines, and all mechanical and electrical equipment and

piping; elimination of all equipment and/or conditions that could possibly pose a safety hazard, either during or after shutdown of the operations; and proper management and/or removal of all residual materials (collected grit and screenings, scum, sand bed material, and dried or liquid sludges), and all other solids from the treatment process. The manhole and drains will be screened visually and with a photoionization detector (PID). Accumulated sediment at select locations will be completed using a hand auger or sampling device. Onsite personnel will not be allowed to enter manholes. In the event sediment is not present at select locations, representative samples of the sediment and liquid that were generated during the cleaning process of the sewers will be collected in order to characterize the material. During the cleaning activities, community air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan (CAMP).

Task 9: IRM 1, 7, and 8 Building Demolition and Soil Excavation

Task 9 activities include:

- IRM 1 - Haley & Aldrich personnel will oversee subcontractors' activities including the demolition and removal of the Acid Neutralization building structures and associated sub surface structures and influent and effluent acid drainage piping. Surficial and shallow subsurface soil containing metals and SVOCs at concentrations above the Industrial SCO criteria will be excavated. These soils will be stockpiled, and soil sampled to determine their use as backfill beneath the new soil cover system, and if acceptable, the soils will be relocated to an area on the Site that is planned to have a demarcation layer and one foot of clean soil cover placed above the impacted soils. Following excavation, excavation areas will be backfilled and regarded. Monitoring will include screening with a PID, logging daily field activities, and collecting documentation soil samples. During construction activities, community air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan (CAMP).
- IRM 7 – Haley & Aldrich personnel will oversee subcontractor activities including the removal of the buried glass waste material for off-site transport. Glass waste material will be excavated until visual observations indicate that non-native materials have been removed. Documentation soil samples will be collected from the sidewall and bottom of the excavation areas. Following excavation completion site restoration activities will include backfill using adjacent soils and grading. Monitoring will include screening with a PID, logging daily field activities, and collecting documentation soil samples. During construction activities, community air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan (CAMP).
- IRM 8 - Haley & Aldrich personnel will oversee subcontractor activities including the excavation and compiling of surficial and shallow subsurface soils from AOC-19, AOC-21, and AOC-30. Excavated soil removed from AOC-19, AOC-21, and AOC-30 will be direct-loaded and transported to the northwestern portion of the Site to be used as contaminated backfill under the new soil cover system that will be constructed. The northwest portion of the Site that encompasses the lateral extent of the eight (8) AOCs with surficial and shallow subsurface soil impacts (AOC-4, AOC-7, AOC-9, AOC-10, AOC-13, AOC-15/33,

and AOC-18) will be covered with a demarcation layer and at least 1 foot of clean soil. Existing impervious surfaces that are present in the area proposed to be covered, including the Powerhouse building slab, Building 1 outbuildings, the former garage building slab, and 90-day storage building slab, will be removed. Prior to demarcation layer placement, documentation soil samples will be collected form the excavation. Monitoring will include screening with a PID, logging daily field activities, and collecting documentation soil samples. During construction activities, community air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan (CAMP).

Subcontractor(s) to be involved in on-site activities:

Firm Name	Work Activity
Nothnagle Drilling, Inc.	Hand Auguring Geoprobe Borings Temporary Well Installations ~~MIP borings~~ Confirmation borings
Mitigation Tech	Subslab Depressurization System
TBD	Sewer Cleaning, and Decommissioning
TBD	Soils Excavation, Removal of Building Structures, Backfill and Regrading

Projected Start Date: January 1, 2023

Projected Completion Date: TBD

Estimated Duration of Field Work: TBD

SITE DESCRIPTION

Site Classification:

☑ Industrial	☐ Commercial	☐ Other

General Description:

The subject site is currently owned by Signify and was previously owned by Philips Electronics North America Corporation (PENAC) and was operated by Philips Lighting Company. The operation at the facility shutdown in March 2014 and initial plant decommissioning was completed by Philips personnel. In 2022 all onsite building structures were demolished. The site is located in southwestern New York in the town of Bath. The site is approximately 74.24 acres comprised of two parcels. The larger parcel contains the manufacturing facility and is triangular in shape and contains a little over 73 acres and is located in the Town of Bath. The second parcel is located in the southwest corner of the subject site and is rectangular in shape and comprised of 1.2 acres situated in the Village of Bath. The 335,000 square foot L-shaped manufacturing building, out buildings, and parking areas are located in the eastern half of the larger parcel (~43 acres in size), while the western portion of the property has been leased to various parties for agriculture use. The smaller ~1 acre parcel has remained undeveloped since it was purchased by Philips in 1997. The site is bordered by Route 54 and commercial property immediately to the east and the Steuben County Sheriff and county jail complex further to the east. Agricultural land surrounds the subject site to the north, northwest, west and southwest and the southeast portion of the subject site is bordered by a petroleum service station and commercial property.

The subject site was formerly engaged in the manufacturing and assembly of a variety of high-intensity discharge (HID) lighting products including arc tubes, lighting mounts and other lamp components. In addition, to the various manufacturing operations, the Bath facility had offices for administrative and office support staff, a lighting research laboratory, quality assurance/life-cycle testing areas, and a maintenance department to support the operations.

The main building and ancillary building structures were demolished and removed (all superstructure elements) in 2022. The remaining site demolition is planned to remove remaining concrete slabs, paved or other impervious surfaces as part of Task 9.

Background and Historic Site Usage:

The subject site had been used as a manufacturing facility for receiving bulbs and lighting products since it was developed in 1951 by Westinghouse who owned the facility until it was

purchased by PENAC in 1983. The suspected contaminants on the site include solvents (chlorinated and VOCs), metals including Mercury, BTEX, PCBs, and corrosives.

Project Scope:

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be employed by all Haley & Aldrich employees participating in the site characterization of the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other project sites. The scope of work for the Supplemental Remedial Investigation includes:

Task 1: Site wide soil sampling at Areas of Concern (AOCs) and the grassy area utilizing direct push techniques.

Task 2: Sub-slab soil sampling utilizing direct push techniques.

Task 3: Groundwater elevation monitoring and groundwater sampling at onsite and select offsite well locations.

~~Task 4: MIP profiles with confirmation sampling at AOC-8 utilizing direct push techniques~~.

Task 5: Installation of sub slab soil vapor locations using a handheld drill at the Scofield Automotive, Credit Union, and FLCH construction site properties.

Task 6: Sediment and surface water sampling at offsite area AOC-32 in proximity to the facility property.

Task 7: Oversee installation of a blower, suction points and associated piping below the building foundation at the IDA property by a subcontractor using cutting and excavation techniques.

Task 8: Oversee inspection, cleanout, and decommissioning of onsite sewer system by subcontractor.

Task 9: Oversee construction subcontractors soils excavation, demolition and removal of building structures, backfill, demarcation placement, and regrading.

Overview of Hazards:

Physical hazards that may be encountered during site work include hazards associated with heavy equipment (Geoprobe), underground and overhead utilities, hoisting, noise, cold and heat stress. Additionally, soil borings in various AOCs may present unknown physical or chemical hazards. Chemical hazards anticipated include PCBs, metals including Mercury/Tungsten/Molybdenum/Barium/Zirconium, solvents including chlorinated and VOCs, petroleum components and dust.

Site Status: Indicate current activity status and describe operations at the site.

☑ Active Active bank (foot traffic) and construction site (surveyor, excavator) on site and occupied spaces offsite.

☑ Inactive manufacturing closed and decommissioned, structures removed

☑ Partially active Automotive garage (Storage of equipment, tools, etc.)

☐ Other

Site Plan:

Is a site plan or sketch available? ☑ Y ☐ N

Work Areas:

See Figures 1 through 11 in the Supplemental Site Wide Soil Sampling Work Plan, Figure 4 in the Supplemental Sub-Slab Soil Sampling Work Plan, Figure 1 in the Supplemental AOC-8 Work Plan, Figure 4 of the Off Site Vapor Intrusion Evaluation Work Plan and Figure 5 of the Supplemental Area of Concern (AOC) 32 Work Plan, Figure 3 of the Interim Remedial Measures Sub-slab Depressurization System Installation, Figures 2 and 3 of the Supplemental Remedial Investigation Work Plan Groundwater Elevation Monitoring and Sampling Work Plan, and Figures 3 and 4 of the Sewer Inspection, Cleaning, and Closure Work Plan, Interim Remedial Measure Work Plan IRM-1 – Acid Neutralization Systems Removal Figure 4 Excavation Plan, Interim Remedial Measure Work Plan IRM-7 Buried Receiver Tube Waste Figure 3 Regrading Plan and Sampling Locations , Interim Remedial Measure Work Plan IRM-8 Soil Consolidation and Cover System Construction Figure 5 Excavation and Sampling and Analysis Plan and Figure 5 IRM-8 Restoration Plan

PROJECT TASK BREAKDOWN

List and describe each distinct work task below.

Task No.	Detailed Task Description	Employee(s)	Work Date(s) or Duration
1	Site Wide Soil Sampling	2 H&A Employees TBD	1 week
2	Sub Slab Soil Sampling	2 H&A Employees TBD	1 week
3	Groundwater Elevation Monitoring and Groundwater sampling	1 H&A Employee TBD	2 days
4	~~MIP Profiling and Confirmation Sampling~~	~~1 H&A employee Rob Lydell~~	~~1 week~~
5	Offsite Soil Vapor, Sub Slab Vapor and Indoor/Outdoor Air Sampling	2 H&A Employees TBD	6 days
6	Sediment and Surface Water Sampling (property across Rt 54)	1 H&A Employee TBD	1 Week
7	Sub-slab Depressurization System Installation	1 H&A Employee TBD	TBD
8	Onsite Sewer Inspection and Closure	1 H&A Employee TBD	TBD
9	IRM 1, 7, and 8 Building Demolition and Soil Excavation	1 to 2 H&A Employee TBD	TBD

HAZARD ASSESSMENT

Safety Data Sheets (SDS) of hazardous materials used during the execution of work shall be available on site. SDSs are required for chemicals used to prepare samples, calibration gases, etc. SDSs are not required for waste materials.

Chemical Hazards:

Does chemical analysis data indicate that the site is contaminated? ☑ Y ☐ N

Indicate the potential physical state of the hazardous materials at the site.

- ☑ Gas/Vapor
- ☑ Liquid
- ☑ Sludge
- ☑ Solid/Particulate

Indicate the anticipated or actual class of compounds at the site.

- ☐ Asbestos
- ☑ BTEX
- ☑ Chlorinated Solvents
- ☑ Heavy Metals
- ☐ Radioactive Isotopes (Thorium)
- ☑ Inorganics
- ☐ Pesticides
- ☑ Petroleum products
- ☑ Other SVOCs

Impacted Environments:

Indicate media in which contamination is expected.

- ☑ Air
- ☑ Soil
- ☑ Surface water
- ☑ Groundwater
- ☑ Sediment
- ☐ Other Specify

Task 1, 2, 3, 4, 6, 7, and 8 - Estimated concentrations:

Indicate medium of major chemicals potentially encountered by onsite personnel.

Work Activity	Media	Chemical	Anticipated Concentration
Drilling /sampling, documentation soil sampling	SO/SE	Chlorinated VOC SVOCs Metals (incl. Mercury, Barium, Molybdenum, Tungsten & Zirconium) Thorium	ND – 10 ppm ND – 5 ppm ND – 200 ppm Unknown
	GW	Chlorinated VOCs Metals (incl. Molybdenum, Tungsten & Zirconium)	ND – 1,000 ppb ND – 50 ppb
Soil Vapor Installations	A	chlorinated VOCs	ND – 20ug/m3
Sewer Cleaning and Inspection	SO/SE	Chlorinated VOC SVOCs Metals	Unknown

(Media key: A = Air; GW = Groundwater; SW = Surface Water; SO = Soil; SE = Sediment)

Task 1,2,3, 4, 6, and 7 - Chemicals of Concern:

BTEX

BTEX is the common abbreviation for benzene, toluene, ethyl benzene and xylene. OSHA has set permissible exposure limits for all of these contaminants that may be found at this worksite during your work activity. The levels that are set are based on an 8-hour time weighted average. Below are those values:

Benzene	1 ppm / 8 TWA
Toluene	200 ppm / 8 TWA
Ethyl Benzene	100 ppm / 8 TWA
Xylene	100 ppm / 8 TWA

Benzene

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death. The major effect of benzene from long-term (365 days or longer) exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

Toluene

Toluene affects the brain. Low-to-moderate levels from long-term exposure can cause tiredness, confusion, weakness, drunken-type actions, memory loss, nausea and loss of appetite, and hearing loss. Inhaling a high level of toluene in a short time can make you feel light-headed, dizzy, or sleepy. It can cause unconsciousness, and even death. Repeated exposure to high levels can cause permanent brain and speech damage, vision and hearing problems, loss of muscle control, and poor balance. It can also cause memory loss and decreased mental ability. Toluene also affects the kidneys. Several studies have shown that unborn animals were harmed when high levels of toluene were breathed by their mothers. Babies can have neurological problems and retarded growth and development if their mothers breathe a high level of toluene during pregnancy. We do not know if toluene harms the unborn child if the mother is exposed to low levels of toluene during pregnancy.

Xylene

Xylene affects the brain. High levels from exposure for short periods (14 days or less) or long periods (more than 1 year) can cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance. Exposure of people to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys. It can cause unconsciousness and even death at very high levels.

Studies of unborn animals indicate that high concentrations of xylene may cause increased numbers of deaths, and delayed growth and development. In many instances, these same concentrations also cause damage to the mothers. We do not know if xylene harms the unborn child if the mother is exposed to low levels of xylene during pregnancy.

Barium

The Occupational Safety and Health Administration (OSHA) limits the concentration of barium in workroom air to 0.5 mg/cubic meter for an 8-hour workday. Potential symptoms of exposure to barium include irritation of the eyes, skin, and upper respiratory system, skin burns, gastroenteritis, muscle spasms, slow pulse, extra systoles, hypokalemia, abdominal cramps, profuse watery diarrhea, vomiting, severe muscle weakness, cardiac arrhythmia, unconsciousness, and respiratory arrest. Health effects include acute toxicity, gastrointestinal effects, and hypokalemia. Affected organs include the eyes, skin, respiratory system, heart, and central nervous system.

Lead

OSHA limits the concentration of lead in workroom air to 50 µg/cubic meter for an 8-hour workday. Lead can affect almost every organ and system in your body. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common after exposure to high levels of lead. In adults, lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect the memory. Lead may cause anemia, a disorder of the blood. It can cause abortion and damage the male reproductive system. The connection between these effects and exposure to low levels of lead is uncertain.

Mercury

Mercury vapor is highly toxic via this route. Causes severe respiratory tract damage. Symptoms include sore throat, coughing, pain, tightness in chest, breathing difficulties, shortness of breath, headache, muscle weakness, anorexia, gastrointestinal disturbance, ringing in the ear, liver changes, fever, bronchitis and pneumonitis. Can be absorbed through inhalation with symptoms similar to ingestion. May cause burning of the mouth and pharynx, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea. May be followed by a rapid and weak pulse, shallow breathing, paleness, exhaustion, tremors and collapse. Delayed death may occur from renal failure. Gastrointestinal uptake of mercury is less than 5% but its ability to penetrate tissues presents some hazard. Initial symptoms may be thirst, possible abdominal discomfort. Causes irritation and burns to skin. Symptoms include redness and pain. May cause skin allergy and sensitization. Can be absorbed through the skin with symptoms to parallel ingestion. Causes irritation and burns to eyes. Symptoms include redness, pain, and blurred vision; may cause serious and permanent eye damage. Chronic exposure through any route can produce central nervous system damage. May cause muscle tremors, personality and behavior changes, memory loss, metallic taste, loosening of the teeth, digestive disorders, skin rashes, brain damage and kidney damage. Can cause skin allergies and accumulate in the body. Repeated skin contact can cause the skin to turn gray in color. A suspected reproductive hazard; may damage the developing fetus and decrease fertility in males and females. Persons with nervous disorders, or impaired kidney or respiratory function, or a history of allergies or a known sensitization to mercury may be more susceptible to the effects of the substance.

The OSHA Acceptable Ceiling Concentration for mercury and mercury compounds: 0.1 mg/m3 (TWA), skin contact is a parameter in determining exposure for mercury.

Molybdenum

The Occupational Safety and Health Administration (OSHA) limits the concentration of molybdenum in workroom air to 5 mg/cubic meter for an 8-hour workday. Molybdenum can be harmful to the human body through ingestion, inhalation, and skin or eye contact. Potential symptoms of exposure to molybdenum include anorexia, incoordination, irritation of the eye, nose, and throat, dyspnea, and anemia. Health effects include cumulative liver and kidney damage, blood disorders, and mild irritation of the eye, nose, throat, and skin. Affected organs include the respiratory system, kidneys, and blood.

While certain forms of molybdenum appear to be more toxic than others, in general, the toxicity of molybdenum is low, as it is an essential element necessary for human health. A 1984 study of mining and metallurgy workers found exposures to 60 to 600 mg/m^3 of molybdenum were associated with nonspecific symptoms such as weakness, fatigue, headache, and joint/muscle pain. Other studies have linked molybdenum exposure to incidences of gout and bone disease, but the U.S. National Research Council (NRC) concluded that those associations were speculative at best. The first human data on molybdenum and cancer was published in 1999, examining the link between molybdenum exposure and lung cancer. The findings raised the possibility that molybdenum could be a human carcinogen.

Tungsten

The Occupational Safety and Health Administration (OSHA) limits the concentration of tungsten in workroom air to 1 mg/cubic meter for an 8-hour workday. Health effects include accumulation in the lung and acute effects to the central nervous system.

Zirconium

The Occupational Safety and Health Administration (OSHA) limits the concentration of zirconium in workroom air to 5 mg/cubic meter for an 8-hour workday. Potential symptoms of exposure to zirconium include skin granulomas, retention in the lungs, and skin and mucous membrane irritation. Health effects include pneumoconiosis and lung and skin granulomas. Affected organs include the respiratory system and skin.

Polychlorinated Biphenyl's (PCBs)

Polychlorinated biphenyl's (PCBs) are a group of manufactured organic chemicals that contain 209 individual chlorinated chemicals (known as congeners). PCBs are either oily liquids or solids and are colorless to light yellow in color. They have no known smell or taste. There are no known natural sources of PCBs. Some commercial PCB mixtures are known in the United States by their industrial trade name, Aroclor.

PCBs don't burn easily and are good insulating material. They have been used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. The manufacture of PCBs stopped in the United States in 1977 because of evidence that they build up in the environment and cause harmful effects. Products containing PCBs are old fluorescent lighting fixtures, electrical appliances containing PCB capacitors, old microscope oil, and hydraulic fluids.

Trichloroethylene (TCE)

Trichloroethylene (TCE) is a colorless, nonflammable, non-corrosive liquid has a “sweet” odor characteristic of some chlorinated hydrocarbons.

The compound is incompatible with strong caustics, it reacts with aluminum when acidic, and it is incompatible with active metals - barium, lithium, sodium, magnesium, and titanium. Decomposition of TCE, due to contact with hot metal or ultraviolet radiation, forms products including chlorine gas, hydrogen chloride, and phosgene. Dichloroacetylene may be formed from the reaction of alkali with TCE.

The OSHA PEL for TCE is 100 ppm as an 8-hour TWA; an acceptable ceiling concentration of 200 ppm; and an acceptable maximum peak ceiling of 300 ppm for no more than 5 minutes in any 2-hour period. The standard routes of entry in the body are through inhalation, percutaneous absorption, ingestion, skin and eye contact. The points of attack are the respiratory system, heart, liver, kidneys, central nervous system and skin.

Exposure to TCE vapor may cause irritation of the eyes, nose, and throat. The liquid, if splashed in the eyes, may cause burning irritation and damage. Repeated or prolonged shin contact with the liquid may cause dermatitis. Acute exposure to TCE depresses the central nervous system exhibiting such symptoms as headache, dizziness, vertigo, tremors, nausea and vomiting, irregular heartbeat, sleepiness, fatigue, blurred vision, and intoxication similar to that of alcohol. Unconsciousness and death have been reported. Alcohol may make the symptoms of TCE overexposure worse. If alcohol has been consumed, the overexposed worker may become flushed. TCE addiction and peripheral neuropathy have been reported.

Tetrachloethylene (PCE)

Tetrachloroethylene (PCE) is a colorless, nonflammable liquid with a mild, chloroform-like odor.

PCE is incompatible with strong oxidizers and metals such as lithium, beryllium and barium, caustic soda, sodium hydroxide, and potash. Decomposition of PCE, due to fire, forms products including hydrogen chloride, and phosgene.

The OSHA PEL for PCE is 100 ppm as an 8-hour TWA; an acceptable ceiling concentration of 200 ppm; and an acceptable maximum peak ceiling of 300 ppm for no more than 5 minutes in any 3-hour period. The standard routes of entry in the body are through inhalation, percutaneous

absorption, ingestion, skin and eye contact. The points of attack are the respiratory system, heart, liver, kidneys, central nervous system, eyes, and skin.

Symptoms that may occur as a result of exposure to PCE include irritation to the eyes, skin, nose, and throat; respiratory system distress; nausea; flushed face and neck; incoordination; headache; drowsiness; skin erythema; and liver damage.

1,1,1 Trichloroethane

The health effects for 1,1,1 TCA are as follows- Inhalation of vapors will irritate the respiratory tract. Affects the central nervous system. Symptoms include headache, dizziness, weakness, and nausea. Higher levels of exposure (> 5000 PPM) can cause irregular heart beat, kidney and liver damage, fall in blood pressure, unconsciousness and even death. Harmful if swallowed. Symptoms similar to inhalation will occur along with nausea, vomiting. Aspiration of material into the lungs can cause chemical pneumonitis, which can be fatal. If aspirated, may be rapidly absorbed through the lungs and result in injury to other body systems. Causes mild irritation and redness, especially on prolonged contact. Repeated contact may cause drying or flaking of the skin. Liquids and vapors cause irritation. Symptoms include tearing, redness, stinging, and swelling. Prolonged or repeated skin contact may cause dermatitis. Chronic exposure may affect the kidneys and liver. Dioxane is a suspected human carcinogen based on animal data. Personnel with CNS, kidney, liver or heart disease may be more susceptible to the effects of this substance. Use of alcoholic beverages may aggravate symptoms.

The OSHA permissible exposure limit (PEL) for 1,1,1 TCA is 350 PPM for an 8-hour time weighted average.

Vinyl Chloride (VC)

Vinyl Chloride (VC) is a colorless, liquid or flammable gas with a pleasant odor at high concentrations.

VC is incompatible with oxidizers, peroxides, and metals such as copper, aluminum, iron and steel. VC polymerizes in air, sunlight, or heat unless it is stabilized by inhibitors such as phenol. It attacks iron and steel in the presence of moisture.

The OSHA PEL for VC is 1 ppm as am 8-hour TWA, and an acceptable ceiling of 5 ppm in a 15 minute period. The standard routes of entry in the body are through inhalation, skin and eye contact. The points of attack are the respiratory system, central nervous system, liver, blood, and lymphatic system.

Symptoms that may occur as a result of exposure to VC include weakness and exhaustion; abdominal pain; gastrointestinal bleeding; enlarged liver; and pallor or cyanosis of the extremities. Liquid VC can cause frostbite. VC can also cause liver cancer.

PAHs

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

PAHs, as a group, are strongly hydrophobic, and therefore sorb to organic-based soil particles. Exposures to elevated levels of PAHs in the workplace could occur in coking, coal-tar, and asphalt production plants; smokehouses; and municipal trash incineration facilities.

Sorption of PAHs to soil and sediments increases with increasing organic carbon content and with increasing surface area of the sorbent particles. Lower molecular weight PAHs may also volatilize from soil. Due to this strong sorption to soil, PAHs do not tend to dissolve easily into and migrate with groundwater. Exposure from affected soil would tend to occur as a result of direct contact with affected soil or inhalation/ingestion of windborne affected soil.

Thorium

See Appendix D: EPA Facts about Thorium

Task 2,5 - Estimated concentrations:

Indicate medium of major chemicals potentially encountered by onsite personnel.

Work Activity	Media	Chemical	Anticipated Concentration
Sub-Slab Soil Sampling	A	Chlorinated VOCs Mercury	ND – 25,000 ug/m^3 Unknown

(Media key: A = Air; GW = Groundwater; SW = Surface Water; SO = Soil; SE = Sediment)

Task 2,5 - Chemicals of Concern:

BTEX

Benzene

Toluene

Xylene

Trichloroethylene (TCE)

Tetrachloethylene (PCE)

1,1,1 Trichloroethane

Vinyl Chloride (VC)

Mercury

See descriptions of chemicals of concern in **Task 1 – Chemicals of Concern**.

TABLE 1
OCCUPATIONAL EXPOSURE LIMITS (CONCENTRATIONS IN AIR)

(CIRCLE CONTAMINANTS OF CONCERN, WRITE ADDITIONAL CONTAMINANTS AND EXPOSURE ON LAST PAGE)

CHEMICAL	ROUTES OF EXPOSURE	IDLH	Ceiling	STEL	PEL	TLV	REL	PID (IP eV)	FID	ODOR THRES-HOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
VAPORS & GASES												
Acetone	R, I, C	2500	-	750 [ACGIH]	1000	500	250	9.69	60	13	-	fragrent, mint-like
Ammonia	R, I, C	300	-	35 [NOSH, ACGIH]	50	25	25	10.18**	-	0.5-2	10	Pungent suffocating odor
Benzene	R,A,I,C	Ca [500]	-	1 [NIOSH]; 2.5 [ACGIH]	1	0.5	0.1	9.24	150	4.68	-	Solvent, aromatic
Carbon tetrachloride (Tetrachloromethane)	R,A,I,C	Ca [200]	25 [instantaneous] 200 [5 min peak in any 4 hrs]	2 [NIOSH, 60-min]; 10 [ACGIH]	2	5	Ca	11.47**	10	50	-	Sweet, pungent, ether-like
Chlorobenzene	R,I,C	1000	-	-	75	10	-	9.07	200	0.68	-	Almond-like
Chloroform	R,I,C	Ca [500]	50 [OSHA]	2 [NIOSH, 60-min]	-	10	-	11.42**	65	50	-	Sweet, pleasant
o-Dichlorobenzene	R,A,I,C	200	50 [NIOSH, OSHA]	50 [ACGIH]	-	25	-	9.06	50	0.3	E 20-30	Pleasant, aromatic
p-Dichlorobenzene	R,A,I,C	Ca [150]	-	-	75	10	Ca	8.98	-	0.18	E 80-160	Distinct, aromatic, mothball-like
Dichlorodifluoromethane (Freon 12)	R,C	15000	-	-	1000	1000	1000	11.75**	15	-	-	Ether-like when at very high concs.
1,1-Dichloroethane	R,I,C	3000	-	-	100	100	100	11.06**	80	200	-	Distinct, chloroform-like
1,2-Dichloroethane (Ethylene dichloride)	R,I,A,C	Ca [50]	100 [OSHA]	2 ppm [NIOSH]; 200 ppm [OSHA, 5-min max peak in any 3 hours]	50	10	1	11.05**	80	88	-	Chloroform-like
1,1-Dichloroethylene (1,1-DCE, Vinylidene chloride)	R,A,I,C	Ca [ND]	-	-	-	5	Ca	10.00**	40	190	-	Chloroform-like
1,2-Dichloroethylene	R,I,C	1000	-	-	200	200	200	9.65	50	0.85	-	Bitter, chloroform-like
Ethanol	R,I,C	3300	-	-	1000	1000	1000	10.47**	25	10	-	Weak, ether-like, wine-like
Ethylbenzene	R,I,C	800	-	125 [NIOSH; ACGIH]	100	100	100	8.76	100	2.3	E 200	Aromatic
Ethylene Glycol	R,I,C	ND	50 [OSHA]; 100 mg/m^3 [ACGIH]	-	-	-	-	-	-	-	-	Odorless
Formaldehyde	I,C	Ca [20]	0.1 [NIOSH, 15-min]; 0.3 [ACGIH]	2	0.75	-	Ca [0.016]	10.88**	-	0.83	-	Pungent, suffocating
Gasoline	R,I,A,C	Ca [ND]	-	500 [OSHA; ACGIH]	300	300	-	-	-	-	E 0.5	Petroleum-like
n-Hexane	R,I,C	1100	-	-	500	50	50	10.18	70	130	E.T 1400-1500	Gasoline-like
Hydrogen Cyanide	R,A,I,C	50	4.7 [ACGIH; Skin]	4.7 [NIOSH - skin]	10 [skin]		-	-	-	0.58	-	Bitter almond
Hydrogen peroxide	R,I,C	75	-	-	1	1	1	10.54**	-	-	-	Sharp
Methanol	R,I,A,C	6000	-	250 [NIOSH; ACGIH; skin]	200	200 [skin]	200	10.84**	12	1000	-	Pungent
Methyl Ethyl Ketone Peroxide	R,I,C	ND	0.2 [NIOSH; ACGIH] 0.7 [OSHA]	-	-	-	-	-	-	-	-	Characteristic odor
Methyl Chloroform (1,1,1-TCA)	R,I,C	700	350 [NIOSH, 15-min]	450 [ACGIH]	350	350	Ca	11.00**	105	20-100	-	Chloroform-like
Methylene Chloride (Dichloromethane, Methylene dichloride)	R,I,A,C	Ca [2300]	-	125	25	50	Ca	11.32**	100	25-50	E 5000	Chloroform-like
Methyl Mercaptan	R,C	150	10 [OSHA] 0.5 [NIOSH, 15-min]	-	-	0.5	-	9.44	-	-	-	Garlic, rotten cabbage
MIBK (Hexone)	R,I,C	500	-	75 [NIOSH; ACGIH]	100	50	50	9.30	-	-	-	Pleasant
Naptha (coal tar)	R,I,C	1000	-	-	100	400	100	-	-	-	-	Aromatic
Naphthalene	R,A,I,C	250	-	15 [NIOSH; ACGIH]	10	10	10	8.12	-	0.3	E 15	Mothball-like
Octane	R,I,C	1000	385 [NIOSH, 15-min]	-	500	300	75	9.82	80	48	-	Gasoline-like
Pentachlorophenol	R,A,I,C	2.5 mg/m^3	-	-	0.5 mg/m^3 [skin]	0.5 mg/m^3 [skin]	0.5 mg/m^3 [skin]	-	-	-	-	Pungent when hot, benzene-like
Phenol	R,A,I,C	250	15.6 [NIOSH, 15-min]	-	5 [skin]	5 [skin]	5 [skin]	8.50	-	0.04	E.N.T. 68	Sweet, acrid
Propane	R,C	2100	-	-	1000	1000	1000	11.07**	80	1600	-	Odorless (commonly smells foul due to additive for odor detection)
Stoddard Solvent (Mineral Sprits)	R,CI,I	20000 mg/m^3	1800 mg/m^3 [NIOSH, 15-min]	-	500	100	350 mg/m^3	-	-	1	E 400	Kerosene-like
Styrene	R,I,A,C	700	200 [OSHA]	100 [NIOSH]; 600 [OSHA, 5-min max peak in any 3 hours]; 40 [ACGIH]	100	20	50	8.40	85	0.047	E 200-400	Sweet, floral
1,1,2,2-Tetrachloroethane	R,I,A,C	Ca [100]	-	-	5 [skin]	1 [skin]	1 [skin]	11.10**	100	1.5	-	Pungent, chloroform-like
Tetrachloroethylene (Perchloroethylene, Perc, PCE)	R,I,A,C	Ca [150]	200 [OSHA]	300 [OSHA, 5-min max peak in any 3-hours]; 100 [ACGIH]	100	25	Ca	9.32	70	4.68	N.T513-690	Chloroform-like
Toluene	R,A,I,C	500	300 [OSHA]	150 [NIOSH]; 500 [OSHA, 10-min max peak]	200	50	100	8.82	110	2.14	E300-400	Sweet, pungent, benzene-like
Trichloroethylene (TCE)	R,I,A,C	Ca [1000]	200 [OSHA]	300 [OSHA, 5-min max peak in any 2-hours]; 100 [ACGIH]	100	50	Ca	9.45	70	21.4	-	Chloroform-like
1,2,3-Trimethylbenzene	R,I,C	ND	-	-	-	-	25	8.48	-	-	-	Distinctive, aromatic
1,2,4-Trimethylbenzene	R,I,C	ND	-	-	-	-	25	8.27	-	-	-	Distinctive, aromatic
1,3,5-Trimethylbenzene	R,I,C	ND	-	-	-	-	25	8.39	-	-	-	Distinctive, aromatic
Turpentine	R,A,I,C	800	-	-	100	20	100	-	-	200	E.N 200	Pine-like
Vinyl Chloride	R,C	Ca [ND]	5 [OSHA, 15-min]	-	1	1	Ca	9.99	-	3000	-	Pleasant odor at high concs.
Xylenes	R,A,I,C	900	-	150 [NIOSH, ACGIH]	100	100	100	8.56 (m- and o-) 8.44 (p-)	111/116	1.1	E.N.T. 200	Aromatic

TABLE 1
OCCUPATIONAL EXPOSURE LIMITS (CONCENTRATIONS IN AIR)

(CIRCLE CONTAMINANTS OF CONCERN, WRITE ADDITIONAL CONTAMINANTS AND EXPOSURE ON LAST PAGE)

CHEMICAL	ROUTES OF EXPOSURE	IDLH	Ceiling	STEL	PEL	TLV	REL	PID (IP eV)	FID	ODOR THRES-HOLD	IRRITATION THRESHOLD	ODOR DESCRIPTION
DUSTS, MISTS, FUMES, AND MISCELLANEOUS COMPOUNDS												
Asbestos	R	Ca (ND)	-	-	0.1 fiber/cc	0.1 fiber/cc	0.1 fiber/cc	-	-	-	-	-
PCBs-42% Chlorine	R,A,I,C	Ca [5 mg/m^3]	-	-	1 mg/m^3 [skin]	1 mg/m^3 [skin]	0.001 mg/m^3	-	-	-	-	Mild, hydrocarbon
PCBs-54% Chlorine	R,A,I,C	Ca [5 mg/m^3]	-	-	0.5 mg/m^3 [skin]	0.5 mg/m^3 [skin]	0.001 mg/m^3	-	-	-	-	Mild, hydrocarbon
Aluminum - metal dust	R,C	ND	-	-	15 mg/m^3 (total); 5 mg/m^3 (respirable)	10 mg/m^3	10 mg/m^3 (total); 5 mg/m^3	-	-	-	-	-
Aluminum - soluble salts	R,I,C	ND	-	-	2 mg/m^3	2 mg/m^3	2 mg/m^3	-	-	-	-	-
Arsenic- inorganic	R,A,I,C	Ca [5 mg/m^3]	0.002 mg/m^3 [NIOSH, 15-min]	-	0.01 mg/m^3	0.01 mg/m^3	Ca	-	-	-	-	-
Barium:soluble compounds	R,I,C	50 mg/m^3	-	-	0.5 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	-	-	-	-	-
Beryllium	R,C	Ca [4 mg/m^3]	0.005 mg/m^3 [OSHA]; 0.025 mg/m^3 [OSHA, 30-min max peak]; 0.0005 mg/m^3	0.01 mg/m^3 [ACGIH]	0.002 mg/m^3	0.002 mg/m^3	Ca	-	-	-	-	-
Cadmium dusts	R,I	Ca [9 mg/m^3]	-	-	0.005 mg/m^3	0.01 mg/m^3	Ca	-	-	-	-	-
Chromates (Cr(VI) Compounds) & Chromic Acid	R,I,C	Ca [15 mg/m^3]	0.1 mg/m^3 [OSHA]	-	0.001 mg/m^3	0.05 mg/m^3 [water soluble]; 0.01 mg/m^3 [insoluble]	Ca	-	-	-	-	-
Chromium (III) Compounds	R,I,C	25 mg/m^3	-	-	0.5 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	-	-	-	-	-
Chromium Metal	R,I,C	250 mg/m^3	-	-	1 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	-	-	-	-	-
Copper - dust & mist	R,I,C	100 mg/m^3	-	-	1 mg/m^3	1 mg/m^3	1 mg/m^3	-	-	-	-	-
Lead	R,I,C	100 mg/m^3	-	-	0.050 mg/m^3	0.05 mg/m^3	0.050 mg/m^3	-	-	-	-	-
Manganese (compounds and fume)	R,I	500 mg/m^3	5 mg/m^3 [OSHA]	3 mg/m^3 [NIOSH]	-	0.2 mg/m^3	1 mg/m^3	-	-	-	-	-
Mercury & Inorganic Mercury Compounds	R,I,A,C	10 mg/m^3	0.1 mg/m^3 [NIOSH, Skin]; 0.1 mg/m^3 [OSHA]	-	-	0.025 mg/m^3	0.05 mg/m^3 [skin]	-	-	-	-	-
Organo-Mercury Compounds	R,A,I,C	2 mg/m^3	0.04 mg/m^3 [OSHA]	0.03 mg/m^3 [NIOSH]	0.01 mg/m^3	0.01 mg/m^3 [alkyl]; 0.1 mg/m^3 [aryl]	0.01 mg/m^3	-	-	-	-	-
Nickel (metal and compounds)	R,I,C	Ca [10 mg/m^3]	-	-	1 mg/m^3	1.5 mg/m^3 [metal]; 1 mg/m^3 [soluble inorganic compounds]; 1 mg/m^3 [insoluble	0.015 mg/m^3	-	-	-	-	-
Particulate (Not otherwise regulated)	R, C	ND	-	-	15 mg/m^3 (total); 5 mg/m^3 (respirable)	10 mg/m^3 (inhalable); 3 mg/m^3 (respirable)	-	-	-	-	-	-
Portland cement	R,I,C	5000 mg/m^3	-	-	50 mppcf	10 mg/m^3	10 mg/m^3 (total); 5 mg/m^3	-	-	-	-	-
Selenium compounds	R,I,C	1 mg/m^3	-	-	0.2 mg/m^3	0.2 mg/m^3	0.2 mg/m^3	-	-	-	-	-
Silica, crystalline	R, C	Ca [25 mg/m^3 (cristobalite, tridymite); 50 mg/m^3 (quartz, tripoli)]	-	-	Dependent on silicon dioxide content of silica (see Appendix C of the NIOSH Pocket Guide to Chemical Hazards, 2005)	Dependent on minerology [see ACGIH 2005 TLVs and BEIs Handbook]	0.05 mg/m^3	-	-	-	-	-
Silver (metal and soluble compounds)	R,I,C	10 mg/m^3	-	-	0.01 mg/m^3	0.1 mg/m^3	0.01 mg/m^3	-	-	-	-	-
Thallium, soluble	R,A,I,C	15 mg/m^3	-	-	0.1 mg/m^3 [skin]	0.1 mg/m^3 [skin]	0.1 mg/m^3 [skin]	-	-	-	-	-
Tin (metal)	R,C	100 mg/m^3	-	-	2 mg/m^3	2	2 mg/m^3	-	-	-	-	-
Tin (organic compounds)	R,A,I,C	25 mg/m^3	-	-	0.1 mg/m^3	0.1 mg/m^3 [skin]	0.1 mg/m^3 [skin]	-	-	-	-	-
Zinc oxide dust & fume	R	500 mg/m^3	15 mg/m^3 [NIOSH, dust]	10 mg/m^3 [NIOSH; ACGIH: fume]	15 mg/m^3 (total dust); 5 mg/m^3 [respirable dust]; 5 mg/m^3 [fume]	2 mg/m^3 [respirable]	5 mg/m^3 (total dust); 5 mg/m^3 [fume]	-	-	-	-	-

NOTES & ABBREVIATIONS:

All units in parts per million (ppm) unless otherwise noted.
R = Respiratory (Inhalation)
I = Ingestion
A = Skin Absorption
C = Skin Contact
-: Not available
ND: Not detectable.
Ca = Carcinogen
** = Use 11.7 eV lamp
IP: Ionization potential
eV: Electrovolts

IDLH: Immediately dangerous to life and health
Ceiling: Highest allowable instantaneous C = Skin and/or Eye Contact
STEL: Short-term exposure limit. Exposure period is 15 minutes unless otherwise indicated
PEL: OSHA Permissible Exposure Limit (legally-enforceable)
REL: NIOSH Recommended Exposure Limit
PID: Photoionization Detector
OSHA: United States Occupational Safety and Health Administration
NIOSH: National Institute of Occupational Safety and Health
TLV: ACGIH Threshold Limit Value
ACGIH: American Conference of Governmental Industrial Hygienists

Physical Hazards:

Indicate all hazards that may be present for each task. If any of these potential hazards are checked, it is the project manager's responsibility to determine how to eliminate/minimize the hazard to protect onsite personnel.

Physical Hazard Checklist									
Potential Job Hazards	**Task 1** Site Wide Soil Sampling	**Task 2** Sub Slab Soil Sampling	**Task 3** Water Level Elevation and Ground-water Sampling	**Task 4** ~~MIP profiling and Confirmation sampling~~	**Task 5** Offsite Soil Vapor, Sub Slab Vapor, and Indoor/ Outdoor Air Sampling	**Task 6** Offsite Sediment and Surface Water Sampling	**Task 7** SSDS Install Over sight	**Task 8** Onsite Sewer Inspection & Cleaning	**Task 9** IRM 1, 7, and 8 Building Demolition and Soil Excavation
Confined space entry*								Potential by subcontract personnel only	
Underground utilities	✓	✓		✓	✓	✓	✓	✓	✓
Overhead utilities	✓	✓		✓	✓				✓
Electrical hazards					✓		✓	✓	✓
Excavations greater than 4' depth								✓	✓
Open excavation fall hazards							✓	✓	✓
Heavy equipment	✓	✓		✓	✓	✓	✓	✓	✓
Drilling hazards	✓	✓		✓	✓	✓			
Noise (above 85 dBA)	✓	✓		✓	✓	✓	✓	✓	✓
Traffic concerns					✓ **Const. Traffic**			✓	✓
Extreme weather conditions	✓		✓	✓	✓	✓		✓	✓

Rough terrain for drilling equipment	✓	✓	✓	✓	✓	✓			✓
Buried drums									
Heavy lifting (more than 50 lbs)	✓	✓	✓	✓	✓	✓	✓	✓	✓
High risk fire hazard									
Poisonous insects or plants	✓		✓	✓	✓				✓
Water hazards: sediment sampling only						✓ **Ice may be present**		✓ **Ice may be present**	
Use of a boat									
Lockout/Tagout requirements									
Other: Chemical Exposure	✓	✓	✓	✓	✓**Dust**		✓	✓	✓

Any indoor operation of combustion engine must have exhaust vented outdoors and frequent monitoring with a CO meter.

***CONFINED SPACE ENTRY REQUIRES SPECIAL PROCEDURES, PERMITS AND TRAINING AND MUST BE APPROVED BY THE CORPORATE HEALTH & SAFETY MANAGER. Confined space entry will be by Qualified Subcontractors Only**

Potential Activity Hazards and Hazard Controls:

Copy and paste a checkmark "✓" adjacent to potential activity hazards and relevant hazard controls.

POTENTIAL ACTIVITY HAZARDS

Abrasions and Cuts ✓
Access
Asphyxiation
Bacteria
Biological Hazards
Bloodborne Pathogens
Cave Ins
Chemical/Thermal Burns
Chemicals✓
Cold Stress ✓
Compressed Gases
Confined Spaces ✓
Congestion ✓
Defective Equipment ✓
Dermatitis ✓
Dropping Materials/Tools to Lower Levels
Drowning or Flowing Water
Electrical Shock
Energized Equipment ✓
Equipment Misuse ✓
Ergonomics ✓
Excavations ✓
Explosions
Fatigue ✓
Fire
Flammability
Flying debris ✓
Foreign Body in Eye ✓
Frostbite/Cold ✓
Fueling and Fuel Storage ✓
Fugitive Dust ✓
Fumes ✓
Generated Wastes ✓
Guards removed
Hazardous Materials ✓
Heat Stress (cramps, exhaustion, stroke)
Heavy Equipment Operation ✓
Heavy Equipment/Stability ✓
Heavy Lifting ✓
High crime area (violence)
High Winds
Hoists, Rigging, Slings, Cables
Housekeeping – Improper ✓
Illumination - Poor
Impact ✓
Inability to Maintain Communication
Inclement Weather ✓
Inclines
Insects/Reptiles ✓
Mold
Moving Equipment, Conveyors or Vehicles ✓
Muddy Site Conditions ✓
New Personnel
Noise ✓
Odor ✓
Overhead Utilities ✓
Overhead Work ✓
Overloaded Equipment
Oxygen deficiency
Pinch Points ✓
Poisonous Plants ✓
Pressure
Pressurized Lines ✓
Radiation
Repetitive Motion ✓
Rigging - Improper ✓
Sharp Objects ✓
Silicosis
Slips, Trips, and Falls ✓
Sprains and Strains ✓
Steam
Sunburn ✓
Surface Water Run-off
Toxicity ✓
Traffic ✓
Underground Utilities ✓
Uneven Terrain ✓
Unsafe Atmosphere
Vibration ✓
Visibility - Poor
Visitors Known/Unknown
VOC Emissions ✓
Weight ✓
Work at Depth
Work at Heights
Work over Water
Working on Ice

HAZARD CONTROLS

Air Monitoring ✓
Appropriate Clothing/Monitoring Of Weather ✓
Appropriate Labels/Signage ✓
Barricades/Fencing/Silt Fencing ✓
Buddy System - Attendant
Chock Blocks
Confined Space Procedures
Decontamination Procedures✓
Derived Waste Management Plan
Drinking Water/Fluids
Dust Abatement Measures ✓
Emergency Action Plan Procedures
Equipment Inspection ✓
Equipment Manuals/Training✓
Exclusion/Work Zones✓
Exhaust Ventilation ✓
Eye Protection ✓
Fall Protection
Fire Extinguisher ✓
Flotation Devices/Lifelines
Gloves ✓
Ground Fault Interrupter ✓
Grounded Hydraulic Attachments
Grounded Equipment/Tanks
Hand Signal Communication
Hard Hat ✓
Hazardous/Flammable Material Storage
Hearing Protection ✓
High Visibility Safety Vest ✓
Hoses, Access to Water ✓
Hotwork Procedures
Isolation of Energy Sources(Lockout/Tagout)
Machine/Equipment Guards
Manual Lifting Equipment ✓
Police Detail
Proper Lifting Techniques ✓
Proper Tool for Job ✓
Proper Work Position/Tools ✓
Protective Equipment ✓
Radio Communication
Respirator, (Specify Type)
Safety Harness /Lanyard/Scaffold
Security Escort
Sloping, Shoring, Trench Box
Spill Prevention Measures
Spill Kits
Stormwater Control
Traffic Controls ✓
Procedures/Methods ✓
Vehicle Inspection
Visitor Orientation Escort
Window Cleaning/Defrost

Safety Meetings

All H&A personnel visiting the site will be given an orientation safety meeting and are required to read and sign this HASP. Daily safety meetings will be conducted onsite and documented on a Health & Safety Tailgate Meeting Form.

Utility Locators and Underground Hazards

Prior to drilling or excavating, Haley & Aldrich staff members will ensure that permission has been gained from the property owner to access the property. Contact site facilities personnel to assist with location of underground utilities. Before marking any proposed exploration location, it is critical that all readily available information on underground utilities and structures be obtained. The estimated location of utility installations, such as gas, electric, fuel, steam, sewer, telephone, fiber optic, water, drainage or any other underground installation that may be expected to be encountered during drilling work, will be identified with the appropriate authority. Appropriate authorities include client representatives, utility companies, nonprofit organizations (e.g., "Dig-Safe), and others. A list of all state “utility locators” is posted on the Health and Safety Homepage under “Guidance Documents”.

Note: It is important to note that not all utilities are participants in the “one-call” agency or process. As such, inquiries must be made with the “one-call” agency to determine which entities do not participate, so they can be contacted independently.

Also, most stake-outs or markings have a limited time period for which they remain valid, typically 2 to 3 weeks. It is critical that this time period be taken into account to prevent expiration of clearance prior to completion of the invasive activities, and the need to repeat the process.

Completion of the utility stake out is not a guarantee that the underground facilities will not be encountered in the boreholes; Very few if any guarantee their work nor do they accept the liability for damage or losses if one may occur. Accordingly, Haley & Aldrich field staff are expected to use extreme caution in the upper 4-5 feet in the event the clearance has failed to identify an existing facility. This may necessitate hand-excavation or probing to confirm the presence of shallow utilities.

When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours (unless a longer period is required by state or local law), or cannot establish the exact location of these installations, geophysical techniques, such as ground penetrating radar and/or magnetometery can be utilized to locate the potential underground hazards. Using any information that can be obtained, the site should be viewed in detail for physical evidence of buried lines or structures. Evidence of surface elements of buried utilities should be documented, such as manholes, gas or water valves, catch basins, etc.

No subsurface drilling activities will be allowed until “all” utilities have been properly located and marked.

Marking locations can be accomplished using spray paint on the ground, stakes, or other similar method. All markings of proposed locations shall be made in white, in accordance with the generally-accepted universal color code for facilities identification (AWMA 4/99).

White:	Proposed excavation or drilling location
Pink:	Temporary Survey Markings
Red:	Electrical, Power Lines, Cables, Conduit, and Lightening Cables.
Yellow:	Gas, Oil, Steam, Petroleum , and Gaseous Materials.
Orange:	Communications, Alarm, or Signal Lines, Cables, and Conduits.
Blue:	Potable Water.
Purple:	Reclaimed Water, Irrigation, and Slurry Lines.
Green:	Sewers and Drain Lines.

The public and private utility entities generally only mark the locations of their respective underground facilities within public rights-of-way. Determination of the locations on private property will most likely be the responsibility of Haley & Aldrich or the contractor. In some cases, it may be necessary to put the ultimate responsibility back on the owner, to assist in the location of the utilities. It is incumbent on Haley & Aldrich and the Contractor to exercise caution and use good judgment when faced with uncertainty.

Cold Temperatures

Cold stress may occur at any time work is being performed at low ambient temperatures and high velocity winds. Because cold stress is common and has potentially serious illnesses associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Refer to OP1003-Cold Stress for additional information and mitigation controls.

Heavy Equipment

Staff Members must be especially careful and alert when working with contractors who use heavy equipment, since equipment failure or breakage can lead to accidents and worker injury. Cranes and equipment for drilling, pile driving, test pitting and coring is of special concern. Should these devices fail during operation the likelihood of worker injury is high. Equipment of this nature should be visually inspected and checked for proper working order prior to the commencement of field work. Those that operate heavy equipment must meet all of the requirements to operate heavy equipment. Haley & Aldrich, Inc. staff members that supervise projects or are associated with such high risk projects that involve digging should use due

diligence when working with a construction firm. Maintain visual contact with operators at all times and keep out of the strike zone whenever possible. Always approach heavy equipment with an awareness of the swing radius and traffic routes of each piece of equipment and never go beneath a hoisted load. High-visibility safety vests must be worn onsite at all times. Avoid fumes created by heavy equipment exhaust.

Rig Inspection

Each day, prior to the start of work, the driller will inspect the drill rig and associated equipment. The following checks will be made:

- Vehicle condition: Check proper operation of brakes, lights, steering mechanism, and horn.
- Equipment storage: All equipment such as auger flights, split spoon samplers, hammers, hand tools, etc. will be properly stored in an appropriate location and will be secured before moving the rig.
- Wire rope, Cat Line: All wire rope, cable and Cat Line will be inspected for signs of wear such as broken wires, a reduction in rope diameter, abrasion, or signs of rust. Worn, frayed, or otherwise damaged wire, rope or cable will be replaced.
- Safety equipment: Each rig will have at least one fire extinguisher (Type B/C) and one First Aid Kit.

Rig Set-Up

Each drill rig will be properly blocked and leveled prior to raising the derrick. The rig will be moved only after the derrick has been lowered. The leveling jacks will not be raised until the derrick has been lowered.

Blocking provides a more stable drilling structure by evenly distributing the weight of the rig. Proper blocking ensures that a differential settling of the rig does not occur. Wooden blocks, at least 12 by 12 inches and four to eight inches thick, are recommended and should be placed between the jack swivels and the ground. The emergency brake will be engaged and the wheels that are on the ground chocked.

Site drilling will comply with the following rules:

- Before drilling, the Contractor/Consultant Site Coordinator will ensure an adequate safety zone around the drill rig and associated operations.
- Before drilling, the existence of underground utilities in the work area will be determined and conspicuously marked.

- If drilling is conducted in the vicinity of overhead power lines, proper distance will be maintained between the drill rig and the lines as per OSHA 29 CFR 1926, Subpart N. The proper distance or shielding technique will be stated in the project-specific HASP.

Decontamination (Equipment)

Outline the equipment decontamination procedures for this project:

- All drilling equipment (i.e. augers, rods, bits, sampling tubes, etc.) will be steam cleaned with pressurized steam prior to the onset of drilling activities, between boring locations, and before leaving the site.

- Steam cleaning will be conducted in a designated area on site, which will be determined by the onsite H&A representative at the site.

- Water generated from cleaning new monitor well materials or from initial steam cleaning of pre-cleaned drilling equipment prior to its first use on the site will not be maintained.

- Sample collection equipment (split-spoon samplers, hand augers, bailers, collection utensils, etc.) will be decontaminated before initial use, between samples, and before leaving the site with a non-phosphate detergent wash and/or high-pressure steam followed by a tap water rinse.

- After decontamination, sample collection equipment will not be transported to the sampling location on unclean surfaces (e.g., transport in or on new plastic).

- Monitor well development/purge pumps will be decontaminated before and after use in each well with a non-phosphate detergent water wash, tap water rinse, and final deionized water rinse. This wash and rinse sequence will be circulated through the pump system and applied to exterior surfaces that will be or have been in contact with groundwater.

- Contractors are responsible to decontaminate their own equipment.

Noise Reduction

Site activities in proximity to heavy equipment often expose workers to excessive noise. It is anticipated that situations may arise when noise levels may exceed the OSHA Action Level of 85 dBA in an 8-hour time-weighted average (TWA). An example of this possibility is working in close proximity to the subcontractor during drilling activities onsite. If excessive noise levels occur, efforts will be made to control this by issuance of earplugs to all personnel and by implementing a system of hand signals understood by all.

Work Site Access & Controls (Standard Precautions)

The work area is restricted to authorized personnel. Clearly define the work area before beginning activities for the day. Caution tape and safety cones must be provided as necessary for vehicular traffic concerns and to protect passers-by. Proper housekeeping is essential to avoid creating hazards to pedestrian and vehicular traffic. Excavations in progress will not be left unattended at any time. Running equipment will not be left unattended at any time. Test borings and test pits will be backfilled upon completion and the area restored. Drilling equipment will be secured above test borings during work stoppages and at the end of the workday. Test pits will be covered or closed prior to the end of the workday.

Work over Water

Staff and subcontractors working near or above the water shall be provided with a USCG approved lifejacket, personal flotation device (PFD) or buoyant work vest. Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used and immediately replaced. Except when working on the barge (with proper railing/ fall protection). Wearing PFD is mandatory when working near or on the water.

A 30-inch-diameter ring buoy with least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.
When working in cold temperatures dress properly. Clothing made from man-made fibers does not protect the wearer for long when wet. Wool insulates better against the effects of hypothermia when dry or wet.

If you fall in Ice:

- DON'T PANIC! Call for help.
- Turn toward the direction you came from.
- Place your hands and arms on the unbroken surface, working forward by kicking
- your feet.
- Once out, remain lying on the ice (do not stand) and roll away from the hole.
- Crawl back to your tracks, keeping your weight distributed until you return to solid ice.

Working around Heavy Equipment

Staff Members must be especially careful and alert when working with contractors who use heavy equipment, since equipment failure or breakage can lead to accidents and worker injury. Cranes and equipment for drilling, pile driving, test pitting and coring is of special concern. Should these devices fail during operation the likelihood of worker injury is high. Equipment of this nature should be visually inspected and checked for proper working order prior to the commencement of field work. Those that operate heavy equipment must meet all of the requirements to operate heavy equipment. Haley & Aldrich, Inc. staff members that supervise projects or are associated with such high risk projects that involve digging should use due diligence when working with a construction firm.

Lightning

- Always pay attention to the weather conditions. You are responsible for your own safety. Use common sense and do not feel pressure to continue to work if you feel there is a threat and others don't, such as contractors and co-workers.
- If you are using conductive tools and equipment, separate yourself from them as far as practical.
- If you are near a drilling rig, lower the mast and move away from the rig.
- Rule of thumb- wait until 30 minutes after the last observed lightning strike or thunderclap before resuming your outdoor activities, warns the National Lightning Safety Institute.
- Protect yourself by taking cover in the best shelter you can find.
- If you are in or near the water, go to land immediately and find shelter. Take extra precaution when on the water and in a boat.
- If choosing between a building and a car, choose the building.
- If choosing between a hardtop and a convertible, choose the hardtop.
- If you're in a car, keep the windows closed.
- If there is no shelter, find a low-lying, open place that is a safe distance from trees, poles, or metal objects that can conduct electricity. Make sure it is not likely to flood. Assume a tucked position: Squat low to the ground. Place your hands on your knees with your head tucked between them. Try to touch as little of your body to the ground as possible.
- Do not lie flat on the ground, as your fully extended body will provide a larger surface to conduct electricity. Stay in a tuck position well after the storm passes.
- Watch for local flooding you may have to move if water begins to accumulate.
- If you feel your hair stand on end in a storm, drop into the tuck position **immediately.** This sensation means electric charges are already rushing up your body from the ground toward an electrically charged cloud. Minimize your contact with the ground to minimize your injury.

Poisonous Plants and Animals

Biological hazards include vector-borne diseases, venomous wildlife and insects, and poisonous plants. Vector-borne diseases may be spread to workers by insects, such as mosquitoes, or ticks. When a mosquito or tick bites a worker, it may transfer a disease-causing agent, such as a parasite, bacterium, or virus. Mosquito-borne diseases include West Nile virus, St. Louis encephalitis, eastern equine encephalitis, western equine encephalitis, and LaCrosse encephalitis. Tick-borne diseases include Lyme disease, babesiosis, ehrlichiosis, Rocky Mountain spotted fever, southern tick-associated rash illness, tularemia, tick-borne relapsing fever, anaplasmosis, Colorado tick fever, Powassan encephalitis, and Q fever.

Outdoor workers in the United States may be exposed to many types of venomous wildlife and insects. Venomous snakes, spiders, and stinging insects can be found throughout various geographic regions. They are especially dangerous to workers who have allergies to the animal. Anaphylactic shock is the body's severe allergic reaction to a bite or sting and requires immediate emergency care. Thousands of people are stung each year, and as many as 40–50

people in the United States die each year from severe allergic reactions. Venomous snakes include rattlesnakes. Stinging insects include bees, wasps, and hornets.

Poisonous plants found in the United States include poison ivy, poison oak, and poison sumac. These plants can cause allergic reactions if the leaves or stalks are damaged and come in contact with workers' skin. These plants can also be dangerous if they are burned and their toxins are inhaled by workers.

Heat Stress

Heat stress on hazardous waste sites or construction sites usually is a result of protective clothing decreasing natural body ventilation, although it may occur at any time work is being performed at elevated ambient temperatures. Because heat stress is one of the most common and potentially serious illnesses associated with hazardous waste site work, regular monitoring and other preventative measures are vital.

Site workers must learn to recognize and treat the various forms of heat stress.

The best approach is preventative heat stress management. In general:

- Workers should drink 16 ounces of water before beginning work, such as in the morning or after lunch. The water should be maintained at 50 to 60°F. Workers should drink 1 to 2 4-ounce cups of water every 30-60 minutes. A cool area for rest breaks should be designated, preferably air-conditioned. The use of alcohol during non-working hours and the intake of caffeine during working hours can lead to an increase in susceptibility to heat stress. Monitor for signs of heat stress.

- Workers should acclimate to site work conditions by slowly increasing workloads, i.e., do not begin site work activities with extremely demanding activities. This acclimation process may require up to two weeks for completion.

- Cooling devices should be used to aid natural body ventilation. These devices, however, add weight, and their use should be balanced against worker efficiency. An example of a cooling aid is long cotton underwear, which acts as a wick to help absorb moisture and protect the skin from direct contact with heat-absorbing protective clothing.

- Installed mobile showers and/or hose-down facilities should be used to reduce body temperature and cool protective clothing in serious heat stress situations.

- In hot weather, field activities should be conducted in the early morning or evening to the extent possible.

- Adequate shelter should be available to protect personnel from heat, as well as cold, rain, snow, etc., which can decrease physical efficiency and increase the probability of both

heat and cold stress. Set up a command post in the shade or erect temporary shade at the workstation if practical.

- In hot weather, rotate shifts of workers with potential heat stress exposure.
- Good hygienic standards must be maintained by frequent changes of clothing and showering. Clothing should be permitted to dry during rest periods. Persons who develop skin problems should immediately consult medical personnel.

Effects of Heat Stress

If the body's physiological process fail to maintain a normal body temperature because of excessive heat, a number of physical reactions can occur ranging from mild (such as fatigue, irritability, anxiety, and decreased concentration, dexterity, or movement) to fatal.

Heat-related problems are:

HEAT STROKE: An acute and dangerous reaction to heat exposure caused by failure of heat regulating mechanisms of the body; the individual's temperature control system that causes sweating stops working correctly. Body temperature rises so high that brain damage and death will result if the person is not cooled quickly.

Symptoms: Red, hot, dry skin, although person may have been sweating earlier; nausea; dizziness; confusion; extremely high body temperature; rapid respiratory and pulse rate; unconsciousness or coma.

Treatment: Cool the victim quickly and obtain immediate medical assistance. If the body temperature is not brought down fast, permanent brain damage or death may result. Soak the victim in cool but not cold water, sponge the body with rubbing alcohol or cool water, or pour water on the body to reduce the temperature to a safe level (102oF). Observe the victim and obtain medical help. Do not give coffee, tea or alcoholic beverages.

HEAT EXHAUSTION: A state of definite weakness or exhaustion caused by the loss of fluids from the body. This condition is much less dangerous than heat stroke, but it nonetheless must be treated.

Symptoms: Pale, clammy, moist skin, profuse perspiration and extreme weakness. Body temperature is normal, pulse is weak and rapid, and breathing is shallow. The person may have a headache, may vomit, and may be dizzy.

Treatment: Remove the person to a cool place, loosen clothing, and place in a head-low position. Provide bed rest. Consult physician, especially in severe cases. The normal thirst mechanism is not sensitive enough to ensure body fluid replacement. Have patient drink 1 to 2 cups water immediately and every 20 minutes thereafter until symptoms subside. Total water consumption should be 1 to 2 gallons per day.

HEAT CRAMPS: Caused by perspiration that is not balanced by adequate fluid intake. Heat cramps are often the first sign of a condition that can lead to heat stroke.

Symptoms: Acute painful spasms of voluntary muscles (e.g., abdomen and extremities).

Treatment: Remove the victim to a cool area and loosen clothing. Have the patient drink 1 to 2 cups water immediately, and every 20 minutes thereafter until symptoms subside. Total water consumption should be 1 to gallons per day.

HEAT RASH: Caused by continuous exposure to heat and humid air and aggravated by chaffing clothes. Decreases ability to tolerate heat.

Symptoms: Mild red rash, especially in areas of the body on contract with protective gear.

Treatment: Decrease amount of time in protective gear and provide powder to help absorb moisture and decrease chaffing.

Cold Stress

If site work is to be conducted during the winter, cold stress is a concern to the health and safety of personnel. Without proper protection, cold injuries, such as frostbite, can occur even when the temperature is above freezing (32 degrees F, 0 degrees C). This is especially true if there is a high wind or if a glove or sock gets wet. The cold injuries that may arise include:

Chilblains:

Chilblains are the most common type of cold injury and occur when there is exposure of the affected area to a dry cold. There is no tissue freezing with a chilblain injury. If you have chilblains, you might notice that the affected area may itch, turn reddish-blue, and be swollen and painful. With time, blisters containing clear fluid may form. The injured area may be very sensitive to the cold in the future. However, there is usually no other permanent damage.

Immersion Injury:

Immersion injury, occurs when a body part is exposed to a cold, wet environment. This type of injury may occur when a glove or sock becomes wet. As with chilblains, the affected area is not frozen. The symptoms of immersion injury are similar to those of chilblains, but the damage is usually more serious. The blisters are deeper and resemble the blisters that form after a burn. Again, there is no permanent injury other than cold sensitivity

Frostbite:

Localized injury resulting from cold is included in the generic term "frostbite." There are several degrees of damage. Frostbite of the extremities can be categorized as:

- Frost nip or incident frostbite - sudden blanching or whitening of the skin
- Superficial frostbite - skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient
- Deep frostbite - tissues are cold, pale, and solid; extremely serious injury

Hypothermia:

Hypothermia (significant loss of body heat) is also a potential hazard during cold weather operations. Signs of early hypothermia can be chills, pale skin, cold skin, muscle rigidity, depressed heart rate, and disorientation.

Hypothermia is characterized as "moderate" or "severe." A victim of moderate hypothermia may exhibit any combination of the following: severe shivering, abnormal behavior, slowing of movements, stumbling, weakness, repeated falling, inability to walk, collapse, stupor, or unconsciousness. Severe hypothermia is determined by extreme skin coldness, loss of consciousness, faint pulse, and shallow, infrequent or apparently absent respiration. Death is the ultimate result. The onset of severe shivering signals danger to personnel; exposure to cold shall be immediately terminated for any severely shivering worker. Personnel should wear insulated garments in a layered fashion to prevent hypothermia.

Indoor Work

For Building 2 and 5, sufficient ventilation or exhaust outside the building must be provided to accommodate the exhaust from the Geoprobe rig under Task 2 and 3. Also, carbon monoxide levels in the breathing zone must be monitored with a Multiple Gas Detector.

Reporting Incidents

Detailed reporting procedures for work-related accidents and incidents involving H&A staff members consist of the following sequential steps:

1. **Initial notification** - The staff member who is injured or otherwise directly involved in a work-related incident is responsible for immediately notifying his/her supervisor (staff manager) of the event. Obviously, any other staff member present at the site may make the notification if the injury is serious and/or debilitating.

2. **Secondary notifications** - The staff manager shall notify his/her Local H&S Coordinator (LHSC) of the accident/incident as soon as possible after the initial response is completed. An incident report should be completed as soon as possible through Gensuite.

All work-related injuries, illnesses, and near misses shall be reported to the LHSC and PM, regardless of severity. Thus, at a minimum, all first aid cases must be reported. It is not the responsibility of the staff manager or project manager to determine what shall be reported to the LHSC. The LHSC will work closely with the CHSM to determine reportability and recordability of an injury/illness on each case.

3. **Accident report** - After the initial response (medical attention, etc.) is completed, the staff or accountable staff manager is responsible for initiating an investigation into the cause of the accident/incident and for completing the H&A incident report form.

4. **Report distribution** – If the reporting is not done online through the available systems, copies of the report shall immediately be forwarded to the Corporate HR Representative for placement in the respective incident/injury case and workers' compensation files.

5. **Corrective actions** - The staff manager and LHSC (with input from the injured staff member and other staff members involved in the incident) are responsible for determining a course of action to ensure that the accident/incident does not occur again. Responses to serious work-related accidents or incidents may require the approval of the Corporate H&S Manager and senior management.

It is important that all H&A staff members understand these reporting procedures and the significance of the role of the staff member's staff manager in the process of responding to and reporting on-the-job injuries, illnesses and near misses.

Seeking Medical Attention-

The staff member should seek emergency medical services from an institution that is convenient for the services needed, such as a clinic, hospital, etc. They should call Workcare to expedite and assist on all incidents where medical care is sought: 888-449-7787. If the injury is not an emergency, but medical treatment is required, refer the staff member to Workcare. The staff member may seek medical services from their own physician, but only if a signed notification form is on file with the Company stating that they prefer to be examined by their own physician in the event of a work-related injury.

Site Security

The site/ work area will be taped and coned off during non-working hours to prevent access by unauthorized persons.

PROTECTIVE MEASURES

Personal Protective Equipment Requirements:

Copy and paste a checkmark "✓"into appropriate boxes.

Required PPE	Task 1	Task 2	Task 3	~~Task~~ 4	Task 5	Task 6	Task 7	Task 8	Task 9
Hard hat	✓	✓	✓	✓		✓	✓	✓	✓
Safety glasses w/side shields	✓	✓	✓	✓	✓	✓	✓	✓	✓
Steel-toe footwear	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hearing protection (plugs, muffs)	✓	✓	✓	✓	✓			✓	✓
Tyvek ™ coveralls									
PE-coated Tyvek™ coveralls									
Boots, chemical resistant									
Boot covers, disposable									
Leather work gloves	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inner gloves - Nitrile	✓	✓	✓	✓	✓	✓	✓	✓	✓
Outer gloves - Enter material here									
Tape all wrist/ankle interfaces									
Half-face respirator*									
Full-face respirator*									
Organic vapor cartridges									
Acid gas cartridges									
Other cartridges: Enter type here									
P-100 (HEPA) filters									
Face shield									
Personal Flotation Device (PFD)						✓			
High-Visibility Safety Vest	✓	✓	✓	✓	✓	✓	✓	✓	✓
Other: Face Coverings (see amendment)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Level of protection required [C or D]:	D	D	D	D	D	D	D	D	D

* In the event of sustained detections in the breathing space respirator use may be required. Staff will stand down and secure proper equipment. H&A staff must be medically qualified, fit tested and clean shaven with no facial hair that will interfere with the seal if respirators are required.

The required PPE checked in any box above must be on site during the task being performed. Work shall not commence unless the required PPE is present.

Site Safety Equipment Requirements:

Check all items that are required to be on site.

Site Safety Equipment

☑ Fire Extinguisher	☑ First Aid Kit	☑ Flashlight
Extinguisher (driller supplies)		
☐ Air horn/signaling device	☑ Cellular Phone	☐ Duct tape
☐ Ladder	☑ Barricade tape	☐ Drum dolly
☐ Two-way radio	☑ Safety cones	☐ Harness/Lanyard
☐ Other Specify		

The required equipment checked in any box above must be on site during the task being performed. Work shall not commence unless the equipment is present.

MONITORING PLAN AND EQUIPMENT

Is air/exposure monitoring required at this work site for personal protection? ☑ Y ☐ N

Is perimeter monitoring required for community protection? ☑ Y ☐ N
For certain tasks as required by workplans.

Monitoring/Screening Equipment **Requirements:**

Check all items that are required to be on site.

Required Monitoring/Screening Equipment

☑ Photo-Ionization Detector (PID)	10.6	☐ Combustible Gas Indicator (CGI) (LEL)
☐ Photo-Ionization Detector (PID)		☑ Multiple Gas Detector
☐ Photovac Micro Tip (PID)		☐ Dust Monitors (RAMs)
☐ Organic Vapor Monitor		☐ Colorimetric tubes
☐ Photovac Gas Chromatagraph (GC)		☐ Other

The required equipment checked in any box above must be on site for tasks and AOCs where these hazards have been identified. Work shall not commence unless the equipment is present.

Standard Action Levels and Required Responses:

Exposure Guidelines for common contaminants are listed in Table 1 - Occupational Exposure Limits in the Chemical Hazards section above.

Requirements for PPE upgrades based on monitoring are in Table 2 - Monitoring Methods, Action Levels and Protective Measures following the Specific Monitoring Requirements section below.

Action levels for readings obtained with a multiple gas detector are listed below.

Instrument	Normal	Operating levels	Action levels – required responses
Oxygen Meter	20.9%	Between 19.5-23.5%	Below 19.5 %: leave area, requires supplied air Above 23.5%: leave area, fire hazard

CGI	0%	Less than 10%	Greater than 10%: fire/explosion hazard; cease work
Hydrogen Sulfide	0%	Less than 10 ppm.	Greater than 15 ppm (or 10 ppm for 8 hrs) requires supplied air respirator
Carbon Monoxide	0%	Less than 25 ppm	Greater than 200 ppm for 1 hour (or 25 ppm for 8 hrs) requires supplied air respirator

Standard Air Monitoring Plan (Volatiles):

- Prior to the beginning of work obtain background readings with the PID away from the site.
- Monitor the breathing zone when site soil is exposed (e.g., while drilling or excavating is occurring, etc.) with the PID.
- Monitoring should be conducted most frequently (e.g., every 15-30 minutes) when drilling or excavation first begins in a particular area and when soil is removed from the hole. After this, and if no exceedances of exposure limits are noted (see below), monitoring may be conducted less frequently (e.g., every 60 minutes).
- H&A general exposure limits will be used when a mixture of potentially volatile chemicals are suspected to be present in soil at the site.

In summary, if a reading of 10 ppm above background is detected with the PID for 5 minutes or longer, back away for a few minutes. Screen the air again after any vapors/gases have been given a chance to dissipate. If 10 ppm above background is still noted, evacuate the area and call the LHSC and PM for further guidance.

- Record monitoring data and PPE upgrades in field book or on Record of Field Monitoring form and maintain with project files.

- Air monitoring for exposure should be based on the frequency established under the Standard Air Monitoring Plan or under the Specific Monitoring Requirements. Record time, location and results of monitoring and actions taken based upon the readings.

Specific Monitoring Requirements:

Carbon Monoxide Monitoring:
Applicable tasks: # 2 and 3 (Building 2 and 5)
Frequency: Continuously in worker breathing space when Geoprobe work is indoors.
Description: Air will be screened using a Multiple Gas Detector. Carbon monoxide concentration in air is not to exceed 200 ppm for 1 hour (or 25 ppm for 8 hours).

VOC Monitoring:
Applicable tasks: # 1, 2, 3 and 4
Frequency: Continuously in worker breathing space when soil is disturbed.

Description: Soils will be screened using a PID (MiniRae 2000) for the presence of volatiles.

Calibration and Use of Equipment:

Calibrate all monitoring equipment in accordance with manufacturers requirements, H&A calibration (OP) standards and site specific requirements (e.g., at the beginning and end of each work day). Calibration of equipment shall be documented in the field notes or Daily Field Report (DFR). Documentation should include:

- Date/time
- Zero reading before calibration
- Concentration of calibration gas
- Reading obtained with calibration gas before adjusting span\
- Final reading obtained with calibration gas after adjusting span

DECONTAMINATION AND DISPOSAL METHODS

Personal Hygiene Safeguards:

The following minimum personal hygiene safeguards shall be adhered to:

- No smoking or tobacco products on any HAZWOPER project.
- No eating or drinking in the exclusion zone.
- It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, or applying cosmetics and before leaving the site for the day.
- It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

Standard Personal Decontamination Procedures:

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or other appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site contact the Project Manager and LHSC to discuss proper decontamination procedures. The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Remove and wipe clean hard hat
2. Rinse boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Rinse boots and gloves
5. Remove outer boots
6. Remove outer gloves
7. Remove Tyvek coverall
8. Remove respirator, wipe clean and store
9. Remove inner gloves

Location of Decontamination Station:

To be established near the various site investigation locations.

Disposal of PPE:

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles. PPE that is grossly contaminated must be bagged (sealed) and field personnel should communicate with the Project Manager to determine proper disposal.

Tools & Equipment Decontamination:

All decontamination should be conducted at the site and not at the office or lab.

Check all equipment and materials needed for decontamination of tools and other equipment.

☐ Acetone	☑ Distilled water	☑ Poly sheeting
☑ Alconox soap	☐ Drums for water	☑ Steam cleaner
☑ Brushes	☐ Hexane	☐ Tap water
☑ Disposal bags	☐ Methanol	☐ Washtubs
☑ 5 gallon pails	☑ Other Paper towels, disinfectant spray/wipes, sanitizer	

Standard Equipment Decontamination Procedures:

Air monitoring instrumentation and delicate instruments that are difficult to decontaminate or sensitive to water should be protected from contamination during use through the use of plastic sheeting. To the extent possible, efforts should be taken to limit the degree of contamination to hand tools and sampling equipment during use. Proper PPE must be worn while performing decontamination, including the wearing of chemical safety goggles and gloves. Standard equipment decontamination procedures are as follows. Any additional requirements are listed under Specific Equipment Decontamination Procedures below.

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel
2. Soak in a solution of Alconox and water (if possible)
3. Wipe off excess contamination with a paper towel
4. If residue still appears, use simple green or similar product and allow to dry

Standard decontamination procedure:

1. Wash using a solution of Alconox and water
2. Rinse with potable water
3. Rinse with distilled water

1. Dispose of dedicated sampling equipment in drums

Standard Disposal Methods for Contaminated Materials:

Excess sample solids, decontamination materials, rags, brushes, poly sheeting, etc. that are determined to be free of contamination through field screening can usually be disposed into client-approved, on-site trash receptacles. Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur. Contaminated materials must be segregated into liquids or solids and drummed separately for off-site disposal. Any additional requirements are listed under Specific Disposal Methods for Contaminated Materials below.

Specific Disposal Methods for Contaminated Materials:

If onsite trash receptacles are not available, excess sample solids, decontamination materials, rags, brushes, poly sheeting, etc. that are determined to be free of contamination through field screening will be disposed of in drums staged onsite for future disposal.

Disposal Methods for Contaminated Soils:

Contaminated soil cuttings and spoils must be drummed for disposal off-site unless otherwise specifically directed. Soil cuttings and spoils determined to be free of contamination through field screening can usually be returned to the boreholes or excavations from which they came.

CONTINGENCY PLANNING

How H&A responds to an emergency depends on whether we are at an active facility or another other location. Many active facilities have very stringent requirements for the mitigation of emergencies. Therefore, the PM is responsible for identifying any specific requirements from the client contact.

As a rule of thumb, the following are H&A's basic responses to handling Emergencies. Typically, H&A does not mitigate emergencies. When Clients request or require specific functions such as First Aid/CPR trained personnel on site, we typically conform. Before any Project Manager or LHSC agrees to something more stringent, many issues should be considered such as training, safety, feasibility of an adequate response, insurance requirements, and much more.

Fire:

- Major Fires - Major fires will be mitigated by the local fire departments or by client's on-site fire/emergency response departments.
- Incipient Stage Fires -Incipient stage fires will be extinguished by on-site personnel using fire extinguishers. Only those who have received annual training may use an extinguisher.

Medical:

All H&A employee injuries and illnesses will be reported to the PM and reported through Gensuite app.

- First Aid - First aid will be addressed using the on-site first aid kit. H&A employees are not required or expected to administer first aid/CPR to any H&A, Contractor, or Civilian personnel at any time and it is H&A's position that those who do are doing it on their behalf and not as a function of their job.
- Trauma - Based upon the nature of the injury, the injured party may be transported to the nearest hospital or emergency clinic by on-site personnel or by ambulance. First response to a trauma incident is to call 911 or facility security. H&A staff members are expected to assist in ancillary roles only such as directing ambulances to the scene. It is the discretion of the staff member on site whether an ambulance should be procured in remote locations where ambulance services will not be effective.

Hazardous Materials Spill:

- Small incidental spills (e.g. pint of motor oil) caused by H&A employees and/or by the contractor will be mitigated by the H&A staff member and/or the contractor.
- Large spills (e.g. large leak from heavy equipment fuel tank). The contractor is responsible for cleanup. In the event that it posses a serious human or environmental threat, the local Fire Department and/or client emergency response department will be

contacted. Once emergency has been mitigated typically clean up will be provided by a vendor.

Rescue:

H&A employees will not enter any confined spaces for rescue purposes.

Weather Related Emergencies:

H&A employees and their subcontractors should be aware of potential health effects and/or physical hazards of working during inclement weather. If applicable, safeguards against the effects and hazards of heat stress, cold stress, frostbite, thunderstorms, and lightning, etc., should be included with the section pertaining to physical hazards in this HASP.

Evacuation Alarms:

Evacuation alarms and/or emergency information will be communicated among personnel on site through verbal communication.

Emergency Services:

Emergency services will be summoned via cellular phone.

Emergency Evacuation Plan:

The site evacuation plan is as follows:

1. Establish a designated meeting area to conduct a head count in the event of an emergency evacuation.
2. If the work area is not near an emergency exit, exit via the closest route and meet at the designated meeting area.
3. Notify emergency response personnel (fire, police and ambulance) of the number of missing or unaccounted for employees and their suspected location.
4. Administer first aid will in the meeting area as necessary.

Under no circumstances should any personnel re-enter the site area without the approval of the corporate H&S manager, the H&S coordinator, and the fire department official in charge.

HEALTH & SAFETY PLAN ACKNOWEDGMENT FORM

Note: Only H&A employees sign this page.

I hereby acknowledge receipt and briefing on this Health & Safety Plan prior to the start of on-site work and declare that I understand and agree to follow the provisions and procedures set forth herein while working on this site.

PRINTED NAME	SIGNATURE	DATE

APPENDIX A
HASP Amendment Form

This Appendix is to be used whenever there is an immediate change in the project scope that would require an amendment to the HASP. For project scope changes associated with "add-on" tasks, the changes must be made in the body of the HASP. Before changes can be made, a review of the potential hazards must be initiated by the H&A Project Manager.

Amendment No.	1
Site Name:	
Work Assignment No.:	
Date:	
Type of Amendment:	
Reason for Amendment:	Covid Safe Work Procedures
Alternate Safeguard Procedures:	
Required Changes in PPE:	Face covering per H&A Covid policy, disinfection, 6 ft spacing from others

Project Manager Signature: _____ Date: _____

Local Health and Safety Coordinator: _____

_____ Date: _____

This original form must remain on site with the original HASP. If additional HASPs are in the field, it is the Project Manager's responsibility to forward a signed copy of this amendment to those who have copies.

APPENDIX B

Issuance and Compliance
Site Safety Officer Role and Responsibilities
Training Requirements

This Health & Safety Plan (HASP) has been prepared in accordance with the requirements of Title 29 the Code of Federal Regulations (CFR) Section 1910.120/1926.65 to provide guidance for the protection of onsite personnel from physical harm and chemical exposure while working at the subject site.

The specific requirements of this HASP include precautions for hazards that exist during this project and may be revised as new information is received or as site conditions change.

- This HASP must be signed by all Haley & Aldrich (H&A) staff members who will work on the project, including H&A visitors. By signing the Health and Safety Plan Acknowledgement Form personnel are acknowledging that they are aware of the specific hazards of the site and agree to follow the provisions and procedures required to safeguard themselves and others from those hazards.
- This HASP or a current signed copy must be retained at the site at all times when H&A staff members are present.
- Deviations from this HASP are not permitted without prior approval from the above signed. Unauthorized deviations may constitute a violation of H&A company procedures/policies and may result in disciplinary action.
- Revisions to this HASP must be outlined within the contents of the HASP. If immediate or minor changes are necessary, the LHSC and H&A Project Manager may use Appendix A (HASP Amendment Form), located in the back of this HASP. Any revision to the HASP requires personnel to be informed of the changes and that they understand the requirements of the change.
- This HASP is not for H&A Subcontractor use. Each subcontractor engaged is responsible for all matters relating to the health and safety of their personnel and the safe operation of their equipment. This HASP will be made available as a reference so that subcontractors are informed of the potential hazards associated with the site to the extent we are aware. Subcontractors must develop their own HASP which must be, at a minimum, at least as protective as this HASP.
- This Site Specific HASP provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this HASP (e.g., injury reporting, medical surveillance, personal protective equipment (PPE) selection, etc. are described in detail in the H&A Corporate Health and Safety Program Manual and within Standard Operating Procedures (OPs). Both the manual and OPs can be located on the Company Intranet. When appropriate, users of this HASP should always refer to these resources and incorporate to the extent possible. The manual and OPs are available to clients and regulators per request.

Site Safety Officer:

The site safety officer (SSO) is defined as the individual responsible to the employer with the authority and knowledge necessary to implement the HASP and verify compliance with applicable health and safety requirements.

The H&A Project Manager may designate any person as the site safety officer (SSO) and determines the order of authority on site. Usually the highest ranking person on site is the SSO. A site safety officer must be on site at all times. When none of the designated SSOs are present on site, the senior person for H&A on site will default to the SSO. This project has identified the following hierarchy for SSO.

1. TBD_____

Site Safety Officer Roles and Responsibilities:

The SSO is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SSO functions include:

- Act as H&A's liaison for health and safety issues with client, staff, subcontractors, and agencies.
- Verify that utility clearance has been performed by H&A subcontractors.
- Oversee day-to-day implementation of the HASP by H&A employees on site.
- Interact with subcontractor project personnel on health and safety matters.
- Verify use of required PPE as outlined in the HASP.
- Inspect and maintain H&A safety equipment, including calibration of air monitoring instrumentation used by H&A.
- Perform changes to HASP and document in Appendix A of the HASP as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving H&A and its subcontractors.
- Verify that site personnel are familiar with site safety requirements (e.g., the hospital route and emergency contact numbers).
- Report accidents, injuries, and near misses to the H&A PM and Local Health and Safety Coordinator (LHSC) as needed.

The SSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with H&A employees and H&A subcontractors at regular intervals and in accordance with H&A policy and contractual obligations. The SSO will track the attendance of site personnel at H&A orientations, toolbox

talks, and safety meetings. Subcontractors will document training and provide training rosters to the H&A SSO.

The SSO will report accidents such as injury, overexposure, or property damage to the Local Health and Safety Coordinator, to the Project Manager, and to the safety managers of other on-site consultants and contractors. The SSO will consult with the safety managers of other on-site consultants and subcontractors on specific health and safety issues arising over the course of the project, as needed.

Health and Safety Training Requirements:

Personnel will not be permitted to supervise or participate in field activities until they have been trained to a level required by their job function and responsibility. H&A staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

The H&A Project Manager/LHSC will be responsible for maintaining and providing to the client/site manager documentation of H&A staff members' compliance with required training as requested. Records shall be maintained per OSHA requirements.

40-Hour Health and Safety Training

The 40-Hour Health and Safety Training course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, and supervisors, who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120.

8-hour Annual Refresher Training

Personnel who complete the 40-hour health and safety training are subsequently required to attend an annual 8-hour refresher course to remain current in their training. When required, site personnel must be able to show proof of completion (i.e., certification) at an 8-hr refresher training course within the past 12 months.

8-Hour Supervisor Training

On-site managers and supervisors directly responsible for, or who supervise staff members engaged in hazardous waste operations, should have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. Supervisor Training includes,

but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, auditing, and emergency response procedures.

Additional Training for Specific Projects

H&A personnel will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities including:

- Client specific training or orientation
- Competent person excavations
- Confined space entry (entrant, supervisor, and attendant)
- Heavy equipment including aerial lifts and forklifts
- First aid/ CPR
- Diving certification
- Use of fall protection
- Commercial driver's license
- Use of nuclear density gauges
- Asbestos awareness

APPENDIX C
Stormwater Pollution Prevention Plan

HALEY ALDRICH

www.haleyaldrich.com

STORMWATER POLLUTION PREVENTION PLAN

EROSION AND SEDIMENT CONTROL
FORMER PHILIPS LIGHTING FACILITY BUILDING - DEMOLITION PROJECT
7265 STATE ROUTE 54, TOWN OF BATH
STEUBEN COUNTY, NEW YORK

by
Haley & Aldrich of New York
Rochester, New York

for
Signify North American Corporation
200 Franklin Square Drive
Somerset, New Jersey

File No. 128683-022
November 2020

SIGNATURE PAGE FOR

STORMWATER POLLUTION PREVENTION PLAN
EROSION AND SEDIMENT CONTROL
FORMER PHILIPS LIGHTING FACILITY BUILDING - DEMOLITION PROJECT
7265 STATE ROUTE 54, TOWN OF BATH
STEUBEN COUNTY, NEW YORK

PREPARED FOR
SIGNIFY NORTH AMERICAN CORPORATION
SOMERSET, NEW JERSEY

PREPARED AND DESIGNED BY:

Kenneth Hurley, P.E., CPESC, CPSWQ
Senior Technical Specialist
Haley & Aldrich of New York

REVIEWED AND APPROVED BY:

Mark Ramsdell
Senior Construction Project Manager
Haley & Aldrich of New York

Executive Summary

This narrative defines existing and proposed site conditions, the potential impact of stormwater runoff on neighboring lands due to the proposed conditions, how stormwater will be managed during and after the construction period, mitigation of any additional stormwater runoff generated from the demolition of this facility, the duration of soil disturbance and stabilization practices, and appoints who will be responsible for implementing and maintaining the practices.

The practices specified herein will follow the NYS Standards and specifications for Erosion and Sediment Control Devices (BMP) details.

PURPOSE OF THE SWPPP - EROSION AND SEDIMENT CONTROL PLAN

This Erosion and Sediment Control (ESC) Plan was created to ensure compliance with the New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharge from Construction Activity (GP-0-20-001). A copy of the General Permit has been included in **Appendix A** and the project's Notice of Intent (NOI) application for stormwater discharges has been included as **Appendix B**.

DUTY TO COMPLY AND PENALTIES FOR VIOLATION

It shall be a violation of the SPDES General Permit and the New York State Environmental Conservation Law (ECL) for any discharge to either cause or to contribute to a violation of the water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (SPDES General Permit, Part I.D.).

For the purposes of the SPDES General Permit, the term "Operator" means the person, persons, or legal entity, which owns or leases the property on which the demolition activity is occurring.

The Operator must comply with all conditions of the SPDES General Permit. All contractors and subcontractors associated with the project must comply with the terms of the Stormwater Pollution and Prevention Plan (SWPPP). Any permit noncompliance constitutes a violation of the federal Clean Water Acts (CWA) and the ECL and is grounds for enforcement action against the Owner or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application.

The Operator and all contractors working on this project shall take all reasonable steps to minimize or prevent any discharge in violation of the SPDES General Permit which has a reasonable likelihood of adversely affecting human health or the environment (SPDES General Permit, Part VII.E.).

There is substantial criminal, civil and administrative penalties associated with violation of the provisions of the SPDES General Permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending on the nature and degree of the violation (SPDES General Permit, Part VII.C.). The Owner/Operator will acknowledge this by signing a "Pollution Prevention Plan Certification", included as **Appendix C**. Prior to commencement of construction activities on site, the operator will obtain certification from the prime contractor involved with earthwork and ESC activities which are subject to the General Permit requirements in order to ensure compliance with the terms and conditions herein. Additional sub-contractors that are involved with

earthwork and ESC activities will provide contractor certification prior to commencing work on site. **Appendix D** contains the form that shall be used for obtaining the contractors' certifications.

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1. Project Information

1.1 PROJECT DESCRIPTION

Signify North American Corporation (Signify) proposes to demolish facilities located at 7265 State Route 54. Although a majority of the demolition will take place at the existing facility buildings, it is anticipated that disturbance will take place outside of the building footprints. This project is greater than 1/4 mile from any of the other construction owned projects, so it is not considered a part of a larger development. The project site was formerly accessed by four drives. The project is in the Town of Bath, Steuben County, New York (**Appendix E**).

The project demolition and associated soil disturbance is proposed to take place within the construction Limits of Disturbance (LOD), as shown on the erosion and sediment control (ESC) drawings (**Appendix G**) which is approximately 1200-foot wide by 830-feet long. The disturbance to the ground will consist of stockpiling topsoil, grading and leveling, placing geotextile fabric and stone cover and disturbance due to the equipment and materials. A temporary staging area will be constructed and restored to the pre-pervious/impervious cover prior to the completion of the project. The overall LOD has been reduced to the greatest extent possible to allow for minimal disturbance to complete the proposed task and to provide safer Project construction.

The overall planned site disturbance, including Contractor's staging yard, will be 23 acres (LOD boundary) or less.

1.2 STORMWATER MANAGEMENT OBJECTIVES

The objectives of the proposed Stormwater Management methods and procedures for this project shall be:

- Reduction or elimination of erosion and sediment loading to downstream water bodies during construction;
- Controlling the impact of stormwater runoff on the water quality of the receiving waters;
- Controlling the temporary increased volume and peak rate of runoff during construction.

1.3 SOILS

The soil types and hydrologic groups present within the Project boundaries are included in the following table:

Table 1. Project Soils

Soil Mapping Unit	Soil Series	Percent of Study Area	Hydric (Yes/ No)[1]
BrA	Braceville silt loam, 0 to 3 percent slopes	Moderately well drained	No

Soil Mapping Unit	Soil Series	Percent of Study Area	Hydric (Yes/ No)[1]
BrB	Braceville silt loam, 3 to 8 percent slopes	Moderately well drained	No
HoA	Howard gravelly loam, 0 to 3 percent slopes	Well drained	No
HoB	Howard gravelly loam, undulating	Well drained	No
HoC	Howard gravelly loam, rolling	Well drained	No

Notes:

[1] "Yes" indicates this soil is listed in the 2017 National Hydric Soil List (NRCS, March 2014).
[2] Soil Mapping has been included as **Appendix F.**

1.3.1 Soils Descriptions

A description of the primary soil series found within the Project Area and adjacent areas are located below. See **Appendix F** for mapping of all soil series located within the Project Area.

- **Braceville silt loam, 0 to 8 percent slopes:** This soil consists of 15" to 30" to fragipan, moderately well drained, depth of water 14" to 24", frequency of ponding: none.

- **Howard gravelly loam, 0 to 3 percent slopes, undulating, rolling:** Depth more than 80" to restrictive layer, well drained depth to water table: 80"+, frequency of ponding: none, most limiting layer to transmit water: moderately high to high.

1.4 PROPOSED PROJECT ACTIVITY DURATION

The initial Project construction and use is anticipated to take up to twelve months to complete. The Project construction start date has not been determined, but the construction and temporary use is anticipated to take place during late spring and finish up by early fall. (May 2021 and November 2021). The following season, potential work may include additional clean-up work, revegetation of sparse growth areas and settlement repairs which are anticipated to be performed during spring 2022 and completed by June 2022.

Project Activity Duration: May 2021 through June 2022.

1.5 ENVIRONMENTAL SENSITIVE AREAS

According to NYSDEC freshwater wetland, stream mapping and National Wetland Inventory (NWI) mapping, there are no NWI-and no NYSDEC mapped wetlands located within the Project LOD. NYSDEC stream mapping indicates that there are no NYSDEC Classified streams within the Project LOD.

As provided on the NWI, mapped wetlands are located in the vicinity of the project site, such as SW of site (1,200 FT): 1.13 AC-freshwater forested/shrub wetland, habitat classified as a PSS1E; and NW of site (1,500 FT): 1.21 AC-freshwater forested/shrub wetland, habitat classified as a PSS1E.

As provided on the NWI and NYSDEC Environmental Mapper, the following watercourses and ponds have been classified, such as S of the site (1,200 FT): 1.66 AC unnamed pond habitat classified as a PUBHh; S of the site (1,200 FT): 2.98 AC unnamed freshwater pond habitat classified as a PUBHh; S/SE of the site (1,200 FT): unnamed watercourse, classification C; NE of the site (3,500 FT): Cold Brook watercourse, classification C(TS).

1.6 IMPERVIOUS AREAS

The proposed project LOD will utilize access through an existing impervious surfaced road. The proposed Contractor's yard/staging area will also be accessed through the existing impervious access road.

There are no proposed permanent impervious surfaces anticipated for this project.

This project proposes no permanent increases of impervious area.

1.7 POST-CONSTRUCTION DRAINAGE

This demolition project will have no increase in impervious surfaces and will be returning the construction disturbance back to the existing impervious or existing pervious cover, depending on whether portions of impervious cover is removed or if it remains as impervious surfaces. The contractor yard will be returned to the existing impervious pervious cover. The restoration process will restore grade as close to pre-construction grade as possible, therefore the drainage patterns and runoff will generally remain the same as the pre-construction conditions.

1.8 WATERBODY AND WETLAND CONSTRUCTION AND MITIGATION PROCEDURES

The Project will not impact waterbodies or wetlands and will not require the need for mitigation procedures.

1.9 FUTURE UTILITIES

This project will not create new utilities or have a need to make improvements to existing utilities, facilities or services.

1.10 PROPOSED DRAINAGE AREA DIVIDE LINES

This Project is proposing little to no modifications to the grade and site cover as compared to the pre-construction conditions. Although on-site drainage patterns will be slightly modified by construction. This will function in a similar drainage capacity and size as the pre-existing conditions. There are no proposed impervious surfaces that will modify the drainage runoff on this project.

There are no anticipated changes to the drainage area divide lines of this project.

1.11 SECTION 303 (D) LISTED IMPAIRED WATERS

The stormwater runoff from the project site discharges to the unnamed stream located southeast of the project site as illustrated on the State Mapped Water Resources mapping (**Appendix H)**. This waterbody is not listed on the section 303 (d) List of Impaired Waters and do not require a TMDL.

2. SWPPP Responsibility

The SPDES General Permit for Stormwater Discharge from Construction Activity (GP-0-20-001) requires certain conditions to be met to maintain permit coverage.

2.1 SWPPP IMPLEMENTATION

The Owner shall ultimately be responsible for the implementation of all the SWPPP requirements and procedures. All Contractors and subcontractors involved in earthwork and ESC activities shall be responsible to follow the requirements of the SWPPP. These Contractors, Prime and Sub, shall have the responsibility of reviewing and understanding the requirements of the SWPPP and shall sign the contractor certification statement (**Appendix D**), prior to their work on the project site. The Owner shall sign the Owners Pollution Prevention Certification (**Appendix C**) prior to proceeding with earth disturbance.

The Owner will be responsible to obtain a qualified inspector to document the environmental conditions and provide a list of NYSDEC compliance deficiencies in accordance with the General Permit for Stormwater Discharges.

The Owner/Operator shall have each Contractor and Subcontractor that is involved with earthwork and ESC activities identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the "Trained Contractor". The Owner/Operator shall ensure that at least one Trained Contractor, that has received four (4) hours of endorsed E&SC training, is on site daily when soil disturbance and ESC activities are being performed.

The project Contractor has not been chosen at this time.

2.2 SWPPP INSPECTION

The SWPPP inspections shall be performed by a Qualified Inspector or a Qualified Professional such as a Licensed Professional Engineer or a person under their direct supervision that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entities, Certified Professional in Erosion and Sediment Control (CPESC), or a Registered Landscape Architect. The NYSDEC website provide a training calendar with training events for Trained Contractor and Qualified Inspector classes at the following web address:

http://www.dec.ny.gov/chemical/8699.html

The SWPPP inspections shall take place at a minimum of once a week. When construction activities have received prior approval and when the active site disturbance is greater than 5-acres, inspections shall take place at a minimum of two inspections a week, separated by at least two calendar days. The Owner shall be responsible for hiring and/or obtaining the services of Qualified Inspector or Professional to conduct the SWPPP inspections as per the above requirements and time frame.

The Project Contractor shall be responsible for the day to day visual inspection of BMP devices in the active construction areas, to verify performance and to repair, modify or replace when not adequately controlling erosion and providing sediment control.

2.3 SWPPP INSPECTION REPORT AND CORRECTIVE ACTIONS

The Qualified Inspector shall prepare an inspection report subsequent to each inspection. At a minimum, the inspection report shall include and/or address: date and time of inspection; name/title of inspector; weather and soil conditions; runoff conditions; water body and discharge conditions; identify erosion and sediment control repair and maintenance required; replacement and modifications to erosion and sediment controls; description/sketch and size of current disturbed areas and stabilized areas; current phase of construction; identify all construction/practices not in accordance with SWPPP and technical standards; and digital photographs with date stamp.

Within one business day of the inspection, the Qualified Inspector shall notify the Owner/Operator and Contractor/Subcontractor of any corrective actions that need to be taken.

Within one business day of notification from the Qualified Inspector, the Contractor/Subcontractor shall begin implementing the corrective actions and complete the corrective actions within a reasonable time frame.

All inspection reports are to be signed by the Qualified Inspector. Within seven (7) days of the inspection, photographs of the completion of the corrective action work shall be attached to the inspection report. Inspection reports shall be maintained on the construction site within the SWPPP (**Appendix H**).

2.4 POST CONSTRUCTION STORMWATER MANAGEMENT RESPONSIBILITY

This project proposes the demolition of an existing facility. This project does not propose an increase in impervious surfaces. In accordance with the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) Appendix B Table 1, this construction activity only requires the preparation of a SWPPP that includes erosion and sediment controls. Therefore, this project does not require the construction and maintenance of Post Construction Stormwater Management practices.

3. Erosion and Sediment Control Measures

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. Federal, State and local laws concerning pollution abatement will be followed. The following section contains the minimum erosion and sediment control measures to be practiced on this project site during the duration of coverage under the SPDES General Permit for Stormwater Discharges. The Contractor and Subcontractor(s) shall refer to the Erosion and Sediment Control Site drawings (**Appendix G**), BMP drawings (**Appendix G-Detail Sheets**) as well as this SWPPP report for the complete requirements for erosion and sediment control for this project site. The Contractor and Subcontractor(s) shall also be responsible for observing additional permitting requirements (as applicable).

3.1 TEMPORARY EROSION CONTROL MEASURES

Refer to **Appendix G**-Erosion and Sediment Control Plans, Detail and Note Sheets

3.1.1 Dust Control

Dust control shall be accomplished on-site through watering only. Calcium chloride or other chemicals used for dust control will not be allowed. The contractor shall provide a positive means to prevent air-borne dust from being generated. At a minimum, sweeping on paved areas, water sprinkling and mulching on unpaved areas shall be provided. Dust control shall also apply to the use of the gravel access road.

3.1.2 Temporary Construction Entrance

Prior to any construction activity, a non-erosive means of access shall be provided at the designated access driveway entrances. Access protection shall include the stabilized construction entrance option, to reduce tracking of sediment onto public roadways. Stabilized construction entrances will be installed prior to commencing construction traffic. Existing, gravel or paved entrances may be used in lieu of establishing a new stabilized construction entrance, provided the existing entrance provides a means of non-erosive access, as needed. The existing entrances shall be maintained and repaired as necessary. Mud and dirt tracked onto the public roadway shall be cleaned daily and cleaned immediately in the instance of a potential safety issue to vehicles, pedestrians, or construction personnel.

3.1.3 Sediment Barrier (silt fence/compost filter sock/bales)

Sediment barriers shall be used during construction as a temporary sediment and erosion control measure. Sediment barriers are to be installed perpendicular to grade/parallel to contours and down gradient of disturbed soils as per the erosion and sediment control plans or as directed by the Owner or Owner's representative. Silt fence and or compost filter socks are to be utilized immediately downgrade of disturbed soils, stockpiles, loose pollutant generating materials that can enter the stormwater system or discharge of site. Sediment shall be removed prior to 50% accumulation of the storage capacity of the sediment barrier.
Compost filter socks are an acceptable sediment barrier that may be installed as a substitute for silt fence. Compost filter socks are generally used in support of primary BMPs and in areas with a short duration of disturbance. The design plans illustrate the minimum BMPs required for ESC protection and

site compliance. At locations of sediment barriers, the Contractor may utilize filter socks for erosion and sediment control protection if the use is applicable. Filter socks may also be used as check dams when the use and installation comply with the detail as provided in the New York State Standards and Specifications for Erosion and Sediment Control.

Sediment barriers are intended to stop the flow of sediments and prevent the deposition of sediments into sensitive resources.

- Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.
- Where wetlands or water bodies are adjacent to and down slope of construction work areas, install reinforced sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or water body.
- Install temporary sediment barriers at the base of slopes adjacent to road crossings until disturbed vegetation has been reestablished.
- Inspect and maintain all temporary sediment barriers throughout the demolition project in accordance with the requirements of the SPDES General Permit for Stormwater Discharges.
- Maintain all temporary sediment barriers in place until permanent revegetation measures are successful or the upland areas adjacent to wetlands, water bodies, or roads are stabilized.
- Contractor shall incorporate appropriate erosion/sediment control measures in work staging and storage areas.
- Remove temporary sediment barriers from areas that are successfully revegetated.

Proposed sediment barriers are shown on the ESC plans (Appendix H).

3.1.4 Temporary Site Preparation for Seeding

The seedbed shall be scarified to a depth of 3 – 4 inches and shall be accomplished by disking or tracking equipment across the work area to be seeded.

Late season preparation (November 15 through April 1) shall apply lime at a rate of one (1) ton per acre (No lime or fertilizer shall be used in wetlands) and fertilize with commercial fertilizer, (2-1-1 or 4-1-3) at a rate of 1 pound per 1,000 SF using a complete fertilizer.

3.1.5 Temporary Seeding

For temporary seeding during the spring, summer or early fall seeding, April 2 through November 14, all disturbed cover within each work area (including soil stockpiles) shall be seeded with annual Ryegrass seed. The application rate shall be 30 pounds per acre. During late fall or early winter seeding, November 15 through April 1 all disturbed cover within each work area (including soil stockpiles) shall be seeded with Certified 'Aroostook' winter rye at 100 pounds per acre. The seed shall be spread by broadcasting, drilling with culti-pack type seeder, or hydro-seeding. Hand operated bag seeder spreading of temporary seed is acceptable, provide the appropriate coverage and non-clumping of seed is maintained.

3.1.6 Mulching

All disturbed cover within each work area (including soil stockpiles) shall be mulched, after seed application. The mulch shall be hay and/or straw mulch. The application rate of hay mulch (straw mulch must be used in agricultural lands and wetlands as needed depending on ground conditions and Owner authorization) shall be 2 tons per acre (except cultivated cropland). Winterization mulching shall be 2 tons per acre.

3.2 PERMANENT EROSION CONTROL MEASURES

3.2.1 Permanent Seeding and Stabilization of Disturbed Areas

Seeding shall be in accordance with the SWPPP report, ESC drawings, details and specifications.

The seedbed shall be scarified to a depth of 3–4 inches. This shall be accomplished by disking or tracking equipment across the work area to be seeded. Small areas can be prepared by utilizing the teeth of an excavator to scarify small areas. The seed shall be spread by seed drilling. Broadcasting or hydro-seeding are also acceptable; provide the application rate is doubled.

All disturbed cover within each work area (including soil stockpiles) shall be mulched, after seed application. The mulch shall be hay and/or straw mulch. The application rate of hay and straw mulch (straw mulch must be used in agricultural lands, wetlands and as needed depending on ground conditions and Owner authorization) shall be 2 tons per acre.

3.2.1.1 Site Preparation

The seedbed shall be scarified to a depth of 3-4 inches. This shall be accomplished by disking or tracking equipment across the work area to be seeded. Tracking shall be performed up and down grades, not across. Remove all stones over 4-inch diameter, sticks, and foreign matter from the surface. Apply lime to achieve a 6.5 pH. Fertilize with commercial fertilizer, (5-5-10) at a rate of 850 pounds per acre.

3.2.1.2 Permanent Seeding

All disturbed areas (not under impervious cover) shall be covered with a permanent seed mixture, prior to completion of the project. The seed mix shall be as shown on Table 4.5 Recreation Turfgrass Seed Mixture rates as provided in the New York State Standards and Specifications for Erosion and Sediment Control.

The preferred seeding application is by culti-pack type seeder. Broadcast, hand spreading, or hydro seeding can be used in lieu of drilling at double the recommended seeding rates, or as directed by the Owner. Seed to be applied at the seeding rates listed on Table 4.5. Seed distributed by hydro-seeding shall be spread based on the application rate of the individual National Fuel seed mixture.

3.2.1.3 Mulching

All disturbed cover within each work area shall be mulched, after seed application. The application rate of hay and straw (agricultural land and wetlands to be straw mulch only) shall be 2 tons per acre.

Mulch applied by hydro-seeding method shall be as follows: apply wood mulch at a rate of 2000 pounds per acre, Terra Tack AC (tackifier) at a rate of 120 pounds per acre and 6000 gallons of water per acre.

Alternate mixtures are to be applied at the manufacturer's recommendations. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45 degrees are required.

3.3 OPERATION

To ensure the stability and effectiveness of all protective measures and practice during and after demolition, all erosion control measures implemented shall be in accordance with the construction sequence schedule, inspected and maintained in accordance with the SWPPP requirements.

4. Construction Sequence

The Project Contractor shall prepare a construction sequence schedule in order to create the least amount of site disturbance, sediment loading, soil erosion, and to control the impact of stormwater runoff on the waters of New York. The Project Contractor shall limit the area of disturbance to the minimum required to properly complete the associated task.

The Project Contractor will submit a project schedule, detailing the construction sequence proposed and place this in the on-site SWPPP or use the sample schedule (**Appendix J**). The completed Contractor provided schedule shall be added to the on-site SWPPP as **Appendix J** (Construction Sequence Scheduling Form). All submitted modified schedule updates shall replace the previously submitted schedule in **Appendix J**. The following provides a description of the anticipated construction activities as they pertain to erosion and sediment control. The contractor submitted site specific schedule will supersede these anticipated general construction activities.

The perimeter BMPs shall be installed prior to beginning earthwork. The stabilized construction entrances will be placed to minimize the tracking of dirt, mud and sediment onto the existing access road and onto State Route 54. The pervious project areas will be stripped of topsoil and stockpiled within the LOD. Sediment barriers are to be located downgrade of the stockpile location. The proposed staging area will be graded level. If the staging area is located on a pervious area, geotextile road fabric will be placed on the graded area and covered with stone. The erosion controls are to be maintained until the Project is stabilized.

4.1 STEP 1: PRE-CONSTRUCTION ACTIONS

4.1.1 Resource Protection

Before construction begins, the Owner arranges for the environmental features, utility lines, trees to be removed/remain and drainage structures to be located to prevent accidental damage during demolition. Surveyors then stake the extent of the right of way limits.

Prior to construction, the Project Contractor shall contact Dig Safely New York (UFPO) at 1-800-962-7962 or 811, prior to initiating work.

4.1.2 Surface Water Protection

Sediment barriers and additional BMPs shall be installed along the northern LOD to provide protection to the offsite stream (SE).

4.1.3 Stabilized Construction Entrance

The construction entrances are to be installed prior to entry at each specific entry point. Existing access road entrance may be enhanced to meet the specifications of the construction entrance. The stabilized construction entrance locations, where needed, shall be installed for the duration of the work at the areas utilizing those access points. Each stabilized construction entrance shall be maintained and repaired as necessary to function properly and minimize the tracking sediment/stone onto public roadways. Sediment tracked onto public roadways should be removed and cleaned daily. Removal and

cleaning shall take place immediately if the tracked material poses a safety risk to workers, pedestrians or vehicle travel.

4.1.4 Contractor's yard/Staging Area

Construct staging area for equipment, trailers and supply storage. Ensure that stabilized construction entrance and perimeter sediment controls (as per 4.1.7) have been installed. Stockpile topsoil as necessary (seed and mulch within 14 days of disturbance or 7 days when over 5 acres of the project site is disturbed) and provide sediment controls if the perimeter sediment controls are not adequate or proximate to provide protection for the soil stockpiles. Clear and brush site as necessary per the below action.

4.1.5 Spill Pollution Prevention

Prior to importing materials of pollution concern, as outlined in the Pollution Prevention Measures section of this SWPPP, assure that all proper protection and containment for these items are on site. Fuel and oils are to be installed in double walled containment. Upon import of each possible pollutant material, protection and containment will be installed and material protected as appropriate.

4.1.6 Clearing and Brushing

There is no clearing or brushing anticipated for this Project.

4.1.7 Perimeter Sediment Controls

Sediment barrier material, locations and installations are to comply with the site plans, standard details and specifications. Install sediment barriers down grade of ground disturbance activities. Sediment barriers should be placed on or parallel to contours where there is no concentration of water flowing to the barrier and in areas where erosion occurs in the form of sheet erosion. The area down grade of the sediment barrier should be undisturbed ground.

4.2 STEP 2 - CONSTRUCTION AND EROSION CONTROL (IN CONSTRUCTION SEQUENCE ORDER)

4.2.1 Construction and Earthwork

Upon installation of perimeter controls, stabilized construction entrance and site clearing, earthwork may begin. As the earthwork continues, soil stabilization practices are to be utilized (as described below). Sediment controls (as described below), erosion control (Step 3- as follows) and the required BMPs are to be utilized concurrently with the site earthwork. Upon commencement of soil disturbance, daily visual inspections and SWPPP inspections (Step 4 – as follows) are to be conducted.

Proposed grading should not be performed as to impair existing surface drainage resulting in a potential erosion hazard impacting adjacent land or water bodies.

4.2.2 Sediment Control

Additional sediment barriers that have not been placed during the perimeter sediment control stage are to be placed as shown on the site plan drawings. Additional sediment controls shall be places at

locations where surface runoff from disturbed or graded areas has begun to erode or flow towards unprotected off site areas.

4.2.3 Topsoiling/Stockpiling

If required, stockpiled topsoil will be located at the edge of the right of way. Topsoil may be stripped from other areas on a case by case basis, depending on factors such as slope, available storage areas and depth/quality of topsoil. The topsoil should be protected, stabilized and sited in a location (as shown on the site plans) away from the storm drains, wetlands and water bodies. Sediment barriers to be placed at the base of stockpiles where needed to minimize the potential of sediment leaving the project site.

4.3 STEP 3 - EROSION CONTROL & STABILIZATION (IN CONSTRUCTION SEQUENCE ORDER)

4.3.1 Stabilization

Implement erosion control practices to keep the soil in place as the project construction progresses. Stabilization should be completed in accordance with this SWPPP. Temporary or permanent stabilization will begin as sections of the LOD have completed as needed. When activities in an area temporarily cease during construction, soil stockpiles and exposed soil should be stabilized by seed, mulch or other appropriate measures as soon as possible. In accordance with the SPDES General Permit for Stormwater Discharges, all disturbances shall be stabilized within 14-days (7-days when 5 acres or more disturbed) of construction activity that is completed or has temporarily/permanently ceased within a section of the project.

4.4 STEP 4 - MAINTENANCE AND INSPECTION

The Owner's Qualified Inspector SWPPP inspections will be required to start upon earth disturbance of the project.

The Owner will be responsible for hiring and/or obtaining the services of qualified personnel to conduct the SWPPP inspections. The inspections of the erosion and sediment control practices will meet the following requirements:

- Inspection forms will be prepared to identify the type, number and frequency of maintenance actions required for stormwater management and erosion control during construction.
- Inspection and maintenance reports will be generated once a week if less than 5 acres are disturbed. If greater than 5 acres are disturbed a report shall be prepared twice per week, separated by 2 calendar days.
- All inspections will verify that all practices are adequately operational, maintained properly and that sediment is removed from all control structures.
- All inspections will look for evidence of the soil erosion on the site, potential of pollutants entering drainage systems, problems at discharge points (such as turbidity in receiving water), and signs of soil and mud transport from the site to the public road at the entrance.
- All maintenance issues will be brought to the attention of the Project Contractor and satisfactorily addressed in a timely manner. Routine maintenance will be performed as per the recommendations of the New York State Standards and Specifications for Erosion and Sediment Control.

- Prior to the start of construction, the Owner must obtain the services of a qualified SWPPP inspector (as defined by the SPDES General Permit). The Inspector shall be responsible for conducting the maintenance inspections and reports during construction and post-construction.
- The Owner/Operator shall be responsible to make sure that the implementing and maintaining all erosion and sediment control during construction and post-construction are being addressed by the appropriate Contractor or Subcontractor.
- A copy of the inspection reports and the SWPPP shall be maintained on-site during the duration of the project, until the Notice of Termination has been filed.

4.5 STEP 5 - FINALIZE GRADING & LANDSCAPING

Following completed staging area use, final grading and landscaping will be conducted, as required and if located on a pervious surface as follows:

- Final grading of each site area shall be stabilized once the construction is completed in that area.
- All open areas, including borrow and spoil areas must be stabilized.
- Permanent topsoil, seeding, sod, mulching, riprap or other stabilization practices shall be installed in the remaining disturbed areas as appropriate.
- Stabilization must be undertaken no later than 14 days (7 days when disturbance is greater than 5 acres) after construction activity has ceased except as noted in the GP-0-20-001.
- Disturbed areas are to be restored as close as possible to their original contours.
- Remove the temporary control measures upon complete stabilization of the disturbed areas.

4.6 STEP 6 - POST CONSTRUCTION CONTROLS

Post Construction permanent measures are not required for this project.

5. Pollution Prevention Measures

Signify may prepare a separate Spill Prevention and Response Procedures (SPRP) report that would be used in conjunction with this SWPPP report. The following section contains the minimum pollution prevention measures to be practiced on this project site during the duration of coverage under the SPDES General Permit for Stormwater Discharges. The project Owner/Operator reserves the right to require additional pollution prevention measures to be observed during the SPDES coverage. Should the Owner prepare a SPRP, the Site Contractor and applicable Subcontractors shall be responsible for obtaining copies of that document from the Owner.

5.1 SPILL PREVENTION INVENTORY

The materials or substances below are anticipated to be present onsite during construction:

- Paints
- Fertilizers
- Petroleum-based products (Fuel for Equipment)

To Report a Petroleum or Chemical Spill, please call the **DEC 24 Hour Spill Hotline: 1-800-457-7362** (within New York State).

5.2 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that may be required to reduce the risk of spills or other accidental exposure of hazardous materials and substances to stormwater runoff:

1. Products shall be kept in original containers with the original manufacturer's label unless they are not re-sealable.
2. Original labels and material safety data sheets shall be retained, as they contain important product information.
3. Store only product quantities necessary to complete the job.
4. Chemicals, fuel, and oil shall be stored in common area at a location the designated by the Owner. All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
5. Substances shall not be mixed with one another unless recommended by the manufacturer.
6. Whenever possible, products shall be used in their entirety before disposing of the container.
7. Whenever possible, manufacturer's recommendations for proper use and disposal of containers and any remaining contents shall be followed.
8. The site superintendent or designated staff shall perform daily inspections to ensure proper use and disposal of materials onsite.

5.3 SPILL CONTROL PRACTICES

A SPRP developed by the Owner would contain sections on Spill, Leak Prevention and Response and Emergency Response Program.

Emergency Spill Control Kits are to be available at the field office and will also be provided to each work crew working along the ROW.

Much of the spill control program will rely on thoroughly considered material location within a job site, daily inspection and the care in handling potential contaminants. This will be reinforced with the construction inspectors during training specific to this project.

At least one staff per work crew shall have had hazardous material training. This training includes methods and procedures on leak prevention, containment, and removal of hazardous spills.

Spill potential will be evaluated at each site used on the project prior to occupancy with special attention to streams and wetlands. Provisions will be made to locate potential contaminants on site so as to minimize movement within and off site should a spill occur. Where large volumes of potential contaminants will be located on site, containment facilities will be constructed.

All materials must be properly labeled, including contents and the start date of accumulation. Allowable storage times of containers are determined by the amount of waste generated per month. Adequate supplies of absorbent materials compatible with potential contaminants will be available on site. Site inspections will occur at an appropriate frequency to determine the integrity of storage facilities, containment facilities, the contractors' adherence to requested handling procedures, and housekeeping.

In the event of a leak or spill the following steps would be taken:

1. Personnel would be mobilized to a leak or spill site and contain the spill by constructing a dike or emergency containment structure. Use of absorbent may also be necessary.
2. Contents of a leaking container would be removed and placed in another tank.
3. All soil showing obvious signs of contamination will be excavated.
4. Depending on the type and extent of spill, testing with a photo-ionization meter for additional soil contamination and excavation of any remaining contaminated soils will be performed.
5. If storage of contaminated soil is necessary; the soil shall be placed on an 8-mil plastic liner and covered with an 8-mil plastic liner.
6. The excavated area will be backfilled with clean soil.
7. Major spills will have soil samples taken and sent to a certified laboratory to ensure that all contamination has been removed.
8. Contaminated soils will be hauled by a standard triaxle (covered) or dump truck (covered) to a landfill authorized to take such material.
9. For contaminated soils identified as hazardous, arrangements will be made with a licensed hazardous waste hauler to transport the material to a registered landfill.

The site superintendent or designated staff shall be the cleanup coordinator and responsible for the day-to-day spill prevention.

5.4 PRODUCT SPECIFIC PRACTICES

The following product specific practices shall be followed onsite:

- **Petroleum Products** - All employees handling fuels and other hazardous materials will be properly trained. All equipment will be in good operating order and inspected on a regular

basis. All equipment will be parked overnight and/or fueled at least 100-feet from a waterbody. Petroleum products shall be stored in tightly sealed containers and are to be stored in secondary containment structures. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendations.

- **Fertilizers** - Fertilizers used shall be applied only in the amounts specified in the SWPPP, results by soil sampling or as specified by the Owner. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.

- **Paints** - All containers shall be sealed and stored when not being used. Excess paint shall not be discharged on the ground or to any storm sewer system but shall be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Waste Disposal** - All litter and construction debris shall be picked up from the work areas daily. Construction debris shall be placed in a dumpster or stockpiled until its removal from the project site. During construction, the Contractor shall make arrangements to remove any waste generated during the construction process. All construction waste will be removed from the site and disposed in licensed facility. The Contractor is to devise a strategy or plan for handling wastes in an appropriate manner including waste characterization, hauling, manifesting, and disposal. The Site Superintendent or designated staff shall be responsible for seeing that these procedures are followed.

- **Hazardous Materials** - Hazardous materials, including chemicals, fuels, and lubricating oils, will not be stored within 100-feet of a wetland or waterbody, unless the location is designated for such use by an appropriate governmental authority. Bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils will be contained within appropriate secondary containment systems to prevent spills. Operations will be structured in such a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. Each construction crew (including cleanup crews) will have on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and will follow the procedures for reporting spills and unanticipated discoveries of contamination. Each construction crew will have on hand sufficient tools and material to stop leaks. Site personnel will be instructed in these practices. The Site Superintendent, the individual who manages day-to-day site operations, shall be responsible for seeing that these practices are followed.

- **Sanitary Waste** – The Contractor shall make arrangements for temporary sanitary facilities to be installed and maintained for the duration of the construction.

- **Recyclable Waste** – Miscellaneous materials (seed bags, wire, lumber, non-hazardous scrap) will be separated and returned to storage containers at the staging area. These will be recycled or disposed of at an approved landfill.

5.5 NON-STORMWATER DISCHARGES

Non-stormwater authorized discharges (by GP-0-20-001) containing sediment and other contaminants shall be treated. It is expected that the following non-stormwater discharges items will occur from the site during the demolition period:

- Water from pipeline flushing.
- Stream bypass activities (dam and pump, flume crossing)
- Uncontaminated discharges from trench de-watering.
- Sanitary sewer manholes shall be plugged downstream in order to catch any potential flow that may accumulate in that sewer pipe and discharge

5.6 PROTECTION OF STORMWATER OUTFALLS

All stormwater outfalls will be protected with the appropriate erosion and control devices, installed in accordance with the New York Stormwater Management Design Manual. Specific consideration shall be taken to outfalls located downstream of construction material and chemical storage areas.

5.7 POST CONSTRUCTION CLEAN-UP

The site will be cleaned of demolition/construction debris. Sediment barriers and other temporary erosion control practices shall be removed when soils are stabilized.

6. Maintenance & Inspection Procedures

6.1 INSPECTION AND MAINTENANCE PRACTICES

These are the inspection and maintenance practices that will be used to maintain the proposed erosion and sediment controls:

- All control measures will be inspected at least once each week (twice a week, separated by two days, when prior approval of disturbance has been granted and is greater than 5 acres) or unless otherwise specified by the permit coverage authorization letter.

- All measures shall be maintained in good working order. If a repair is necessary, it shall be initiated within 24 hours of the report finalization (24 hours after the inspection) and completed within a reasonable time thereafter, generally 24 hours, but no longer than 7 days.

- Built-up sediment shall be removed from sediment barriers, sediment basins, sediment traps and applicable BMPs, when it has reached 50% of the capacity of a practice.

- Silt fence will be inspected for depth of sediment, tears, attachment of fabric to the fence posts, and to ensure that the fence posts and anchor fabric flaps are secure in the ground.

- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.

- A SWPPP inspection and maintenance report will be made after each inspection. A copy of the report form that will be used and completed by the Qualified Inspector is attached as **Appendix I**. Inspection Reports will be copied to the Contractor and Owner and will be filed on site until final stabilization has been achieved and the project completed. The completed inspection reports will be placed with the full SWPPP Report on-site in a reasonably accessible location for compliance personnel, Owner, Contractor and Staff review.

7. Conclusions

Based on the preceding information, the following conclusions can be drawn with regards to the proposed construction project:

7.1 EROSION & SEDIMENT CONTROL

The proposed permanent and temporary devices, if properly installed, will mitigate the effects of erosion to the lands and sedimentation of the surrounding waterways and properties.

Any questions or comments regarding this report should be directed to Ken Hurley (Haley & Aldrich of New York) at (585) 321-4216.

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APPENDIX A

SPDES General Permit (GP-0-20-001)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

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

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

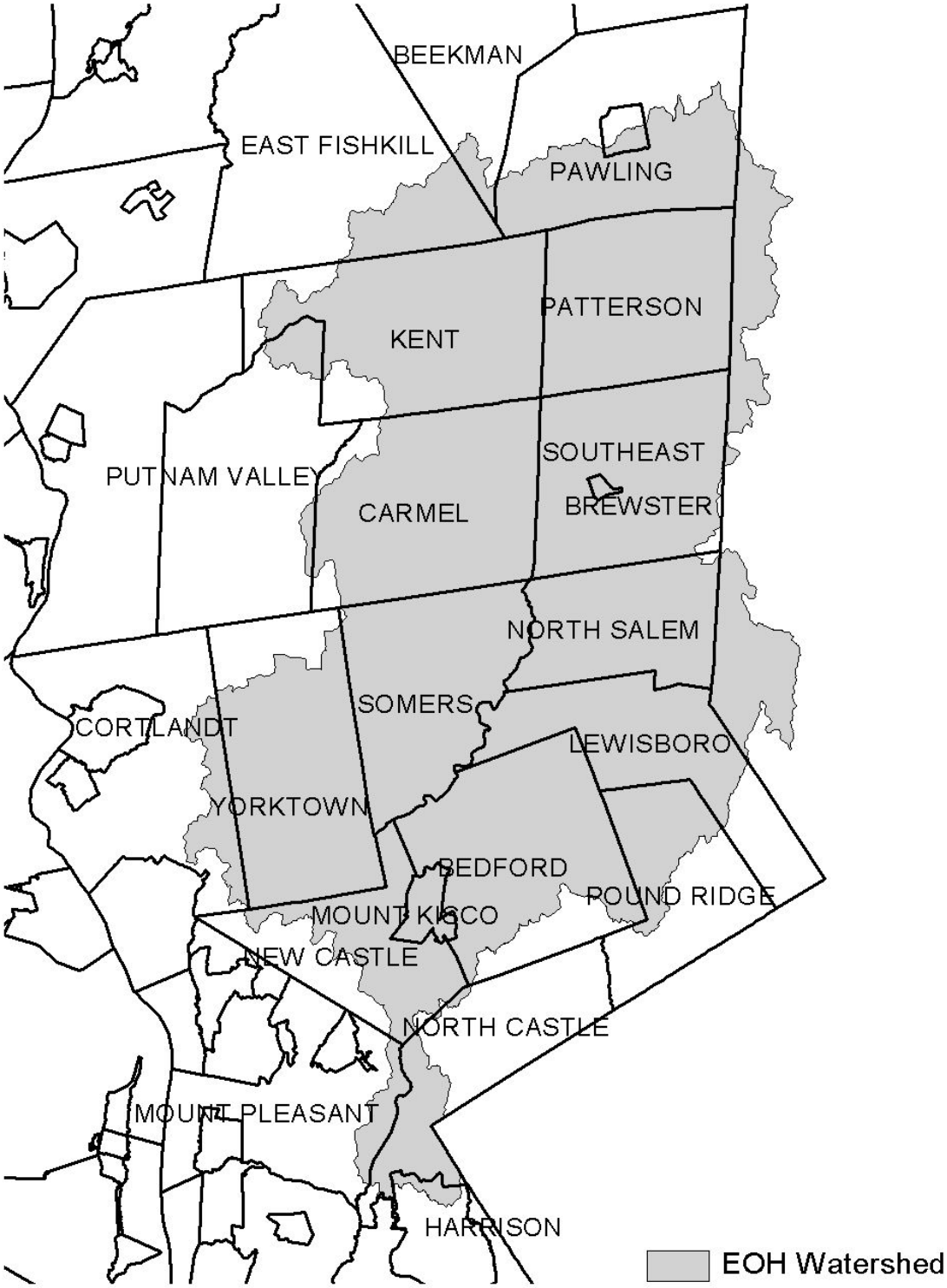


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

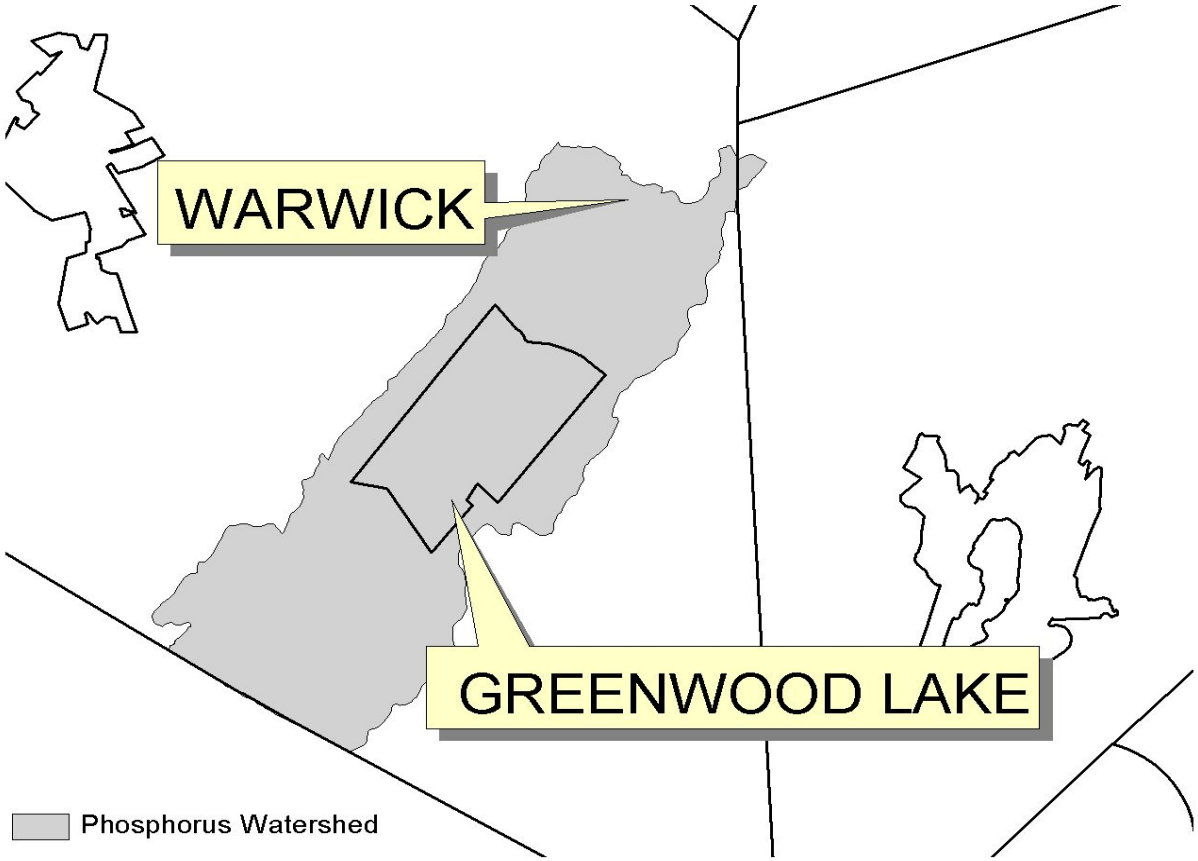


Figure 4 - Oscawana Lake Watershed

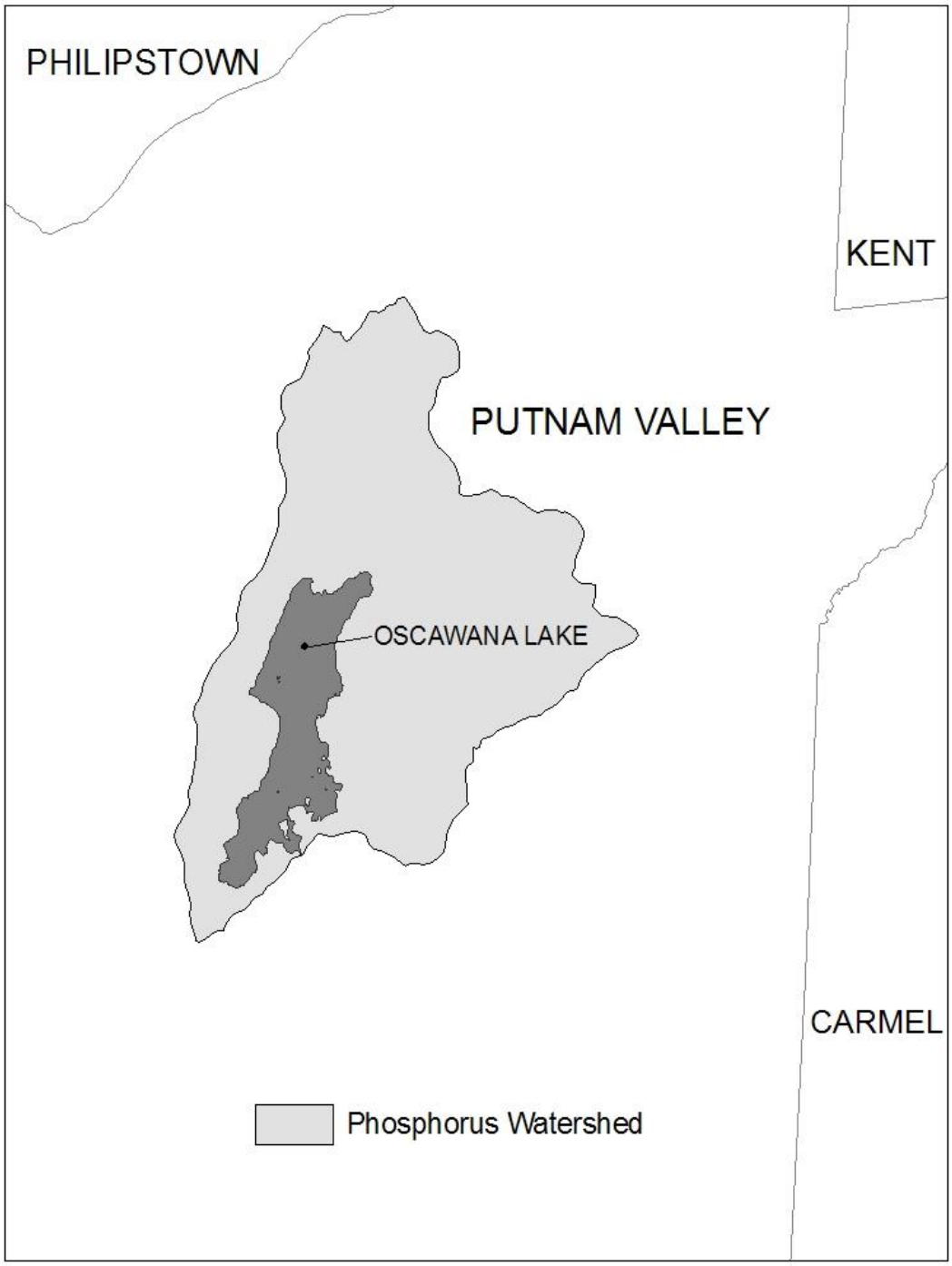
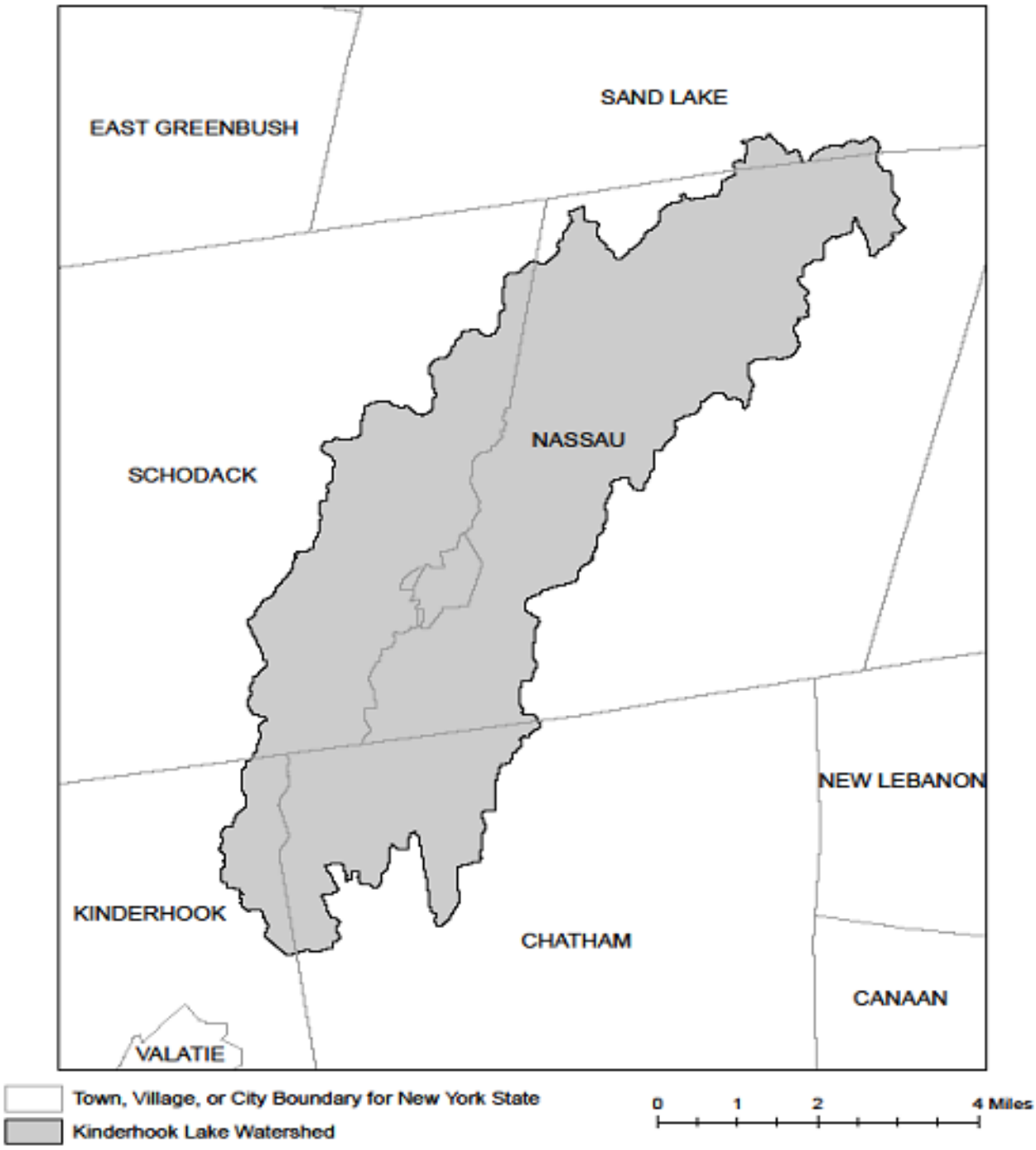


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX B

Notice of Intent and NYSDEC Acknowledgement Letter

HALEY ALDRICH

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR ☐☐☐☐☐☐
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State ☐☐ Zip ☐☐☐☐☐ - ☐☐☐☐

Phone (Owner/Operator) ☐☐☐ - ☐☐☐ - ☐☐☐☐

Fax (Owner/Operator) ☐☐☐ - ☐☐☐ - ☐☐☐☐

Email (Owner/Operator)

FED TAX ID ☐☐ - ☐☐☐☐☐☐☐ (not required for individuals)

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

Side of Street
○ **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State N Y Zip - County DEC Region

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

Y Coordinates (Northing) 4

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	**Total Area To Be Disturbed**	**Existing Impervious Area To Be Disturbed**	**Future Impervious Area Within Disturbed Area**
.	.	.	.

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ○ **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	**B**	**C**	**D**
%	%	%	%

7. Is this a phased project? ○ **Yes** ○ **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date / / - **End Date** / /

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? ○ **Yes** ○ **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002? ○ **Yes** ○ **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ○ **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ○ **No**
If Yes, what is the acreage to be disturbed?

.

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ○ **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ **Yes** ○ **No** ○ **Unknown**

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ○ **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ○ **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ○ **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ **Yes** ○ **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ○ **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ○ **Yes** ○ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ○ **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip -

Phone - -

Fax - -

Email

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name **MI**

Last Name

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ○ Silt Fence
- ○ Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ○ Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ○ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ○ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

			.			
			.			**acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)	___.___	and/or	___.___
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)	___.___	and/or	___.___
○ Tree Planting/Tree Pit (RR-3)	___.___	and/or	___.___
○ Disconnection of Rooftop Runoff (RR-4)	___.___	and/or	___.___
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			___.___
○ Rain Garden (RR-6)			___.___
○ Stormwater Planter (RR-7)			___.___
○ Rain Barrel/Cistern (RR-8)			___.___
○ Porous Pavement (RR-9)			___.___
○ Green Roof (RR-10)			___.___
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			___.___
○ Infiltration Basin (I-2)			___.___
○ Dry Well (I-3)			___.___
○ Underground Infiltration System (I-4)			___.___
○ Bioretention (F-5)			___.___
○ Dry Swale (O-1)			___.___
Standard SMPs			
○ Micropool Extended Detention (P-1)			___.___
○ Wet Pond (P-2)			___.___
○ Wet Extended Detention (P-3)			___.___
○ Multiple Pond System (P-4)			___.___
○ Pocket Pond (P-5)			___.___
○ Surface Sand Filter (F-1)			___.___
○ Underground Sand Filter (F-2)			___.___
○ Perimeter Sand Filter (F-3)			___.___
○ Organic Filter (F-4)			___.___
○ Shallow Wetland (W-1)			___.___
○ Extended Detention Wetland (W-2)			___.___
○ Pond/Wetland System (W-3)			___.___
○ Pocket Wetland (W-4)			___.___
○ Wet Swale (O-2)			___.___

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other**	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

. **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ○ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ○ **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date / /

APPENDIX C

Owner's Certification

HALEY ALDRICH

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: _____

eNOI Submission Number: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

APPENDIX D

Contractor's Certification

HALEY ALDRICH

CONTRACTORS' CERTIFICATIONS

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP and agree to implement any corrective actions identified by the Qualified Inspector during a site inspection. I also understand that the operator (Owner) must comply with the terms and conditions of the most current version of the New York State Pollution Discharge Elimination System (SPDES) General Permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore. I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings"

Prime Contractor
Name (please print)_____

Signature:_____

Title:_____

Date:_____ **Trained Contractor(s):** _____

Signature	**For (Company Name and Address)**	**Responsible For**
_____	_____	_____

Subcontractor
Date: _____ **Trained Contractor(s):** _____

_____	_____	_____

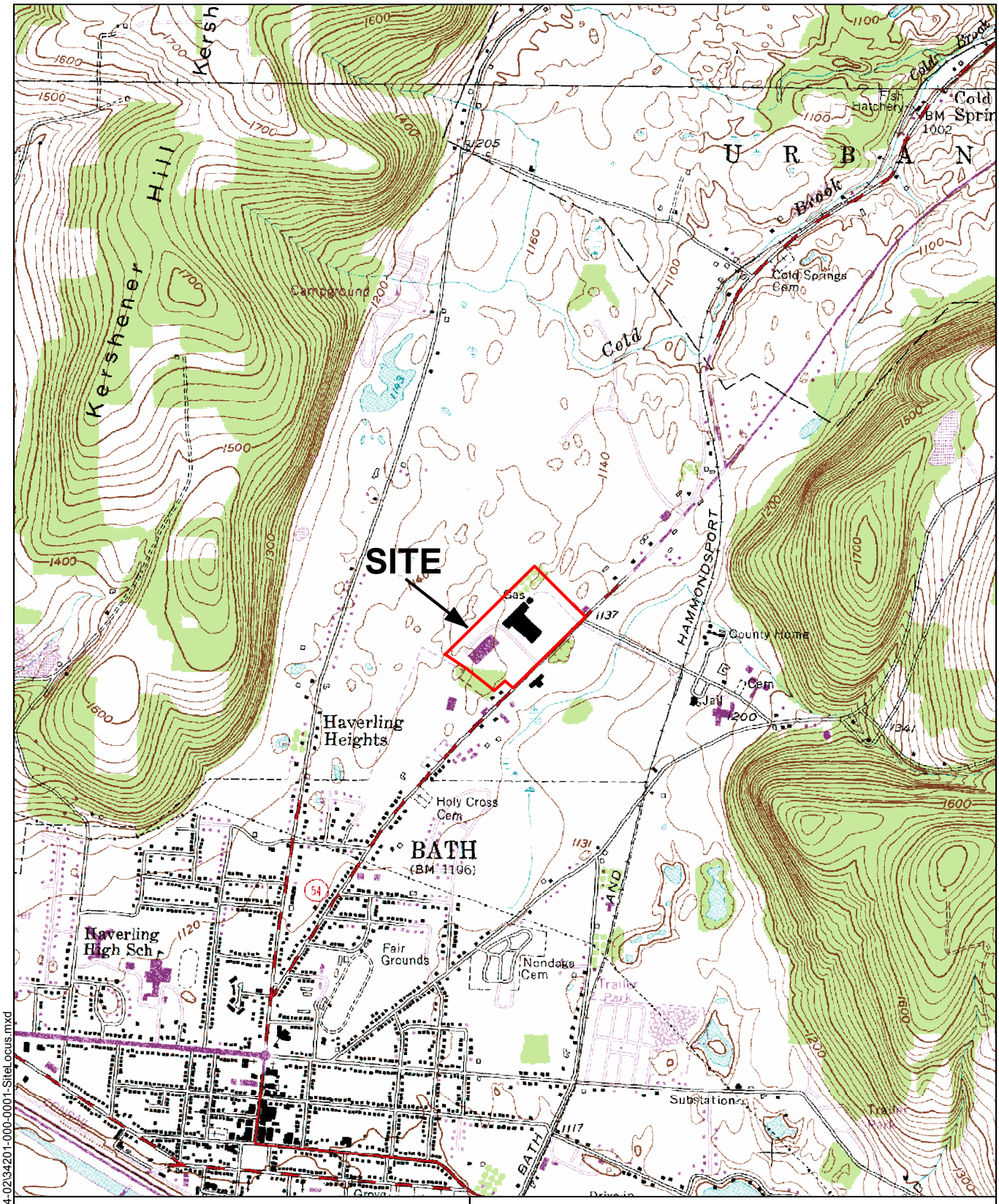
Subcontractor
Date: _____ **Trained Contractor(s):** _____

_____	_____	_____

Subcontractor
Date:_____ **Trained Contractor(s):** _____

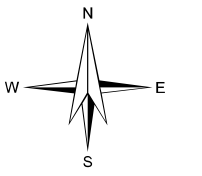
APPENDIX E

Project Locus



SITE COORDINATES:
42°21'15.54"N, 77°18'20.41"

U.S.G.S. QUADRANGLE:
BATH, NEW YORK



0 1,000 2,000

SCALE IN FEET

HALEY ALDRICH

PHILIPS LIGHTING COMPANY
BATH FACILITY
7265 STATE ROUTE 54
BATH, NEW YORK

SITE LOCUS

SCALE: AS SHOWN
MARCH 2016

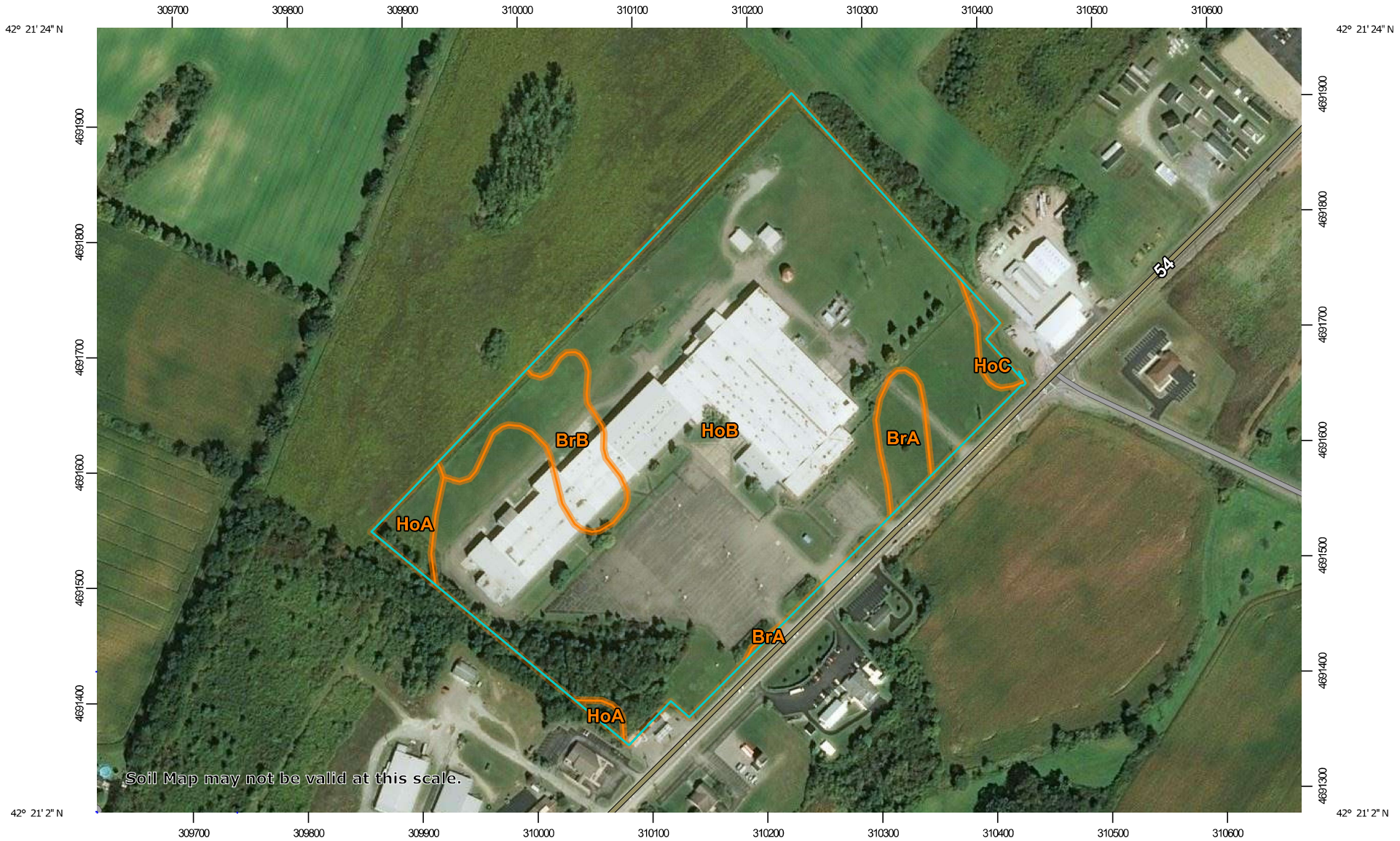
FIGURE 1

G:\34201\Global\GIS\Map Projects\2014-02\34201-000-0001-SiteLocus.mxd

APPENDIX F

Soils Maps

Soil Map—Steuben County, New York
(Philips Bath)



Map Scale: 1:4,790 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Steuben County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2019—Sep 22, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrA	Braceville gravelly silt loam, 0 to 3 percent slopes	1.0	2.7%
BrB	Braceville gravelly silt loam, 3 to 8 percent slopes	2.5	6.5%
HoA	Howard gravelly loam, 0 to 3 percent slopes	0.9	2.3%
HoB	Howard gravelly loam, undulating	34.2	87.7%
HoC	Howard gravelly loam, rolling	0.4	0.9%
Totals for Area of Interest		**39.0**	**100.0%**

APPENDIX G

Erosion and Sediment Control Plan Drawings

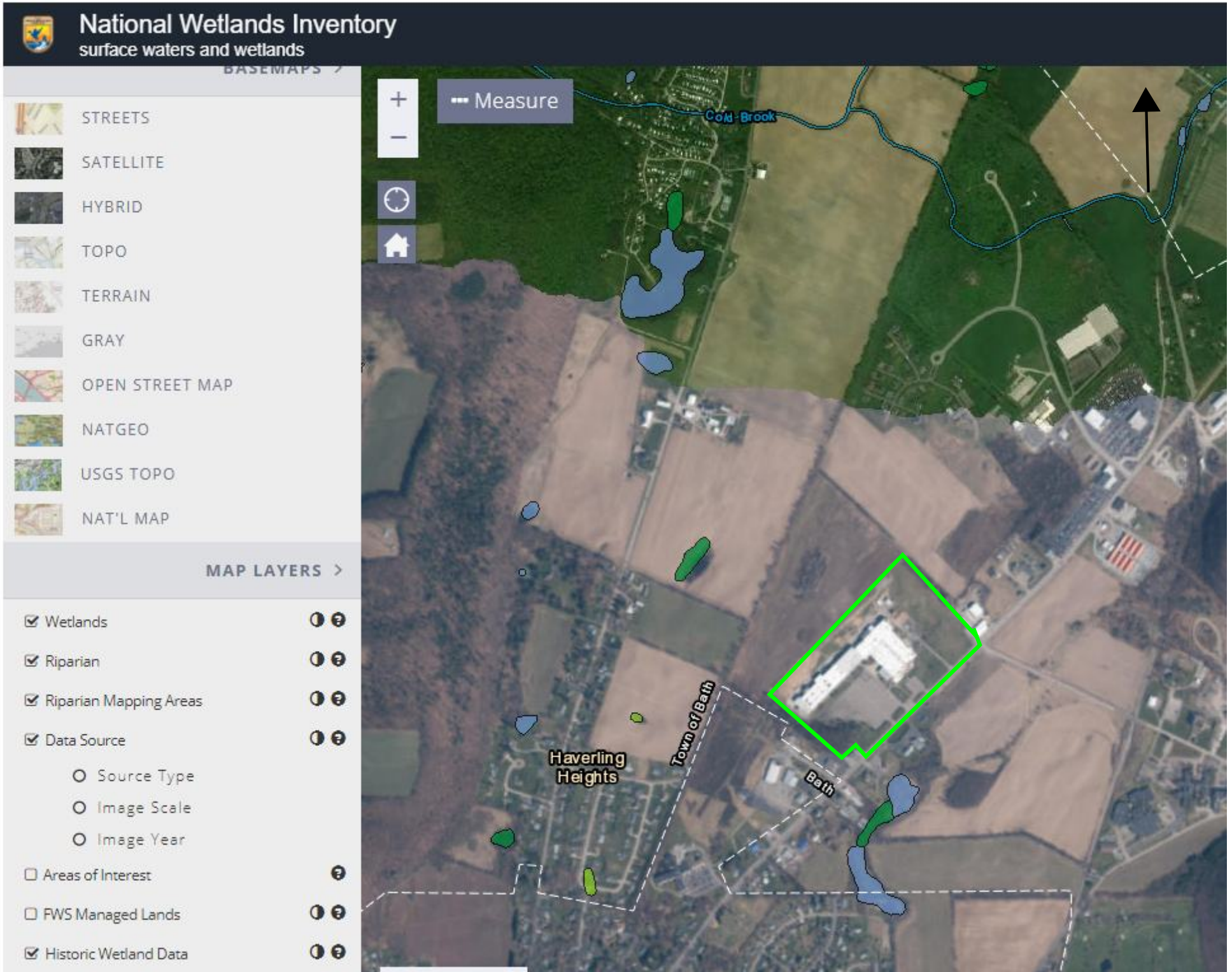
(Refer to individually bound Erosion and Sediment Control Plan Drawings Set)

HALEY ALDRICH

APPENDIX H

Federal and State Mapped Water Resources

HALEY ALDRICH


National Wetlands Inventory
surface waters and wetlands
BASEMAPS
STREETS
SATELLITE
HYBRID
TOPO
TERRAIN
GRAY
OPEN STREET MAP
NATGEO
USGS TOPO
NAT'L MAP
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Managed Lands
Historic Wetland Data
Measure
Cold Brook
Haverling Heights
Town of Bath
Bath

Environmental Resource Mapper

Search

Tools

Layers and Legend

- [x] All Layers
- [x] Unique Geological Features
- [x] Waterbody Classifications for Rivers/Streams
- [x] Waterbody Classifications for Lakes
- [x] State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
  - State Regulated Wetland Checkzone
- [x] Significant Natural Communities
  - Natural Communities Near This Location

Other Wetland Layers

Reference Layers

Tell Me More...

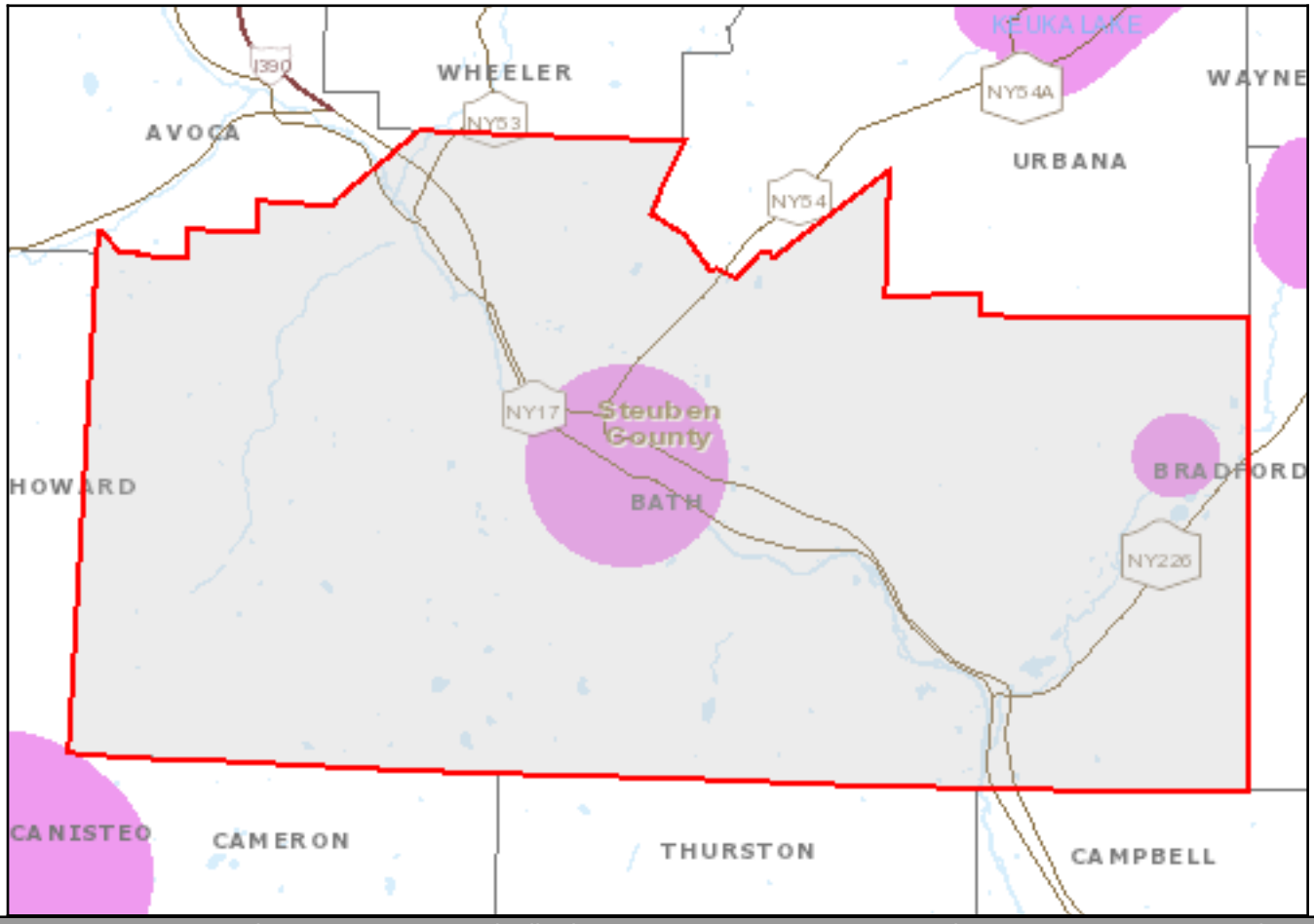
Need A Permit?

Contacts

New York Nature Explorer

Former Philips Lighting

Criteria: Town: Bath



Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status State	Protection Status Federal	Conservation Rank State	Conservation Rank Global
Town: Bath							
Animal: Fish							
Bridle Shiner *Notropis bifrenatus*	Minnows, Shiners, Suckers	Recently Confirmed	2003			S2?	G3
Comely Shiner *Notropis amoenus*	Minnows, Shiners, Suckers	Recently Confirmed	2016			S2?	G5
Swallowtail Shiner *Notropis procne*	Minnows, Shiners, Suckers	Recently Confirmed	2003			S2	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global
Animal: Mussels and Clams							
Yellow Lampmussel *Lampsilis cariosa*	Freshwater Mussels	Recently Confirmed	2017			S3	G3G4
Plant: Flowering Plants							
Eastern Shooting Star *Primula meadia*	Other Flowering Plants	Historically Confirmed	1888			SX	G5

Note: Restricted plants and animals may also have also been documented in one or more of these Towns or Cities, but are not listed in these results. This application does not provide information at the level of Town or City on state-listed animals and on other sensitive animals and plants. A list of the restricted animals and plants documented in the corresponding county (or counties) can be obtained via the County link(s) on the original Town Search Results page. Any individual plant or animal on this county's restricted list may or may not occur in this particular Town or City.

This list only includes records of rare species and significant natural communities from the databases of the NY Natural Heritage Program. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities. For most areas, comprehensive field surveys have not been conducted, and this list should not be considered a substitute for on-site surveys.

APPENDIX I

Maintenance and Inspection Reports

(Place the finalized weekly (or twice weekly) Inspection Reports in this Appendix as they are completed)

HALEY ALDRICH

POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES

Site Inspection and Maintenance Report Form

Project Name and Location of Project: _____ _____ Municipality: _____ County: _____ Qualified Inspector: _____ _____ Qualified Inspector Title: Qualified Inspector / _____	Date:	Weather:
	Permit #:	
	Entry Time:	Exit Time:

5 Acre Waiver: ☐Yes ☐No

Name of SPDES Permittee: _____

Phone: _____Fax: _____

Name of Representative on Site: _____ Active Construction During Inspection: ☐Yes ☐No

Part I. CONSTRUCTION DURATION INSPECTIONS

a. SITE PLAN/SKETCH OF AREAS DISTRUBED AT TIME OF INSPECTION AND AREAS THAT HAVE BEEN STABILIZED (TEMPORARY OR FINAL) SINCE LAST INSPECTION

Part I. CONSTRUCTION DURATION INSPECTIONS

b. Other Permit Required Reporting

Maintaining Water Quality -

Describe the condition of runoff at all points of discharge:
Is there an increase in turbidity causing a substantial visible contrast to natural conditions? _____
Is there residue from oil and floating substances, visible oil film, or globules or grease? _____
Is there evidence of silt deposition from project in a stream, wetland, or other water body? _____
If yes, where? _____remedial measure needed? _____
Provide a description of the conditions of all natural water bodies within or immediately adjacent to the project.
_____

Area of Disturbance

Total area of disturbance (as shown on sketch plan and not including areas that have temporary or permanent stabilization measures applied) _____
Are all disturbances within the limits of the SWPPP? _____

Weather Conditions

A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
_____
_____

General Housekeeping

Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?_____
Is construction impacting the adjacent property? _____
Is dust adequately controlled?_____
Describe corrective action(s): _____
Date correction needed: _____

c. Runoff Controls *Direct runoff away from exposed soil surfaces and control water that falls onto the site*

Site Inspection and Maintenance Report Form

Runoff conveyance systems ☐N A ☐Swale/Ditch ☐Pipe
Are all runoff conveyance systems called for in the SWPPP installed, stabilized and working? _____
If not, what specific areas need detailing?_____ With minimum side slopes 2H:1V or flatter? _____ Stabilized by geotextile fabric, seed, or mulch with no erosion occurring? _____Sediment-laden runoff directed to sediment trapping structure? _____
Describe corrective action(s): _____
Date correction needed: _____

Runoff Control Structures ☐N A
Have all required runoff control structures (rock outlets and aprons) been installed and constructed per plan and according to the Blue Book?_____ Installed concurrently with pipe installation? _____
Describe corrective action(s): _____
Date correction needed: _____

Temporary Stream or Channel Crossing ☐N A
Have construction crossings at concentrated flow areas been culverted? _____bridged? _____ Describe corrective action(s): _____
Date correction needed: _____

Stone Check Dam ☐N A
Installed per standards? _____ channel stable (flow is not eroding soil underneath or around the structure). _____does sediment need to be removed? _____
Describe corrective action(s): _____
Date correction needed: _____

Excavation Dewatering ☐N A
1. Flowing water ☐N A – Upstream berm (sandbags, inflatable dams, etc. with one-foot minimum freeboard) and downstream berms are installed per plan? _____and functioning? (clean water from upstream pool is being pumped to the downstream pool)? _____
2. Sediment laden water from work area ☐ N A - Is being discharged to a silt-trapping device? _____
3. Groundwater from excavations ☐ N A - is being managed properly (sumps and sediment control)? _____
Describe corrective action(s): _____
Date correction needed: _____

d. Soil Stabilization *Basic erosion control is achieved by covering all bare ground areas.*

Topsoil and Spoil Stockpiles ☐N A
Stabilized - sediment controls at downhill slope? _____
Describe corrective action(s): _____
Date correction needed: _____

Revegetation/Stabilization ☐N A
Has temporary or permanent seeding *and* mulch (as shown on site sketch plan) been applied to areas that have been inactive for 14 days or less (or, inactive for 7 days if over 5 acres disturbed)?_____
Has soil preparation been applied as specified in the SWPPP and in accordance with the Blue Book (Assure that all the necessary soil testing/fertilizer/lime, topsoil, decompaction has been applied)? _____
Have rolled erosion control products specified for steep slopes or channels been installed? _____
Describe corrective action(s): _____
Date correction needed: _____

e. Sediment Controls

Stabilized Construction Entrance ☐N A
Stone is clean and all access areas covered (entrances, construction routes, materials storage areas, equipment parking)?_____ Tracking onto public streets is minimized and cleaned daily? _____
Describe:_____
Date correction needed: _____

Silt Fence ☐N A

Installed on contour? not across conveyance channels?_____ At least 10 feet from toe of slope?_____At appropriate spacing intervals based on slope?_____Wrapped ends for continuous support?_____Fabric is tight, without rips or frayed areas?_____Posts are stable?_____ buried 6 inches minimum?_____Any "bulges"?_____
Describe:_____
_____
Date correction needed: _____

Compost Filter Sock ☐N A

Installed on a contour?_____ Staked securely? _____ Any rips or tears? _____ Accumulated Sediment greater than 50% capacity?_____Signs of sediment overtopping? _____ Are there signs of equipment damage (flattened, moved)? _____
Describe:_____
_____
Date correction needed: _____

Temporary Sediment Trap/Basin ☐N A ☐Sediment Trap ☐Sediment Basin

Is trap/basin and outlet structure constructed per the approved plan? _____Has geotextile been placed below the stones? _____ Are side slopes stabilized with seed/mulch? _____
Maintenance – depth of sediment in basin? _____ 50% capacity or greater? _____
Describe:_____
Date correction needed: _____

Drop Inlet Protection ☐N A

Type(s) of inlet control? _____
Installed per Blue Book specifications: drainage area (typically 1 acre)? _____
Appropriate for location? _____
Describe:_____
_____
Date correction needed: _____

f. Digital Color Photographs of Deficient BMPs
The *qualified inspector* shall maintain digital photographs of deficient BMPs with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions.

g. Digital Color Photographs of BMPs that have been corrected
The *qualified inspector* shall maintain digital photographs of corrected BMPs with date stamp, that clearly show the condition of the practice(s) after the corrective actions has been completed.

h. Post-Construction Stormwater Management

Report of any corrective action(s) that must be taken to install, correct, repair, replace or maintain any deficiencies identified with the construction of the post-construction stormwater management practice(s). Report the current phase of construction of all post-construction stormwater management practice(s) and whether the installation appears to be geometrically consistent with the approved hydraulic design (e.g. the pond, the outlet structure, orifice, pipe sizing and slope is geometrically consistent with the SWPPP):_____
_____
_____
_____

i. Revisions to SWPPP

When the owner or operator becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any other report, or have made substantive revisions to the SWPPP
(e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or impervious area) which were not reflected in the original NOI submitted to the Department and/or the MS4, they shall promptly submit such facts or information.

Site Inspection and Maintenance Report Form

_____
_____
_____

j. Inspection Notes and Signature

Inspection Notes:
_____
_____
_____
_____
_____
_____
_____

PART I. j. Signature

_____ _____
SWPPP Inspector (print name) **Date of Inspection**

_____
Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Title: _____ Address:

Phone: _____ Email: _____

CPESC#: _____ , P.E. _____ OR

Trained Individual – Provide Stormwater Training Number: _____ **AND**

Supervisor Name (P.E.) for Trained Individuals: _____ P.E. _____

P.E./Reviewer Signature: _____

Owner/Contractor Compliance certification:

SWPPP received and reviewed by_____Title:_____
The above signed acknowledges receipt of this inspection report

APPENDIX J

Construction Sequence Scheduling Form

HALEY ALDRICH

CONSTRUCTION SEQUENCE SCHEDULING

Type	Activities *(Identify name of planned practices)*	Number (Quantity)	Map Symbols	Start(Date) ---- End(Date) Pre During Post	Maintenance Actions
1- Pre-Construction Actions					
2- Runoff & Drainage Control					
3-Grading					
4-Erosion Control					
5-Sediment Control					
6-Maintenance, Inspection & Plan Update					
7-Finalize Grading & Landscaping					
8- Post construction SW Mgmt.					

APPENDIX K

Modifications to SWPPP

HALEY ALDRICH

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (please print)

_____

Signature:_____Date:_____

Reasons for changes:

APPENDIX D
Acid Waste Piping Video Inspection
(Please view videos as separate mp4 files)