PCB Cleanup Plan

C&D Power Systems (C&D Batteries) Site No. 336001
Huguenot, New York

New York State Department of Environmental Conservation

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Prepared by	Checked by	Approved by
Ryan Bott Project Engineer	Patrick Haskell, CHMM Technical Leader	Amit Haryani, P.E. Sr. Project Manager

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Distribution List

# Hard Copies	PDF Required	Association / Company Name
1	Yes	Wilfredo Palomino, USEPA
0	Yes	Steve Ferreira, USEPA
0	Yes	Justin Starr, NYSDEC

Prepared for:

NY State Department of Environmental Conservation

Prepared by:

AECOM
125 Broad Street
New York, NY 10004
aecom.com

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1. Introduction

This PCB Cleanup Plan (Plan) has been completed for the C&D Power Systems (C&D Batteries) site located in the Hamlet of Huguenot, in the Town of Deerpark, Orange County, New York (the Site, hereinafter referred to as C&D Power Systems), the location of which is depicted on **Figure 1**. The site is located approximately four miles northeast of the City of Port Jervis. The objective of this PCB Cleanup Plan is to address polychlorinated biphenyl (PCB) remediation waste related to historical discharge of wastes to an on-site treatment lagoon and subsequent discharge to surface water.

Previous environmental evaluations and investigations have identified PCB-impacted soil and sediment at the Site. These investigation activities were documented in the Remedial Investigation Report prepared by Delaware Engineering, P.C. An overall site remediation plan was developed and documented in the March 2015 Record of Decision and Record of Decision Amendment (ROD) for the Site (Appendix D). The ROD included remedial activities that are subject to the Toxic Substances Control Act (TSCA for management of PCB Remediation Waste. This Plan is intended to serve as the basis for an application for approval from United States Environmental Protection Agency (USEPA) for a risk-based disposal, pursuant to 40 CFR 761.61(c) of TSCA for the remedial activities that involve management of PCB Remediation Waste.

1.1 Background

The Site was owned and operated by Empire Tube Company from 1959 to 1970 and used for the manufacture of black and white picture tubes. Industrial wastewater containing hydrofluoric acid was discharged to a lagoon located 75 feet to the northeast of the site building. This lagoon measures 175 feet in diameter and 15 feet in depth and is depicted on **Figure 2**. C&D Technologies, Inc. (C&D) operated at the Site from the mid-1970's until 2006 for the manufacture of lead batteries. Non-contact cooling water was discharged and accumulated in the lagoon. In 2007, the Site was sold to Star Realty Associates LLC and was later sold to the current owner, 430 US Route 209, LLC, in 2018.

Over the years, C&D has changed its name from C&D Batteries to C&D Charter Power Systems, Inc. and to C&D Technologies, Inc. Under a consent order entered on December 26, 2018, C&D resolved its liability for contamination at the C&D Power Systems site. Subsequent to this consent order, NYSDEC is directly implementing the remedy stated in the March 2015 Record of Decision.

The C&D facility was formerly permitted to operate as a treatment, storage and/or disposal (TSDF) facility under the Resource Conservation and Recovery Act (RCRA). A series of investigations were performed between 1981 and 2000 to characterize environmental conditions at the site. The findings of these investigations were compiled in the March 2001 Remedial Investigation Report (Delaware Engineering). Among the findings of these investigation activities were the presence of PCBs at concentrations above NYSDEC numerical cleanup criteria in the lagoon and in the Tributary D-1-7 (Tributary), a tributary of the Neversink River, to which the lagoon discharges.

1.2 Site Location and Description

The Site is zoned for commercial use with surrounding parcels used for residential and commercial uses. The site is located within the Neversink River Valley and is bordered by Route 209 to the west and by Tributary to the east (NYSDEC, 2015). The approximately 17.3-acre parcel is currently unoccupied.

The Site features an approximately 3-acre industrial building. A former wastewater treatment lagoon, measuring approximately 175 feet in diameter and 15 feet in depth, is located to the northeast of the site building. This lagoon formerly discharged to the Tributary that runs along the east side of the Site.

The ground surface is relatively horizontal with an elevation range from approximately 469 to 475 feet above mean sea level (National Geodetic Vertical Datum of 1988) over most of the Site, aside from where

elevations drop-off toward the Tributary at the rear of the property. The ground water table is approximately 20 to 34 feet below ground surface (bgs) and flows to the southeast towards Tributary (Delaware Engineering, 2001).

According to FEMA flood insurance mapping, dated August 3, 2009, the Site is located within the 100-year flood zone (Zone A), and a regulatory floodway (Zone AE).

1.3 Previous Investigations

Site investigations began in 1981 during property owner assessment of regarding plans to expand the site building over the lagoon (Delaware Engineering, 2014). Subsequent investigations were initiated by the former owner and at the request of NYSDEC. The following investigations were conducted, and regulatory documents issued between 1981 and the present and document conditions at the Site as they relate to this PCB Cleanup Plan:

- Between December 1981 and January 1982, C&D retained Environmental Resources Management, Inc. (ERM) to assess the former lagoon and determine if the former lagoon could be filled without environmental impacts in the area. Soil samples had elevated concentrations of fluoride, lead, cadmium, and zinc compared to background concentrations. Elevated fluoride concentrations were detected in soil samples collected from the bottom of the former lagoon, and fluoride was also present in groundwater downgradient of the former lagoon. One downgradient groundwater monitoring well, CD-2, had lead concentrations that exceeded NYSDEC groundwater standards (Delaware Engineering, 2014). In 1983, the Site was classified by NYSDEC as a Class 2a site.
- Between July 1988 and January 1989. Gibbs & Hill (G&H) was contracted by NYSDEC to conduct a Phase II Environmental Site Assessment (ESA). The Phase II ESA reported that there was no evidence of the migration of contamination from the Site soils to the groundwater and downslope surface water (Gibbs & Hill, 1990).
- In July 1990, NYSDEC conducted additional groundwater monitoring and found that fluoride concentrations in groundwater were more than ten times higher than background levels. Fluoride concentrations exceeded the New York Class GA groundwater standard (1.5 mg/L). A remedial investigation and feasibility study were recommended.
- In November 1991, NYSDEC notified C&D that a Remedial Investigation and Feasibility Study (RI/FS) would be required.
- In January 1992, NYSDEC issued a draft consent order to C&D for the performance of an RI/FS.
- In, July 1999, the consent order between NYSDEC and C&D was signed.
- In June 2000, Delaware Engineering, P.C. (Delaware Engineering) completed a Remedial Investigation (RI) Report on behalf of C&D, which identified PCB impacts to the Site. The RI established two separate operable units for the Site. OU-1 was defined as lagoon soils and the water supply at a residential property on Swartwout Road. OU-2 is defined as groundwater, surface water, sediments, and soil near the former lagoon overflow discharge pipe. The RI report concluded that PCB impacts were primarily restricted to the top three to five feet of lagoon soils and top one foot of tributary sediments. Some lagoon soils exhibited concentrations of barium, cadmium, chromium, copper, lead, silver, and zinc above their respective NYSDEC Soil Cleanup Objectives (SCOs). Groundwater samples collected during the Remedial Investigation indicated that fluoride was the only constituent consistently above applicable groundwater standards. Sediments were not analyzed for PCBs in the original RI.
- In June 2006, Delaware Engineering completed an RI on behalf of C&D for OU-2. The OU-2 RI Report included a more detailed assessment of sediment and additional characterization of groundwater. PCBs were detected in three monitoring wells near the lagoon at concentrations above the NYSDEC GW Standard of 0.09 micrograms per liter (ug/L), but below the TSCA decontamination standard for water of 0.5 ug/L. PCBs were detected in samples from all 14

sampling locations but were only above the 1 mg/Kg sediment cleanup guideline in two samples. The remainder of samples were below NYSDEC aquatic life acute and chronic toxicity values.

- In June 2007, Delaware Engineering prepared a summary of additional Tributary sediment data collected in October 2006 from downgradient areas. The maximum PCB concentration detected in the downgradient area was 0.17 mg/Kg.
- In July 2008, Delaware Engineering performed a surficial soil sampling program to assess lead concentrations on the C&D property and adjacent properties, following the discovery of lead impacts on the adjacent town hall property. Surface soil and soil between cracks in paved areas were sampled and analyzed for lead and remediation of surface soils was recommended.
- Between 2008 and 2014, a FS was developed by Delaware Engineering in coordination with NYSDEC. The FS evaluate various remedial options, which were developed into the ROD in 2015.
- In March 2015, NYSDEC issued a ROD for the site. The ROD identified a selected remedy for the site that included excavation and in-situ stabilization of soils beneath the bottom of the lagoon, excavation of selected sediments in the tributary, and excavation of surficial soils and their stabilization in conjunction with the lagoon soils.

Other investigations conducted at the Site and surrounding areas were summarized in the RI and FS reports prepared by Delaware Engineering.

1.3.1 Lagoon Soils

In August 1999, ten test pits (TP-1 through TP-10) were advanced up to 10 feet below the bottom of the lagoon. One soil sample collected from TP-4 at 10 ft bgs and one soil sample collected from TP-9 at the surface were submitted for analysis of PCBs and other COCs. The concentration of PCBs in the TP-9 sample from the surface of the lagoon bottom was 6.5 mg/kg, and the concentration of PCBs in the TP-4 sample at 10 ft below the lagoon bottom was 40 mg/kg. Since both samples exceeded NYSDEC SCOs, ten additional soil samples (SS-1-0100 through SS-10-0100) were collected from the surface of the lagoon bottom in January 2000 and submitted for analysis of PCBs and cadmium. PCBs were detected at concentrations between 34 and 1,100 mg/kg in these samples.

In March 2000, six soil borings were advanced into soils beneath the bottom of the lagoon (SB-1 through SB-6) and analyzed for PCBs, cadmium, and lead (Delaware Engineering, 2000). A total of two to seven samples were analyzed from each boring, and sample depths ranged from 2 to 16 feet below the bottom of the lagoon.

In 2005, six soil borings (i.e., SB-1-05 through SB-3-05, SB-5-05, SB-7-05, and SB-8-05) were advanced into the saturated zone beneath the lagoon, and two borings were advanced within the saturated zone adjacent to the lagoon (SB-04-05 and SB-06-05). Samples were analyzed for barium, cadmium, and lead; as well as total barium, cadmium, and lead following extraction via toxicity characteristic leaching procedure (TCLP).

1.3.2 Tributary Sediments

Between 1999 and 2006, 52 sediment samples were collected from 31 borings advanced through the top foot of sediments in the Tributary (SED-1 through 27 and FP-1 through FP-3). PCB concentrations ranged from non-detect below 0.041 mg/kg to 1.47 mg/kg. Lead was detected in the upper six inches of sediments in concentrations up to 400 mg/kg (lowest effect level [LEL]: 31 mg/kg; severe effect level [SEL]: 110 mg/kg). Cadmium was detected above the LEL (0.6 mg/kg) up to 3.7 mg/kg. Fluoride concentrations in sediment data ranged from non-detect (below 3.52 mg/kg) and 53.9 mg/kg.

1.3.3 Site Groundwater

In July 2001, samples from two groundwater monitoring wells, MW-7 and MW-14, contained PCB concentrations above the applicable ground water standard of 0.09 micrograms per liter (ug/L), but below the TSCA decontamination standard of 0.5 ug/L. None of the groundwater samples collected in September 2003 had PCB concentrations above this standard, but in April 2005, the MW-6 and MW-14 samples contained PCB concentrations above the NYSDEC standard and below the TSCA decontamination standard. Wells MW-6, MW-7, and MW-14 are located hydraulically downgradient of the lagoon.

In November 2019, AECOM conducted ground water sampling from 12 monitoring wells. The samples from the monitoring wells were collected using low flow sampling techniques and were analyzed for target compound list (TCL) VOCs (using Method 8260), TCL semi volatile organic compounds (SVOC) (using Method 8270C), TCL PCBs (using Method 8082), TCL Pesticides (using Method 8081), target analyte list (TAL) Inorganics (using Method 6010B), mercury & cyanide (using Methods 7470A & 9010B, respectively), fluoride (using Method 4500 F- Standard), 1,4-Dioxane (using Method Modified 8270 SIM), and polyfluoroalkyl substances (PFAS) (using Method Modified 537). VOCs and SVOCs did not exceed NYSDEC standards in any of the groundwater samples collected during the investigation. PCBs were not detected in any of the groundwater samples collected in November 2019 or January 2020.

1.3.4 Surficial Soils

In 2008, on-site and off-site surficial soil samples were collected from the surface to a depth of two inches and analyzed for lead. Samples were collected from landscaped areas (SS-1 through SS-67) and soil beneath pavement (PS-1 through PS-42). Concentrations of lead in surficial samples ranged from 14.3 mg/kg to 58,600 mg/kg.

1.4 Conceptual Site Model

The Conceptual Site Model (CSM) defines what is known about the source(s) of chemical impacts, mechanisms of release, impacted media, migration pathways, and potential receptors. The CSM for the Site was developed using investigation data obtained during previous and recent environmental investigations at the Site.

1.4.1 Potential Source Areas

The Site was developed for industrial use, and PCBs have been used or stored at the Site. The primary sources of impacts at the Site are the former use of the lagoon for wastewater treatment and the 12-inch diameter lagoon overflow discharge pipe, and the discharge of non-contact cooling water and potentially other wastes to the lagoon. While there is no record of waste discharge related to the manufacturing activities, other than the non-contact cooling water, the presence of lead, cadmium, and PCBs suggest that waste was somehow discharged to the lagoon. Soil samples collected from the surface of the lagoon bottom were found to contain PCB concentrations ranging from 34 milligram per kilogram (mg/kg) to 1,100 mg/kg; all of which exceeded the NYSDEC Part 375 Commercial and Industrial SCOs of 1 and 25 mg/kg, respectively, and the NYSDEC Part 375 Protection of Ground Water SCO of 3.2 mg/kg. (The ecological SCO for PCBs is equivalent to the residential SCO.)

Surface soils also contained concentrations of cadmium, lead, and barium in excess of their respective NYSDEC Part 375 Commercial SCOs and Protection of Ground Water SCOs. According to the Feasibility Study, barium, cadmium, and lead were detected above the NYSDEC Part 375 Protection of Ground Water SCOs at a depth of 12 ft bgs, which is immediately above the groundwater table.

1.4.2 Site Geology and Hydrogeology

The Site and surrounding area are underlain by glacial sand and gravel that coarsens with depth (NYSDEC, 2015). The thickness of these glacial deposits ranges from approximately 10 to 150 feet. The

estimated hydraulic conductivity of these deposits, as determined by slug testing, ranged from approximately $2.2x10^{-3}$ to $1.7x10^{-2}$ centimeters per second (cm/s) in water table wells and as much as $8.3x10^{-2}$ cm/s in deeper wells. Such values indicate a relatively high permeability, allowing groundwater to readily migrate.

The depth to groundwater at the Site ranges from approximately 16 to 34 feet bgs (Delaware Engineering, 2001) and flows to the southeast towards Tributary.

1.4.3 Potential Sensitive Receptors and Exposure Conditions

Potential human and environmental receptors are present at the Site and may be at risk from identified environmental impacts. The primary risk at the Site is potential exposure to PCB-impacted soil located in the lagoon and in sediment of the Tributary. The objective of this PCB Cleanup Plan is to eliminate risk associated with impacted accessible soils and potential direct exposure to human receptors and impacts to environmental receptors by excavation of the most heavily impacted soils and consolidation, capping, and in-situ stabilization (ISS) of less-impacted soils. Potential risks to groundwater will be addressed by in-situ solidification and ex-situ stabilization and consolidation of sediments in the lagoon.

Tributary D-1-7 abuts the Site to the east which drains to the Neversink River. Sediment in this tributary and associated flood plain contains PCBs, metals, and fluoride concentrations in excess of their respective SCOs. Remediation of these soils and sediments are included in the ROD and will be discussed in this PCB Cleanup Plan.

1.4.4 Chemical Fate and Transport

Potential migration pathways considered for the CSM include:

- Leaching of PCBs from impacted soils;
- Groundwater transport of PCBs through natural soils and fill;
- Wind-blown dust containing PCBs from undeveloped portions of the Site; and
- Surface water transport of suspended sediments containing PCBs.

The mobility of PCBs through the environment via these potential migration pathways depends on physical properties (solubility in water, volatility, etc.), as well as properties of the media (soil organic carbon content, pH of groundwater, etc.). These properties and processes are discussed below.

1.4.4.1 Leaching from Soil to Groundwater

During and following precipitation events, a portion of the stormwater run-off generated during the event is absorbed and infiltrates into the ground. Where soil is covered by pavement, such infiltration is minimal, but in low lying areas where run-off ponds, infiltration is often significant. As water percolates through impacted soil, chemicals may leach from the soil into the water and become mobile. As infiltrated water contacts and commingles with groundwater, chemicals present in the infiltrated water have the potential to impact groundwater. In addition, chemicals may leach directly to groundwater from impacted soil that is present beneath the groundwater table. The potential for chemical impacts in the soil to migrate in this manner depends on various factors including physical properties of the chemicals, soil, and leachate.

The depth to groundwater at the Site ranges from approximately 16 to 34 feet bgs (Delaware Engineering, 2001). Based on the previous investigation results, the PCB-impacts were observed from ground surface to at least 28 feet bgs, indicating the PCB impacted soil is likely located both above and below the groundwater table in the lagoon. PCB impacted soil is located in the lagoon [i.e., beneath areas of the Site not currently covered by an impervious surface (building, asphalt or concrete)]. Therefore, the PCBs theoretically have the potential to leach directly from impacted saturated soil to groundwater or may leach from unsaturated soils to groundwater via surface water infiltration and percolation through the vadose zone.

However, PCBs are sparingly soluble and therefore are not prone to leaching into groundwater at rates sufficient to generate a groundwater plume.

1.4.4.2 Groundwater

Risk of impacts to groundwater beneath the Site via leaching of PCBs exists in theory, and there have been detections of PCBs in downgradient groundwater. PCBs have been detected in monitoring wells MW-6, MW-7, and MW-14 at concentrations exceeding NYSDEC groundwater standard of 0.09 micrograms per liter (ug/L), but below the TSCA decontamination standard of 0.5 ug/L.

1.4.4.3 Wind-Blown Emissions and Migration

Migration of PCBs on soil particulates can occur via airborne dust emissions from undeveloped or disturbed areas of the Site. PCBs have only been detected in sediment and in soil located at the bottom and sides of a lagoon, where it is sheltered from the wind. Therefore, wind-blown migration of particles containing PCBs is not considered likely.

1.4.4.4 Surface Water

PCBs have not been detected in surface water. While surface water in the form of stormwater run-off is a potential migration pathway, PCBs have only been detected below grade and are not subject to stormwater runoff.

2. Applicable Regulations and Remediation Objectives

The remedial goals presented herein are designed to be consistent with both TSCA and the NYSDEC Part 375 Commercial Soil Cleanup Objective (SCO), as given in Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 375. For compliance with PCB regulations as found in the SCOs, it is assumed that:

- The future use of the Site will be restricted to commercial or industrial activities, as defined at 6 NYCRR 375-1.8(g)(2)((iv).
- An environmental easement be recorded that restricts Site use to commercial and/or industrial activities and restricts the use of groundwater as a source of potable or process water without water quality treatment as determined to be necessary by the New York State Department of Health (NYSDOH) or Orange County Department of Health. The easement will also prevent disturbance of cap materials overlying soil containing PCBs at concentrations greater than 1 mg/kg and will require development of a NYSDEC-approved site management plan.

Because the cleanup criteria under the ROD and the risk-based disposal provisions of 40 CFR 761.61(c) are based on the potential for exposure to PCBs following the completion of remediation, published numerical standards need not be applied, provided the remedy is protective. Based on the ROD, the following cleanup standards have been determined to be protective of human health and the environment:

- For Exposed Surface as the top foot of exposed soil, the cleanup criterion for bulk PCB remediation waste will be 1 mg/kg.
- For Soil that is not exposed surface soil, the cleanup criterion for bulk PCB remediation waste will be 50 mg/kg. Approximately 3,300 cubic yards (CY) of soil containing 50 mg/kg or greater will be excavated for off-site disposal at a TSCA-permitted facility or RCRA Subtitle C landfill. The remainder of soil containing PCB concentrations exceeding 1 mg/kg will be stabilized and/or capped as described in Section 4.4.
- For sediment removed from the Tributary, the site-specific cleanup criteria will be 1 mg/kg. Approximately 1,750 CY of sediment containing ≤1 mg/kg will be excavated for off-site disposal in accordance with NYS and RCRA regulations. The remainder of sediment containing PCB concentrations exceeding 1 mg/kg (approximately 940 CY) will be stabilized and either transported to the on-site lagoon and capped as described in Section 4.4 or shipped off-site for disposal in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii).

While the SCO for PCBs on commercial use sites is 1 mg/kg and on industrial use sites is 25 mg/kg, the ROD specifies a site-specific cleanup objective of 50 mg/kg, based on the low potential for exposure to soil containing between 1 and 50 mg/kg, which is only found within the footprint of the lagoon. Because the lagoon area will not be restricted to be a low-occupancy area (i.e., an area in which individual occupancy is less than 6.7 hours per week), approval for this soil cleanup criterion is requested herein. Soil containing greater than 1 mg/kg will be covered by a minimum of one foot of clean soil and pavement.

The cap will be maintained through implementation of a deed restriction, as required under TSCA §761.61(a)(8). This deed restriction will take the form of the environmental easement described above. Details describing cap construction are provided in Section 4.4.3. Details regarding the environmental easement are provided in Section 4.4.4.

The above criteria are considered protective of human health and the environment, based on the following factors:

- The concentration of PCBs in exposed surface soils and sediment will be reduced to the 1 mg/kg TSCA default cleanup criterion for unrestricted use, which is protective of human health for potential receptors that only contact surface soil, such as site workers, visitors, trespassers.

- The concentrations of PCBs in soils deeper than one foot bgs will be reduced to less than 50 mg/kg and will be capped with clean soil and pavement. Potential exposures to utility and construction workers will be controlled through the site management plan associated with the environmental easement, which will require implementation of protective measures and proper management of PCB-impacted soils, should construction work require excavation in the area of the lagoon.
- Sediment containing PCBs at concentrations greater than 1 mg/kg will be removed from the tributary. This is at high-end of potentially acceptable PCB screening concentrations per NYSDEC guidance (2014) for Screening and Assessment of Contaminated Sediment. However, the highest concentration of PCBs detected in sediment outside the remediation area identified in the ROD and confirmed during the 2020 Pre-design investigation (**Table 2B**) is 0.35 mg/kg.
- While concentrations of PCBs in groundwater are already below the TSCA unrestricted use decontamination standard of 0.5 ug/L, the removal of PCBs at concentrations greater than 50 mg/kg and the implementation of ISS on soils below the water table will reduce leaching of PCBs into groundwater, which will be therefore protective of potential groundwater use.

Based on the above factors, the PCB Remedial Plan presented herein is believed to be adequately protective of human health and the environment, as required by 40 CFR 761.61(c).

The remedial activities outlined in the ROD will exceed the requirements outlined above, as additional remediation will be performed to address lead in surface soils, lead and cadmium in sediments, and lead and cadmium in saturated-zone soils. Activities required to meet NYSDEC cleanup criteria for lead and cadmium include in-situ stabilization of lead and cadmium to a depth of 35 feet bgs under the lagoon, beyond the depths at which PCBs have been detected in soil.

3. Investigation and Remedial Activities and Results

The investigation of PCBs at the Site was performed during a series of investigations, which included:

- March 1982 Supplementary Hydrogeologic Assessment Program for the C&D Batteries Division Plant, Huguenot, New York, prepared by Environmental Resources Management, Inc.
- March 1990 Phase II Investigation Report, prepared by Gibbs & Hill, Inc.
- July 1990 Additional Sampling at C&D Batteries, Site ID No. 336001, prepared by NYSDEC Bureau of Hazardous Site Control, Division of Hazardous Waste Remediation.
- June 2000 Remedial Investigation Report prepared by Delaware Engineering, P.C.; revised March 2001.
- May 2006 Operable Unit 2 Remedial Investigation Report prepared by Delaware Engineering.
- June 22, 2007 Letter to NYSDEC regarding Tributary D-1-7 Sediment Data collected in October 2006, prepared by Delaware Engineering, P.C.
- September 2008 Letter to NYSDEC regarding Former C&D Technologies Facility, Huguenot, New York Soil and Pavement Soil Sample Lead Results, prepared by Delaware Engineering, P.C.
- October 2009 Former C&D Technologies Facility, Huguenot, New York Soil and Pavement Soil Sample Lead Results, prepared by Delaware Engineering, P.C.
- August 2014 Feasibility Study Report Operable Unit-1 and Operable Unit-2 prepared by Delaware Engineering, P.C.; Originally drafted September 2008, revised February 2009, May 2013, June 2014, and August 2014.
- May 2015 Record of Decision (ROD) & ROD Amendment prepared by NYSDEC Division of Environment Remediation.

The following section provides an overview of the Site investigations and presents the results of the investigation activities performed that support this PCB Cleanup Plan.

3.1 Previous Investigation and Remediation Results

Delaware Engineering conducted PCB soil investigations on behalf of C&D for OU-1 and OU-2. Investigations were conducted in the following areas:

- Lagoon soils;
- Site groundwater;
- Offsite groundwater,
- Tributary D-1-7 sediments
- Tributary D-1-7 surface water; and,
- Surficial soils.

The PCB-impacted material described in the Delaware Engineering investigations were incorporated into the design of this PCB Cleanup Plan. PCB Analytical data for lagoon soils; tributary sediments; surficial soils, vault and shed samples; groundwater; and drinking water are summarized on **Table 1** through **Table 5**, respectively. Analytical laboratory reports from AECOM investigations are provided in Appendix B. Historic laboratory reports from previous consultants are provided in Appendix C.

3.1.1 Lagoon Soils

Surficial soils of the lagoon were taken from the bottom of the lagoon, which is approximately 15 feet below the elevation of the rest of the Site. As a result, the lagoon would be filled with clean backfill rendering subsurface soils inaccessible.

- The primary constituents of concern (COCs) are barium, cadmium, lead, fluoride, and PCBs.
- PCBs were detected in surficial lagoon soils in concentrations up to 1,100 mg/kg.
- Fluoride, cadmium, lead, and barium were detected in unsaturated soils at concentrations that exceed NYSDEC Recommended SCO.

PCB concentrations detected in surficial lagoon-bottom samples ranged from 34 mg/kg to 1,100 mg/kg, which exceed the Commercial and Industrial SCO and Protection of Ground Water SCO of 1 mg/kg, 25 mg/kg, and 3.2 mg/kg, respectively.

Concentrations of PCBs in samples collected from the top three feet below the bottom of the lagoon ranged in concentrations from 11 mg/kg to 1,100 mg/kg. The highest PCB concentration of 1,100 mg/kg was collected from SS-8 at the bottom of the lagoon. PCB concentrations detected in lagoon soils are depicted on **Figure 3**. PCB analytical data for the lagoon soils is provided as **Table 1**.

Lagoon soils contained concentrations of cadmium up to 402 mg/kg, and impacts extend to approximately 35 feet bgs (i.e., 20 feet below the lagoon bottom). Soil at these depths will be stabilized in-situ as part of remediation.

3.1.2 Site Groundwater

PCBs have been detected in monitoring wells MW-6, MW-7, and MW-14 at concentrations exceeding NYSDEC groundwater standard of 0.09 micrograms per liter (ug/L), but below the TSCA decontamination standard of 0.5 ug/L. These three wells are located directly downgradient of the lagoon. PCBs were also detected in groundwater at concentrations below applicable standards in four other wells in the lagoon area (i.e., MW-12, MW-15, MW-16, MW-17). Groundwater data indicate that barium, cadmium, and lead concentrations in Site groundwater were below applicable groundwater criteria, but that fluoride concentrations exceeded criteria.

PCBs have not been detected consistently in groundwater in any of the site wells, and when they have been detected, they have been identified as Aroclor 1254. These results suggest the possibility that the groundwater samples contained suspended solids with sorbed PCBs, as dissolved PCBs tend to appear to be a less chlorinated mixture, such as Aroclor 1016. In 2019 and 2020, site monitoring wells were sampled to characterize current groundwater concentrations. PCBs were only detected in wells MW-6 and MW-7 on one occasion each at concentrations below the 0.5 ug/L TSCA decontamination standard for unrestricted use. PCB analytical data for the Site groundwater is provided as **Table 4**.

An off-site groundwater supply well is located approximately 500 feet southwest of the lagoon. PCBs have not been detected in this well or in other off-site groundwater. Historic PCB analytical data for potable wells is provided as **Table 5**.

3.1.3 Tributary D-1-7 Sediments

Sediments in Tributary D-1-7 have been impacted by lead, cadmium, and PCBs in excess of NYSDEC LELs and SELs. PCBs were detected in the top foot of sediments in concentrations up to 1,470 micrograms per kilogram (μg/kg), which exceeds the human health bioaccumulation sediment criteria (0.018 μg/kg) and wildlife bioaccumulation sediment criteria (31.5 μg/kg). Only two samples (SED-9 and SED-10) exceeded the SEL for PCBs. PCB concentrations detected in sediments are depicted on **Figures 4A and 4B**. PCB analytical data for the Tributary sediments is provided in **Table 2A**.

3.1.4 Tributary D-1-7 Surface Water

The Feasibility Study concluded that data indicates that no remediation of surface water is necessary (Delaware Engineering, 2014). Site COCs have not had an impact on surface water quality with the exception of fluoride.

3.1.5 Surficial Soils

A total of 24 of 77 surface soil samples exceeded the NYSDEC Part 375 Residential SCO of 400 mg/kg for lead; 7 of which also exceeded the Commercial SCO (1,000 mg/kg), and 23 samples exceeded the Groundwater SCO.

Impacts to surficial soil outside of the property boundary is limited to four samples collected from the southeastern portion of the site (i.e., SS-14, SS-56, SS-57, and SS-59) (Delaware Engineering, 2014). In addition, 10 soil samples were collected from outside the property in November 2019. All the samples were analyzed for PCBs; none of which exceeded the Commercial SCO of 1 mg/kg. A summary of analytical data for surficial soil is provided in **Table 3**.

3.2 AECOM Supplemental Investigation Activities

3.2.1 Lagoon Soils

In Fall 2019, AECOM collected PCB samples from the sidewalls of the lagoon to delineate the lateral extent of impacts in lagoon soils, as depicted on **Figure 3**. Eleven borings were advanced 2 feet into the lagoon sidewalls from various depths above the bottom of the lagoon, and samples were collected from 0 to 1 foot and 1 to 2 feet below the surface of the lagoon. Of the 22 samples collected from the sidewalls, 9 samples exceeded the Industrial SCOs for PCBs of 25 mg/kg with concentrations in these soils ranged from 0.23 mg/kg to 400 mg/kg. The soils in excess of the Industrial SCOs were limited to the northern soils of the lagoon. A total of four samples collected from 1 to 2 feet into the northern portion of the lagoon sidewalls exhibited PCB concentrations in excess of the Industrial SCOs and all but two of the 22 samples collected exhibited PCB concentrations in excess of the Commercial SCO of 1 mg/kg.

In September 2020, AECOM collected PCB samples from the sidewalls of the lagoon to further delineate the lateral extent of impacts in lagoon soils, as depicted on **Figure 3**. Fifteen borings were advanced to four feet bgs with samples collected at one-foot intervals. The fifteen borings were spread along five sidewalls and were advanced at locations 3 feet, 6 feet, and 9 feet above the bottom of the lagoon. Of the 49 samples analyzed from the sidewalls, 11 samples contained PCB concentrations above 50 mg/kg, 16 samples exceeded the Industrial SCOs for PCBs of 25 mg/kg, and 25 samples exceeded the Commercial SCO of 1 mg/kg. Concentrations of PCBs in these soils ranged from non-detect below 0.12 mg/kg to 170 mg/kg. Additional sampling will be performed to design the lateral limits of excavation.

In September 2020, AECOM also collected PCB samples from the bottom of the lagoon and outfall to further delineate the lateral extent of impacts in lagoon soils, as depicted on **Figure 3**. Five soil borings were advanced to a depth of 40 feet bgs (approximately 25 feet below the lagoon bottom) and select samples from two-foot intervals were submitted for PCB analysis. In total, 36 PCB samples were analyzed from the five borings advanced on the lagoon bottom. Of these 36 samples, five samples contained PCB concentrations above 50 mg/kg, including one sample from a maximum depth of 26 feet bgs. Ten samples exceeded the Industrial SCOs for PCBs of 25 mg/kg, and 28 samples exceeded the Commercial SCO of 1 mg/kg. Concentrations of PCBs in these soils ranged from non-detect below 0.12 mg/kg to 100 mg/kg.

In addition, AECOM collected three soil samples in the lagoon from just beneath the former discharge outfall locations. Concentrations at these locations were lower with only one of the samples exceeding the Commercial SCO of 1 mg/kg. PCB analytical data for the lagoon soils is provided in **Table 1** and illustrated on **Figure 2**.

3.2.2 Tributary D-1-7 Sediments

Between May 18 and 22, 2020 AECOM collected sediment samples from 40 locations within the Tributary. The sediment samples were collected from intervals 0 to 6 inches, 6 to 12 inches, and 18 to 24 inches at each location and analyzed for PCBs, lead, cadmium and total organic carbon to assess current sediment concentrations in advance of performing remedial activities. The samples from the 18 to 24-inch interval were put on hold pending results from the shallower intervals and were not analyzed in all instances. The samples were analyzed by TestAmerica, an ELAP certified laboratory contracted directly by NYSDEC. PCB analytical data for the Tributary sediments is provided as **Table 2B**.

AECOM observed soft silty sediments with high organic content in the 0 to 18 inches interval; silty fine and with some organics was observed in the sediments collected from 18 to 24-inch interval.

Results of the testing confirmed the presence of PCBs at concentrations greater than 1 mg/kg in the top foot of sediment located within approximately 200 feet downstream of the facility outfall. PCBs were not detected at depths below 12 inches. However, excavation will extend to the bottom of the silty sediments (approximately 1.5 feet) in areas around samples where PCBs were detected at concentrations greater than 1 mg/kg between depths of 6 and 12 inches.

Cadmium and lead were detected at concentrations above site cleanup goals in all samples where PCBs were detected above laboratory reporting limits. Therefore, the planned remedial sediment excavation, which addresses lead, cadmium, and PCBs will remove sediment with detectable concentrations of PCBs. The remedial plan is discussed in greater detail in Section 4.4.

3.2.3 Wooded Area Soils

In January 2020, AECOM advanced five shallow borings to two feet bgs in the Wooded Area to the southeast of the Site. A total of ten soil samples were collected for PCB analysis, as depicted on **Figure 5**. Of the ten samples analyzed from the Wooded Area, PCBs were detected in two of the samples at concentrations below the Commercial SCO of 1 mg/kg. All other PCB samples were non-detect.

Additional soil investigation in the Wooded Area was conducted in September 2020 and November 2020. A total of 18 surficial soil samples were collected from the top two inches of soil in the Wooded Area. PCBs were detected in ten of the soil samples analyzed with four of the samples exceeding the Commercial SCO of 1 mg/kg. Concentrations of PCBs in these soils ranged from 0.15 mg/kg to 3.3 mg/kg. PCB analytical data for the Wooded Area Soils is provided as **Table 3**.

3.2.4 Vault and Shed Samples

AECOM collected samples of material at the base of two structures on site. One sample was collected from sediment that had accumulated in an approximately 10-foot by 10-foot utility vault located south of the facility building. This sample contained PCBs at a concentration of 7.9 mg/kg.

AECOM also collected a sample of soil from a hole in the on-site shed located adjacent to the wooded area. The hole appeared to be an approximately 6-inch diameter hole cored in the slab of the shed, and a sample was collected from 0 to 6 inches beneath it before reaching refusal on a sub-slab obstruction. This sample had a total PCB concentration of 3.8 mg/kg. PCB analytical data for the vault and shed samples is provided as **Table 4**.

4. Remediation Plan

Soils impacted with PCBs will be remediated by excavation of soil and proper off-site disposal and by capping with a clean soil cap and/or existing impermeable cap in accordance with 40 CFR §761.61(a)(7) and the NYSDEC regulations for inaccessible soil. In areas where PCBs are left in place beneath a clean soil cap or building, an environmental easement that prevents disturbance of the cap and requires cap inspection and maintenance will be recorded in general accordance with §761.61(a)(8), as described in Section 4.4.4. The specific remediation activities are described in Section 4.4. The following sections summarize anticipated planning tasks to be performed prior to implementation of the proposed remedial action.

4.1 Health and Safety

AECOM will prepare a Health and Safety Plan (HASP) to include oversight of the proposed remediation activities in accordance with the requirements of 29 CFR 1910.120. All work will be conducted in accordance with the HASP. The HASP is intended for use by AECOM employees and Site visitors. Contractors performing remediation work at the Site will be required to develop and follow their own HASP during all project activities. Remediation activities will be conducted by personnel with 40-hour Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations (HAZWOPER) training and 30-hour construction training. The HASP will include the following:

- Brief Site Description
- Site Safety Hazards
- Task Hazard Analyses (THAs)
- Chemical Compounds of Concern
- Project Personnel
- Site Training/Medical Surveillance Requirements
- Personnel Protective Equipment (PPE) Requirements
- Air Monitoring Requirements
- Decontamination Procedures
- Work Zones
- Remediation Derived Waste Disposal/Handling
- Emergency Response
- Special Operations Safety Requirements
- Emergency Resources
- Generic First Aid

4.2 Notification and Certification

In accordance with §761.61(a)(3)(E), this PCB Cleanup Plan serves as the Notification from NYSDEC to the EPA Region 2 Coordinator. Attached in Appendix A is a written certification, signed by Justin Starr of NYSDEC, indicating that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup Site are on file at the location designated in the certificate and are available for EPA inspection. An equivalent certification from the property owner is also provided.

4.3 Remediation Sequencing

The remediation activities are proposed in two phases as detailed below:

- Phase I Activities
  - Removal, dewatering, and segregation of the Tributary D-1-7 tributary sediments containing >1 mg/kg from PCBs sediments containing PCB concentrations ≤1 mg/kg;
  - Off-site disposal of sediments containing PCB concentrations ≤1 mg/kg and either off-site disposal of sediments containing PCBs >1 mg/kg in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii) or storage on site for up to 180 days for stabilization and on-site disposal during Phase II remediation of the lagoon; and,
  - Restoration of the Tributary D-1-7.
- Phase II Activities
  - Excavation and off-site disposal of subsurface soils with PCBs concentrations greater than 50 mg/kg within the lagoon (anticipated to extend to a maximum depth of 12 feet below the bottom of the lagoon);
  - In-situ solidification/stabilization of deeper soils within the lagoon to a depth of approximately 35 feet bgs;
  - Excavation of soil from the wooded area and ex-situ solidification/stabilization in the lagoon;
  - Transfer to the lagoon, and in-place solidification/stabilization of PCB Remediation Waste sediments with PCB concentrations >1 mg/kg and < 50 mg/kg, if any are stored on-site during Phase I activities; and
  - Placement of 1 feet of clean soil cap and asphalt pavement across the lagoon area.

Excavated sediments will be dewatered and then stored onsite within welded-seem 20mil HDPE enclosures. These will be inspected monthly between phases and maintained as needed to minimize the possibility of exposure. Excavation extents are depicted on **Figures 5 and 6**.

4.4 Remediation Elements

Details regarding the areas to be remediated are provided in the following sections. Verification sampling is described in Section 5.0.

Based on the soil investigation results discussed in Sections 3.1 and 3.2, the limits of PCB remediation waste have been largely delineated. While there remains some uncertainty regarding the lateral extent of PCB remediation along the northern sidewall of the lagoon, the limits of PCBs exceeding the cleanup criteria established in Section 2.0 will be delineated by sampling prior to remediation, and verification samples will be collected to ensure that soil containing PCBs exceeding remedial objectives are managed appropriately. Impacted soils will be managed as detailed in Section 4.3.

Excavation areas were delineated based on the sample results presented in **Figures 3, 4A and 4B**. The lateral and vertical limits of excavation for these areas and the approximate depths are indicated on **Figures 5 and 6**. Remediation will consist of the following:

- Soil will be excavated to minimum depth of 4 to 6 feet below the current grade of the bottom of the lagoon to remove soil containing 50 mg/kg or greater PCBs.
- Soil will be excavated from the northern lagoon sidewalls to a lateral distance of approximately 3 feet beyond current limits to remove soil containing 50 mg/kg or greater PCBs.
- Soil containing 50 mg/kg PCBs or greater will be excavated and transported off-site for disposal at a Toxic Substances Control Act (TSCA) facility permitted in accordance with 40 CFR 761.75 or a RCRA Subtitle C landfill.

- Following excavation, post-excavation sampling will be performed on the lagoon sidewalls and bottom to verify that concentrations have been reduced to below 50 mg/kg.
- Sediment from the Tributary with be excavated to a depth of 1 to 1.5 feet below the sediment surface. Sediment excavated from within the area of PCB concentrations ≤1 mg/kg will be disposed off-site for disposal in accordance with NYS and RCRA regulations. The remainder of sediment containing PCB concentrations exceeding 1 mg/kg will be stabilized and either transported to the on-site lagoon and capped as described in Section 4.4 or shipped off-site for disposal in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii).
- No verification sampling is planned for sediment remediation.
- ISS will be used to stabilize soils down to 35 feet below lagoon surface grade to address PCB, lead, and cadmium-impacted soils.
- Surficial soils containing lead from landscaped and paved areas of the Site will be consolidated and stabilized with the lagoon soils.
- Surficial soils containing PCBs and lead from the Wooded Area will be consolidated and stabilized with the lagoon soils.
- Sediments and soil accumulated in the vault and hole in the shed floor will be removed and consolidated and stabilized in the lagoon. Following sediment removal, the underlying building materials will be decontaminated by a solvent wash prior to sampling. If building materials contamination is identified, it will be addressed in the site management plan.
- Soils and sediment stabilized in the lagoon will be covered with at least one foot of clean fill and asphalt pavement cover to serve as a TSCA Cap.

While the minimum depth of the clean soil cap will be one foot of clean fill and asphalt, the bulk of the material remaining in the lagoon following excavation and consolidation will be beneath more than 10 feet of clean soil. Only PCBs at concentrations less than 50 mg/kg left in place on the excavation sidewalls are expected to be present at depths less than 10 feet bgs at the conclusion of remediation activities.

Excavation within the lagoon and wooded area will proceed until cleanup to the specified remedial objectives is verified in accordance with the sampling procedures described in Section 5.1. Verification sampling for the vault and shed floor are likewise described in Section 5.1 Excavation of the tributary will be performed to the extents indicted in **Figure 6**.

4.4.1.1 Lagoon

Excavation and ISS is planned for the lagoon soils, as depicted on **Figure 7**. PCB-impacted soil in the lagoon contains concentrations of PCBs up to 1,100 mg/kg. Soils from zero to 4 to 6 feet below the lagoon bottom will be excavated and from zero to 1 to 3 feet into the northern, eastern, and western sidewalls will be excavated for off-site disposal. Post-verification sidewall sampling will be conducted, as described in Section 5.1, to confirm removal of PCB impacted soil above 50 mg/kg. Following post-excavation sampling, PCB impacted soils above 50 mg/kg will be removed and transported off-site, and verification sampling will be performed, as described in Section 5.1.

Approximately 3,300 CY of soil containing 50 mg/kg PCBs or greater is expected to be excavated for off-site disposal, as described in Section 4.5. Soil placed in the bottom of the excavation will be stabilized as described in Section 4.2.2 and capped as described in Section 4.4.3.

Following excavation, soil with PCB concentrations greater 1 mg/kg will remain in the bottom of the lagoon. This area will be placed under a clean soil and asphalt cap in accordance with 40 CFR 761.61(a)(7), as described in Section 4.4.3. The cap will be maintained through implementation of an environmental easement, which will be generally consistent with the requirements of §761.61(a)(8), as described in Section 4.4.4. The areas of the cap will be surveyed, as part of the post-remediation survey.

4.4.1.2 Tributary D-1-7 Sediments

An excavation is planned for the sediments of Tributary D-1-7, as presented on **Figures 8A and 8B**. PCB-impacted sediments contain concentrations of PCBs up to 2.5 mg/kg. Sediments will be excavated to 1 to 1.5 feet and segregated into two categories: Sediments containing PCB concentrations exceeding 1 mg/kg and sediments containing PCB concentrations of 1 mg/kg or less as shown on **Figures 8A and 8B**.

Post excavation verification sampling is not planned for the Tributary. However, pre-verification sampling was conducted in May 2020 to determine whether the excavation extents should be modified to meet cleanup objectives. Based on those results, additional area for sediment excavation was identified near the facility outfall. Up to approximately 940 CY of sediment and floodplain soils containing PCB concentrations greater than 1 mg/kg will either be removed and disposed in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii) or stabilized and consolidated in the bottom of the lagoon. The remainder of the sediment (approximately 1,750 CY) will be excavated to address lead and cadmium impacts and transported off-site and disposed in accordance with NYS and RCRA regulations.

4.4.1.3 Wooded Area Surficial Soils

An excavation is planned for the soils in the Wooded Area to the southeast of the Site, as presented on **Figure 5**. PCB-impacted soil in the Wooded Area contains concentrations of PCBs up to 3.3 mg/kg. Soils in this area were already planned to be excavated to a depth of 1-foot bgs in an approximately 17,000 square foot area to remove lead-impacted soil, and this excavation will also remove soil containing PCB concentrations exceeding 1 mg/kg in this area. Post-excavation sampling in the Wooded Area is proposed on a 30-foot sampling grid in accordance with NYSDEC policy. Additional details of the post-excavation verification sampling conducted are described in Section 5.1.

4.4.1.4 Vault and Shed Remediation

Removal of sediment and decontamination are planned for the 10-foot by 10-foot utility vault located south of the facility building, as indicated on **Figure 5**. Following removal of the sediment, the bottom of the vault will be cleaned with a solvent or detergent wash. Decontamination solution will be drummed for waste characterization and disposal at a permitted facility.

Following cleanup, one verification sample will be collected from the concrete bottom of the vault to verify that PCB concentrations are less than 1 mg/kg in the underlying concrete. Should concrete contamination be identified, that material will be addressed as part of the provisions under the site management plan. Additional details of the post-excavation verification sampling are described in Section 5.1.

Soil will likewise be removed from the hole in the shed floor located adjacent to the wooded area southeast of the main facility building. Following removal of the soil, one verification sample will be collected from the underlying material (or one sample of each type of material, if there is more than one material in contact with the soil).

Less than 1 CY of sediment containing between 1 and 10 mg/kg PCBs is expected to be removed, stabilized and consolidated in the bottom of the lagoon as part of the vault and shed floor cleanout activities. Material placed in the bottom of the lagoon will be stabilized as described in Section 4.4.2 and capped as described in Section 4.4.3.

4.4.2 In-Situ Stabilization

PCB-impacted material with PCB concentrations below 50 mg/kg excavated from the Site and from the tributary and placed in the bottom of the lagoon will be consolidated with shallow lead-impacted soil and stabilized in-situ along with soil beneath the lagoon to a depth of 35 feet bgs. The ISS process will be performed with an attachment on an excavator placed at the bottom of the lagoon, which will allow soil to be mixed with solidifying agents, such as Portland cement. The specific mixture of ISS reagents will be determined based on the results of treatability testing to be performed later in 2020.

ISS will be performed in lifts of approximately 5 to 15 feet following removal of soil containing greater than 50 mg/kg from the lagoon. ISS will initially be performed to address soils that remain below the lagoon

bottom following completion of excavation. ISS will then be performed on soil consolidated in the lagoon from the lagoon sidewalls, the Tributary and other locations on site.

4.4.3 Clean Soil Caps

Following completion of excavation and ISS in the lagoon, a clean soil and asphalt pavement cap will be placed in the lagoon to restrict access to soils and sediments remaining on-site at concentrations between 1 and 50 mg/kg. The soil cap will consist of at least one foot of clean soil beneath an asphalt pavement surface and above a geotextile marker fabric.

4.4.4 Deed Restriction

As described above, in areas where PCBs will be left in place in soil at concentrations greater than 1 mg/kg, the soil and sediment are being placed under a TSCA-compliant clean soil cap. TSCA and the ROD require that soil and sediment left on-site remain undisturbed and the cap which isolates it is to be maintained by means of a deed restriction.

The deed restriction for the Site will be an environmental easement that restricts Site use to industrial/commercial purposes and will prohibit disturbance of the TSCA cap and underlying soil. The environmental easement will likewise require that the property owner follow a site management plan (SMP) that further protects against potential exposure and maintains the cap. The environmental easement will meet the general requirements of TSCA, as given at §761.61(a)(8) and is described further below.

After completing the work, NYSDEC shall prepare and record an environmental easement with the Country Clerk's Office, Orange County, New York in accordance with §761.61(a)(8) and applicable New York law. The environmental easement will include a description of the extent of contamination found at the Site, the property use restrictions identified above, and a description of the inspection, maintenance, and reporting requirements associated with the SMP, which will be attached to the environmental easement.

Because the process for recording an environmental easement on the property requires engagement of the current property owner, who is not party to the consent order, NYSDEC requests an extension to the 60-day time period given at 40 CFR 761.61(a)(8)(i) for recording the easement. NYSDEC will initiate negotiations with the property owner in advance of the completion of remediation to expedite this process to the extent feasible and will support the performance of site management activities as described in Section 6.7.

4.5 Waste Management

The anticipated waste streams are identified in this section and summaries of the waste streams and the proposed management processes are provided below. It is anticipated that soils and sediment will need to be transported off-site for disposal. Soil and sediment will either be stabilized and stockpiled in bins constructed in accordance with 40 CFR 761.65(c)(9) or dewatered and loaded into trucks for off-site disposal. Prior to being transported off-site, wastes will be characterized and profiled for disposal, as discussed in Section 5.2. Regulated waste will be disposed of at a facility permitted to accept such wastes. Disposal will be in accordance with TSCA and state regulations, as applicable.

When regulated wastes are transported off-site by a licensed hauler, waste removal will be documented by manifest or bill of lading. NYSDEC will be named as the generator of the waste, and a representative of NYSDEC will sign waste profile forms and the waste manifest for each truckload. The disposal documentation will be included in the remedial action report.

If solid waste not amenable to ISS is generated during remediation or construction containing PCBs at concentrations greater than 1 mg/kg but less than 50 mg/kg, it will be disposed at a solid waste landfill, in accordance with §761.61(a)(5)(v)(A). PCB Remediation Waste will be profiled based on the PCB concentrations detected *in-situ* in a given area of excavation. Solid wastes generated during excavation containing PCBs at concentrations less than 1 mg/kg will be reused on-site by consolidating into the

lagoon or disposed at a licensed facility in accordance with the facility's permit. Specific disposal facilities have yet to be determined.

Decontamination fluids generated from construction equipment will be temporarily containerized for appropriate management. PCB decontamination fluids containing terpene decontamination solvents will be treated as potentially flammable, prior to characterization for disposal. Containerized fluids will be labeled with the date of generation, contents, and source of decontamination fluid. Such materials will be managed in accordance with the TSCA decontamination standards specified at 40 CFR 761.79(b)(1) and (2).

4.6 Sedimentation and Erosion Control

Prior to the performance of any earthwork activities at the Site, an approved sedimentation and erosion control system (straw bales or wattles and silt fence) will be installed around the proposed limits of disturbance and were inspected for approval. Site erosion and sedimentation controls will be installed and maintained in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control* and requirement imposed during permitting with wetland agencies. To prevent off-site migration of materials, all equipment will be decontaminated prior to leaving the Site, and excavation work will not be performed during heavy precipitation events.

The location of the proposed soil erosion and sediment control measures and details for construction will be shown on the construction drawings, which will be finalized prior to soil remediation. To maintain the effectiveness of the soil erosion and sediment control measures throughout the remedial construction activities, these features will be inspected regularly. If sediment deposits reach one-half the height of the barrier, sediments will be removed from the barrier and managed by removal for on-site management or off-site disposal, as appropriate based on soil characterization data.

4.7 Dust Control

Dust control and monitoring is an important component of the remediation activities. Certain operations may be dust sensitive, as may neighboring properties. It is anticipated that concentrations of PCBs in the areas targeted for excavation will not trigger air-monitoring requirements above those required to protect remediation worker health and safety. Consequently, and consistent with past remedial activities at the Site, it is assumed that a dedicated air-quality monitoring plan will not be required to conduct the excavation work beyond measures required in the HASP for remedial activities. However, in areas where elevated concentrations of PCBs are present, evaluation of the need for air quality monitoring may be performed. Dust and odors will be controlled using water mist at times to ensure compliance with the applicable regulations.

The National Ambient Air Quality Standard (NAAQS) for Respirable Particulates (defined as PM_{10}) established by the USEPA is a maximum concentration of 150 µg/m³. Based on this standard, community dust exposure from construction activities should not exceed 150 µg/m³ above the background level. In cases where dust-borne particles are determined during preparation of the HASP to have the potential to result in exposure to dust-borne COCs, a lower action level may be established.

If air monitoring results indicate PM_{10} concentrations greater than an action level (excluding background levels), dust suppression may need to be implemented.

4.8 Decontamination

PCBs have been identified at the Site. As such, decontamination procedures are subject to the regulations set forth in 40 CFR Part 761.79. Decontamination of on-site heavy equipment will be performed as necessary to minimize the potential spreading of contamination and prior to the equipment leaving the Site. All decontamination of equipment will occur within a designated decontamination zone. Decontamination of parts of equipment that directly contact impacted fill materials (e.g., excavator buckets, soil mixing heads, and vehicle treads and tires) will be decontaminated in accordance with

§761.79(c)(2). These decontamination procedures will be followed for both the area of PCB Remediation Waste and for managing other PCB-impacted soils, and if applicable, decontamination will also be performed following completion of excavations in the area of PCB Remediation Waste prior to performing work in other areas of the Site.

Brushing, high pressure water, and/or a steam cleaning will be used for general equipment decontamination of equipment surfaces that do not contact impacted media. The decontamination zone will include polyethylene sheeting and will be constructed such that all decontamination wastewater is contained for subsequent collection. All collected liquid will be transferred into closed lid, Department of Transportation-approved, 55-gallon drums. Drums will be temporarily stored on-site subsequent to waste characterization and disposal at an appropriate off-site facility, based on the results of that characterization.

4.9 Site Restoration

Subsequent to completing excavation and consolidation of materials in place, a geotextile fabric and marker fabric will be placed in the excavation areas where PCBs are left in place at concentrations greater than 1 mg/kg. The excavation areas will be backfilled to the final proposed grade with clean fill material and topsoil for areas that will be restored with turf or asphalt for areas subject to vehicular traffic.

4.10 Site Security

Site security fencing will be installed around work areas on the Site during the performance of remediation to control access to contaminated materials and equipment. Signage will be used to alert the public to the Site conditions, the nature of the project activities, and to provide contact information.

4.11 Future Site Use

The Site will be developed for commercial or industrial use once remediation is completed. An environmental easement will be applied to the Site to limit the future use to commercial or industrial and to maintain the clean soil cap over the lagoon, as necessary to meet the cleanup criteria given in Section 2.0.

5. Sampling and Analysis Plan

The sampling and analysis plan associated with this remedial plan is summarized below.

5.1 Verification Sampling

To confirm that soils do not exceed cleanup criteria following the excavation activities, post-excavation verification samples will be collected and analyzed for PCBs in the lagoon, the wooded area, and at the vault and shed floor structures. No verification sampling is proposed for the Tributary.

Data from verification sampling will be compared to project action levels to determine whether additional vertical or lateral excavation is warranted. Excavations will not be backfilled until the applicable cleanup criteria have been achieved. Once the laboratory data confirms that the project action levels have been achieved, the areas will be backfilled and restored.

5.1.1 General Verification Soil Sampling Requirements

Except where noted below, the verification sampling procedures to be employed are as follows:

- A square-based grid will be overlaid on each excavated area to be sampled. The grid axes will be oriented on a magnetic north-south line roughly centered in the area and an east-west axis perpendicular to the magnetic north-south axis also centered in the area. The grid axes will follow the surface of the excavation, as opposed to being laid out in the horizontal plane.
    - Sampling points will be marked out with 30-foot spacing, oriented to the grid axes in each cardinal direction to the extent sufficient to result in a grid completely overlaying the surface of the sampling area.
    - A sample will be collected at every grid node that falls within the excavation area.
    - At least three samples of each media encountered in an excavation will be sampled.
    - At least one sidewall sample will be collected where a grid line crosses an excavation sidewall.
- Samples will be collected using the following methods:
    - Soil samples will be collected directly into jars from zero to three inches of depth along the bottom and sides of each excavation.
    - If concrete or similar porous material is encountered in the excavation, concrete verification samples will be collected from zero to 0.25 inches of depth, following the USEPA Region 1 standard operating procedure (SOP) for Sampling Porous Materials.
    - If necessary, samples of non-porous materials, such as steel utility pipes, will be collected using a standard wipe test, as described at 40 CFR 761.123.
- If any verification sample result is greater than project action levels, additional remediation will be performed as described above. A sampling grid will be established for the newly remediated area as previously described. If the same area is to be excavated a second time, the center node of the grid will be shifted 3 feet to the north and east to avoid duplicating the previous grid.
- If any remediation area is not large enough to fit three sampling points within the area based upon the designated grid spacing, the grid interval will be decreased by half successively, so that a minimum of three samples for each media encountered (e.g. soil, concrete) can be taken.

Samples will be collected directly into jars or using disposable scoops or decontaminated shovels.

The verification samples will be analyzed by a State of New York-certified laboratory for PCBs, according to USEPA Test Method 3540/8082. The sampling and collection of quality assurance/quality control

(QA/QC) samples will be performed in accordance with the USEPA Guidance on Environmental Data Verification and Data Validation, dated November 2002.

5.1.2 Considerations for Verification Sampling of Lagoon Soils

Due to the depth of the lagoon, the depth of localized excavation areas at the bottom of it, and potential need to expand portions of the excavation laterally based on the results of verification samples, verification samples from portions of the excavation may be collected using a decontaminated excavator bucket. In such instances, the sample will be collected to the extent feasible from the top 3 inches of soil of the excavation surface.

5.1.3 Verification Sampling of Wooded Area Soils

Verification sampling in the wooded area will proceed as described in Section 5.1.1.

5.1.4 Verification Sampling of Vault and Shed

Following removal of environmental media and decontamination of the vault and hole through the shed floor, samples will be collected to characterize the materials in contact with the contaminated environmental media and determine whether remediation of the underlying building materials is required. For the vault, this will consist of a single concrete chip sample collected from the bottom of the vault. If visible staining is present on the concrete of the vault, the concrete chip sample will be collected from the stained area.

For the shed floor, one sample will be collected of each medium encountered in the hole (e.g., concrete, stone, adjacent soil) to determine whether additional remediation is required. If soil beneath the floor is found to contain PCBs at concentrations greater than 1 mg/kg, the hole will be filled with a six-inch thick layer of concrete, which will serve as a TSCA cap in accordance with 40 CFR 761.61(a)(7). Should contaminated building materials be identified, they will be addressed as part of the site management plan, as described in Section 6.6.

5.2 Waste Characterization Sampling

Waste characterization sampling will be performed when necessary to supplement *in situ* data for the purposes of waste characterization to satisfy the requirements of the off-site disposal facilities. Characterization of PCBs will be performed based on the results of the investigation data outlined in Section 3.0, and as described in the proposed remediation details provided in Section 4.4. In general, *in situ* waste characterization samples will be collected with a frequency of one sample per every 500 tons to 2,000 CY of planned soil excavation. However, sampling frequency may be modified based on the requirements of the disposal facility. Samples for most analytes will be collected as composite samples representative of the waste being sampled. Samples may be collected *in-situ* and composited over the depth of the excavation or may be taken from a soil stockpile. In-situ composite samples will be collected from one to three borings, and stockpile samples will be collected from three to six grab samples from a variety of locations and depths within the stockpile. The specific numbers of subsamples will depend on receiving facility requirements,

Volatile organic compound (VOC) samples collected for waste analysis will be collected as grab samples to avoid loss of volatiles, as would occur during sample compositing. Grab samples for potential VOC analysis will be collected at the same locations as the sub-samples that are composited for other parameters. These grab samples will be screened using jar headspace methods for the presence of volatile organic vapors, and a sample will be selected for analysis of VOCs at the laboratory to accompany each composite sample.

5.3 Laboratory Analysis

All proposed analyses will be performed by a laboratory certified by the New York State Department of Health (NYSDOH) to perform such analyses. Detection limits will be selected to be below the applicable

remedial objectives and facility disposal criteria. The SOP laboratory protocols specific to the laboratory subcontractor will be followed. Post-excavation verification sampling will be tested for PCBs by EPA Method 8082.

5.4 Quality Assurance

The analytical laboratory will be required to perform the internal quality control procedures that are specified in the analytical methods. These include, but are not limited to:

- Blanks – The laboratory will analyze method blanks prepared and analyzed with each set of samples. These are a check of the accuracy of the system and indicate if there are positive biases.
- Calibration Checks – These are standards, generally from a different source than the calibration standards that are analyzed along with the samples. The purpose of the calibration checks is to determine if the analytical equipment is functioning accurately.

Field QA/QC samples will be submitted along with the laboratory samples. Based on the preliminary sampling plan for samples of clean fill, the QA/QC requirements include, but are not limited to:

- Field Duplicate – At least one field duplicate sample will be collected and submitted to the laboratory for every 20 samples submitted for analysis.
- Trip Blank – One trip blank to be analyzed for VOCs by USEPA Method 8260 only will be included in each cooler that is sent to the laboratory.

Upon receipt of the laboratory data, a review of the data will be performed to evaluate its usability. The laboratory analytical data will be reviewed for consistency with the USEPA Guidance on Environmental Data Verification and Data Validation, dated November 2002. This will include checking of such items as:

- Holding times,
- Field and laboratory blanks,
- Field and laboratory duplicates,
- Surrogate recoveries, if applicable,
- Calibration checks,
- Spike recoveries, if applicable, and
- Analytical method detection limits (MDLs).

Items such as GC/MS tuning, initial calibrations, calculations, and raw data will be checked by the laboratory.

6. Documentation and Reporting

AECOM will oversee remediation activities and prepare and maintain a record of the activities performed. NYSDEC will document that the project is completed in accordance with the requirements of this plan, NYSDEC and USEPA requirements and generally accepted industry/engineering standards.

6.1 Field Documentation

The following list identifies the specific documentation and reporting requirements that will be required for this project.

- Maintaining an accounting of materials excavated and consolidated on-site,
- Photographic documentation of executed field activities, and other pertinent observations,
- Documenting sampling activities,
- Documenting and reporting of any spills, leaks, or other discharges occurring at the Site,
- Documenting and reporting of any disruption/damage to utility structures,
- Documenting that erosion control and site security measures are adequately maintained throughout the project,
- Maintaining excavation and consolidation documentation per excavation area,
- Documenting decontamination prior to demobilization; and
- Performing a Class A-2 post-construction survey to document the final elevation contours within the remediation areas and limits of the capped areas.

6.2 Field Notes

The Engineer's field inspector will maintain a daily log of on-site activities. That log will include, as relevant:

- Health and safety meetings;
- Personnel and equipment on-site;
- Field procedures and observations;
- Removal, abatement, containment, and cleanup progress;
- Sample locations with selection criteria, samples collected, analyses performed, sample handling;
- Telephone or other instructions;
- Health and Safety issues;
- Health and Safety monitoring data;
- Estimate of wastes generated and stored; and,
- Waste transporter information.

6.3 Photographs

Photographs will be taken of certain representative activities, such as soil removal, sampling, and waste handling. Copies of selected photographs with appropriate captions will be included in the final engineering report.

6.4 Transport and Treatment/Disposal Certifications

Manifests and/or Bills of Lading for the transportation, treatment and disposal of waste materials and certifications of the disposal of the wastes, if necessary, will be obtained from the transporter and from the treatment/disposal facility for each waste shipment. Copies of these forms will be included in the final engineering report and records will be maintained in accordance with the requirements as specified in 40 CFR 761 Subpart K (PCB Waste Disposal Records and Reports).

6.5 Final Engineering Report

Following completion of remediation activities, a final engineering report will be prepared to document remediation activities within the TSCA and non-TSCA applicable areas of the Site. The report will describe the completed work at the Site, and will contain the following specific items:

- A Site description;
- A description of field activities performed to address the PCB contamination present on the Site;
- Tables and figures summarizing the results of sampling performed in conjunction with remediation;
- Copies of waste manifests, bills of lading, and certificates of disposal;
- As-built figures depicting conditions at the Site after the remedial work has been completed; and
- A photographic record of the remedial activities and clean-up.

The final engineering report will also include recommendations for future actions associated with remediation activities including compliance and recording of an environmental easement on the Site. Any additional information required under the USEPA Approval will also be incorporated into the final engineering report.

6.6 Site Management Plan

The NYSDEC will require that an environmental easement, required as an element of the selected remedy for the Site in the ROD be recorded in accordance with applicable laws and regulations. This easement will:

- Require the site owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- Allow the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- Restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- Require compliance with the NYSDEC-approved site management plan.

Since NYSDEC is implementing the selected remedy under State Superfund, the NYSDEC will develop the site management plan and conduct long-term site management in accordance with the easement, which includes generating the periodic certification, conducting site inspections, and implementing site

maintenance, as necessary. The site owner will annually certify in writing to the DEC that the institutional controls are in-place and unchanged.

Under the SMP, TSCA caps will be inspected annually in spring to assess conditions of the cap following winter and the spring thaw. The SMP will include provisions for notification and maintenance activities required when conditions are noted during inspections that require active maintenance of the cap.

If necessary, based on the results of verification sampling of building materials or in the shed or vault, the site management plan will identify measures necessary to address such impacts sufficient to achieve compliance with TSCA and NYSDEC regulations. These activities may include building material remediation, encapsulation, or removal, as appropriate. If such measures are required, a modification to this remedial plan will be requested of EPA, to ensure the elements of the SMP are adequate to maintain compliance with TSCA regulations.

7. Schedule

The work described in this PCB Cleanup Plan will be performed by the team that is selected by NYSDEC to perform the remediation. The contractor will be required to retain a qualified environmental professional to direct the remediation and management of soil and other wastes generated by the project. The schedule to perform the subject remediation is dependent on the completion of this bid and contracting process, as well as other factors.

With these caveats, the anticipated schedule to implement the proposed remedial actions described in this plan is provided below.

Task	Anticipated Schedule
Finalize remediation plans and specifications for Tributary Remediation	March 15, 2021
Bid Solicitation for Tributary Remediation	March 23, 2021
Contract Award for Tributary Remediation	September 9, 2021
Remediation of Tributary Sediments	October 2021 to December 2021
Finalize remediation plans and specifications for remediation of on-site soils (lagoon and surficial soils)	July 26, 2021
Bid Solicitation for remediation of on-site soils	August 17, 2021
Contract Award for remediation of on-site soils	January 31, 2022
Remediation of on-site soils	April 2022 to July 2022
Prepare and record environmental easement	2023
Prepare final engineering report and submit to NYSDEC and USEPA	July 2023

Notification will be provided to NYSDEC and USEPA in advance of the performance of the activities described in this Notification.

8. References

Delaware Engineering, P.C. Remedial Investigation Report, C&D Power Systems (C&D Batteries), Huguenot, New York, Site No. 336001. June 2000, revised March 2001.

Delaware Engineering, P.C. Operable Unit 2 Remedial Investigation Report, C&D Power Systems (C&D Batteries), Huguenot, New York, Site No. 336001. December 2003, revised May 2006.

Delaware Engineering, P.C. RE: C&D Site, Site No. 336001 Tributary D-1-7 Sediment Data. June 22, 2007.

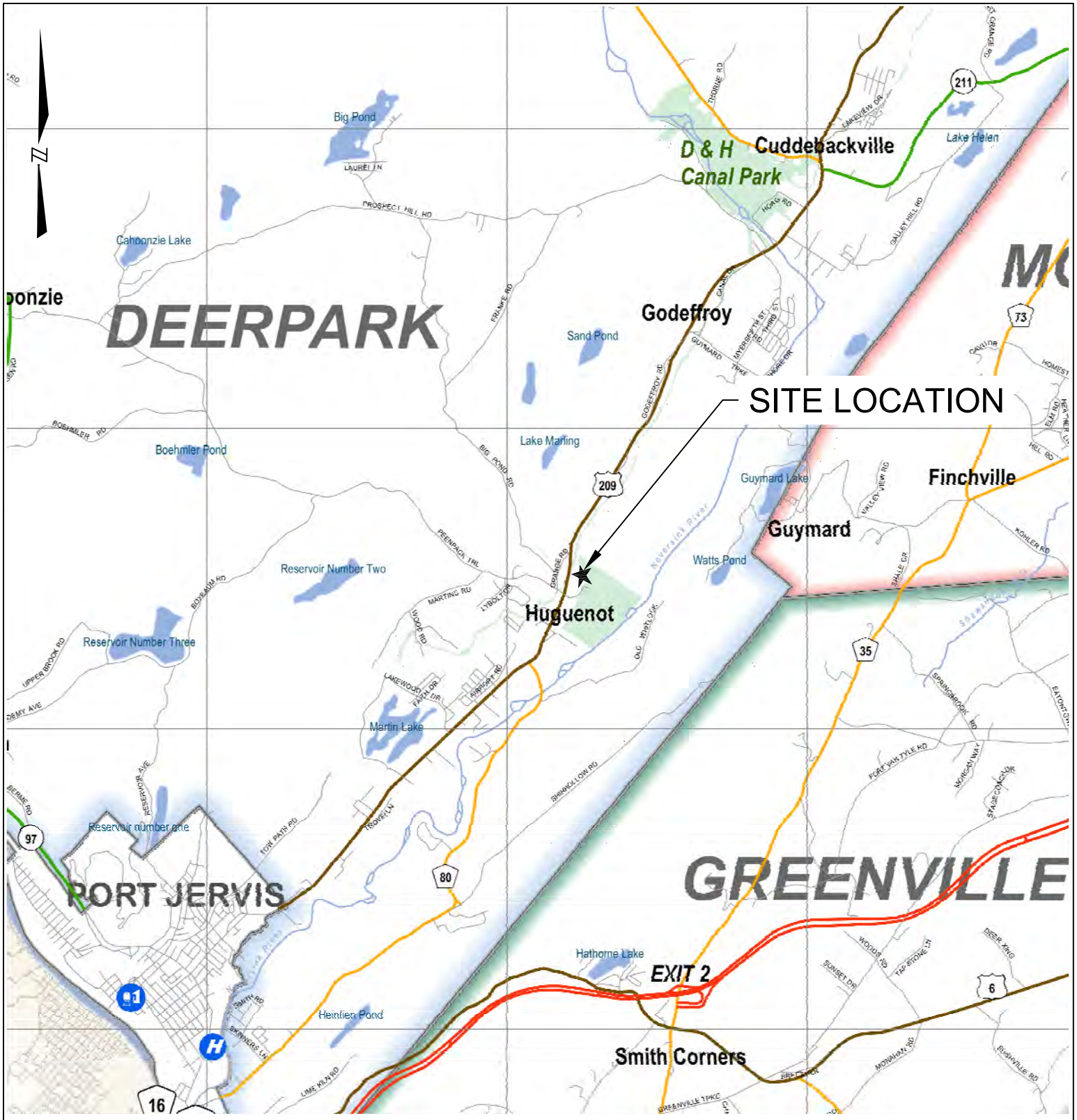
Delaware Engineering, P.C. Feasibility Study Report Operable Unit-1 and Operable Unit-2, C&D Power Systems (C&D Batteries), Hamlet of Huguenot, New York, Site # 3-36-001. September 2008, revised February 2009, May 2013, June 2014, and August 2014.

NYSDEC Division of Environment Remediation. Record of Decision & Record of Decision Amendment, C&D Power Systems (C&D Batteries), State Superfund Project/RCRA Project, Deer Park, Orange County, Site No. 336001, EPA ID #NYD064337298. May 2015.

Department of State, Division of Administrative Rules. New York Codes, Rules and Regulations, Title 6 Department of Environmental Conservation. May 2020.

United States Environmental Protection Agency. Guidance on Environmental Data Verification and Data Validation. November 2002.

Figures



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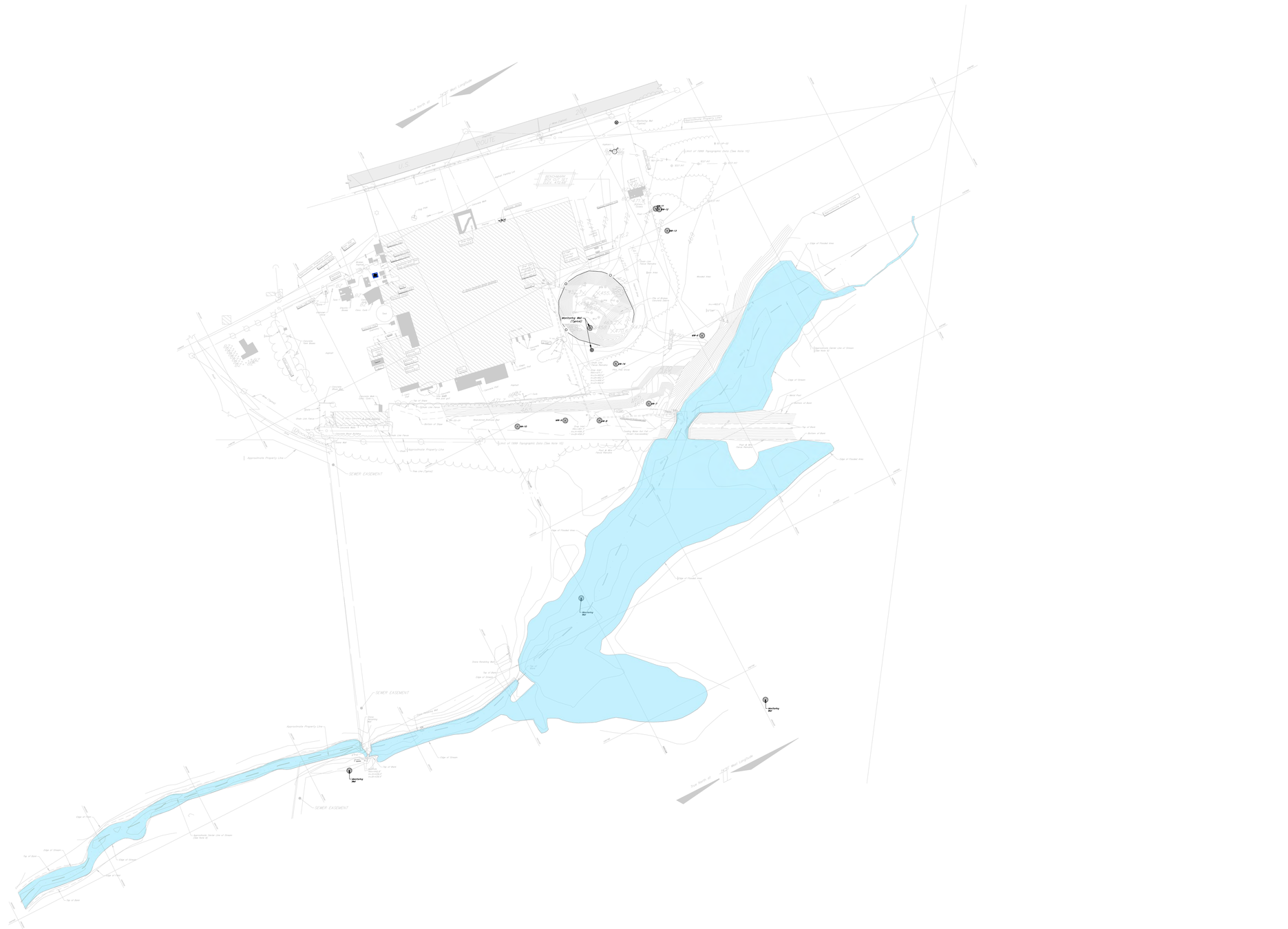
FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PRE-DESIGN INVESTIGATION

FIGURE 1

SITE LOCATION MAP

DATE 2020.07.31	PROJECT NUMBER 60612108



AECOM

PROJECT

PRE-DESIGN
INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE
2020.07.31

PROJECT NUMBER
60612108

FIGURE TITLE
SITE PLAN

FIGURE 2

Project Management Initials: Designer:EM/RKH Checked:KF/RKH Approved:

Last saved by: THIBODM(2021-01-13) Last Plotted: 2021-02-02
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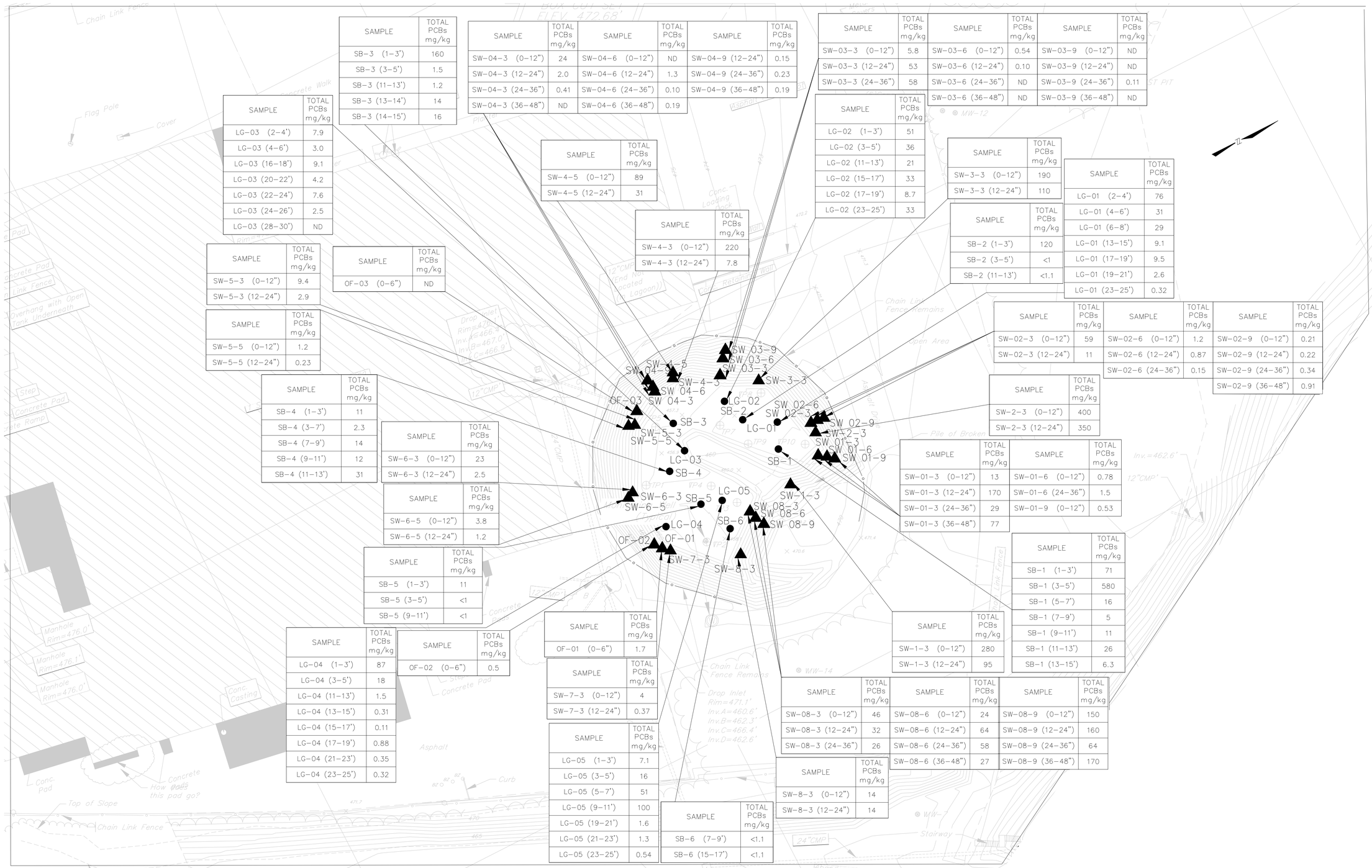

SAMPLE	TOTAL PCBs mg/kg
SB-3 (1-3')	160
SB-3 (3-5')	1.5
SB-3 (11-13')	1.2
SB-3 (13-14')	14
SB-3 (14-15')	16

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-04-3 (0-12")	24	SW-04-6 (0-12")	ND	SW-04-9 (12-24")	0.15
SW-04-3 (12-24")	2.0	SW-04-6 (12-24")	1.3	SW-04-9 (24-36")	0.23
SW-04-3 (24-36")	0.41	SW-04-6 (24-36")	0.10	SW-04-9 (36-48")	0.19
SW-04-3 (36-48")	ND	SW-04-6 (36-48")	0.19		

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-03-3 (0-12")	5.8	SW-03-6 (0-12")	0.54	SW-03-9 (0-12")	ND
SW-03-3 (12-24")	53	SW-03-6 (12-24")	0.10	SW-03-9 (12-24")	ND
SW-03-3 (24-36")	58	SW-03-6 (24-36")	ND	SW-03-9 (24-36")	0.11
		SW-03-6 (36-48")	ND	SW-03-9 (36-48")	ND

SAMPLE	TOTAL PCBs mg/kg
LG-03 (2-4')	7.9
LG-03 (4-6')	3.0
LG-03 (16-18')	9.1
LG-03 (20-22')	4.2
LG-03 (22-24')	7.6
LG-03 (24-26')	2.5
LG-03 (28-30')	ND

SAMPLE	TOTAL PCBs mg/kg
SW-4-5 (0-12")	89
SW-4-5 (12-24")	31

SAMPLE	TOTAL PCBs mg/kg
LG-02 (1-3')	51
LG-02 (3-5')	36
LG-02 (11-13')	21
LG-02 (15-17')	33
LG-02 (17-19')	8.7
LG-02 (23-25')	33

SAMPLE	TOTAL PCBs mg/kg
SW-3-3 (0-12")	190
SW-3-3 (12-24")	110

SAMPLE	TOTAL PCBs mg/kg
LG-01 (2-4')	76
LG-01 (4-6')	31
LG-01 (6-8')	29
LG-01 (13-15')	9.1
LG-01 (17-19')	9.5
LG-01 (19-21')	2.6
LG-01 (23-25')	0.32

SAMPLE	TOTAL PCBs mg/kg
SW-4-3 (0-12")	220
SW-4-3 (12-24")	7.8

SAMPLE	TOTAL PCBs mg/kg
SB-2 (1-3')	120
SB-2 (3-5')	<1
SB-2 (11-13')	<1.1

SAMPLE	TOTAL PCBs mg/kg
SW-5-3 (0-12")	9.4
SW-5-3 (12-24")	2.9

SAMPLE	TOTAL PCBs mg/kg
OF-03 (0-6")	ND

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-02-3 (0-12")	59	SW-02-6 (0-12")	1.2	SW-02-9 (0-12")	0.21
SW-02-3 (12-24")	11	SW-02-6 (12-24")	0.87	SW-02-9 (12-24")	0.22
		SW-02-6 (24-36")	0.15	SW-02-9 (24-36")	0.34
				SW-02-9 (36-48")	0.91

SAMPLE	TOTAL PCBs mg/kg
SW-5-5 (0-12")	1.2
SW-5-5 (12-24")	0.23

SAMPLE	TOTAL PCBs mg/kg
SW-2-3 (0-12")	400
SW-2-3 (12-24")	350

SAMPLE	TOTAL PCBs mg/kg
SB-4 (1-3')	11
SB-4 (3-7')	2.3
SB-4 (7-9')	14
SB-4 (9-11')	12
SB-4 (11-13')	31

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-01-3 (0-12")	13	SW-01-6 (0-12")	0.78
SW-01-3 (12-24")	170	SW-01-6 (24-36")	1.5
SW-01-3 (24-36")	29	SW-01-9 (0-12")	0.53
SW-01-3 (36-48")	77		

SAMPLE	TOTAL PCBs mg/kg
SW-6-3 (0-12")	23
SW-6-3 (12-24")	2.5

SAMPLE	TOTAL PCBs mg/kg
SW-6-5 (0-12")	3.8
SW-6-5 (12-24")	1.2

SAMPLE	TOTAL PCBs mg/kg
SB-1 (1-3')	71
SB-1 (3-5')	580
SB-1 (5-7')	16
SB-1 (7-9')	5
SB-1 (9-11')	11
SB-1 (11-13')	26
SB-1 (13-15')	6.3

SAMPLE	TOTAL PCBs mg/kg
SB-5 (1-3')	11
SB-5 (3-5')	<1
SB-5 (9-11')	<1

SAMPLE	TOTAL PCBs mg/kg
SW-1-3 (0-12")	280
SW-1-3 (12-24")	95

SAMPLE	TOTAL PCBs mg/kg
OF-01 (0-6")	1.7

SAMPLE	TOTAL PCBs mg/kg
LG-04 (1-3')	87
LG-04 (3-5')	18
LG-04 (11-13')	1.5
LG-04 (13-15')	0.31
LG-04 (15-17')	0.11
LG-04 (17-19')	0.88
LG-04 (21-23')	0.35
LG-04 (23-25')	0.32

SAMPLE	TOTAL PCBs mg/kg
OF-02 (0-6")	0.5

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-08-3 (0-12")	46	SW-08-6 (0-12")	24	SW-08-9 (0-12")	150
SW-08-3 (12-24")	32	SW-08-6 (12-24")	64	SW-08-9 (12-24")	160
SW-08-3 (24-36")	26	SW-08-6 (24-36")	58	SW-08-9 (24-36")	64
		SW-08-6 (36-48")	27	SW-08-9 (36-48")	170

SAMPLE	TOTAL PCBs mg/kg
SW-7-3 (0-12")	4
SW-7-3 (12-24")	0.37

SAMPLE	TOTAL PCBs mg/kg
SW-8-3 (0-12")	14
SW-8-3 (12-24")	14

SAMPLE	TOTAL PCBs mg/kg
LG-05 (1-3')	7.1
LG-05 (3-5')	16
LG-05 (5-7')	51
LG-05 (9-11')	100
LG-05 (19-21')	1.6
LG-05 (21-23')	1.3
LG-05 (23-25')	0.54

SAMPLE	TOTAL PCBs mg/kg
SB-6 (7-9')	<1.1
SB-6 (15-17')	<1.1

LEGEND

▲ SIDEWALL SAMPLING LOCATION

● BOTTOM SAMPLING LOCATION

30 0 30 60
GRAPHIC SCALE 1" = 30'

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PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.12.22

PROJECT NUMBER

60612108

FIGURE TITLE

LAGOON SOILS PCB ANALYTICAL DATA

FIGURE 3

Project Management Initials: Designer:EMR/KH Checked:KF/RKH Approved:

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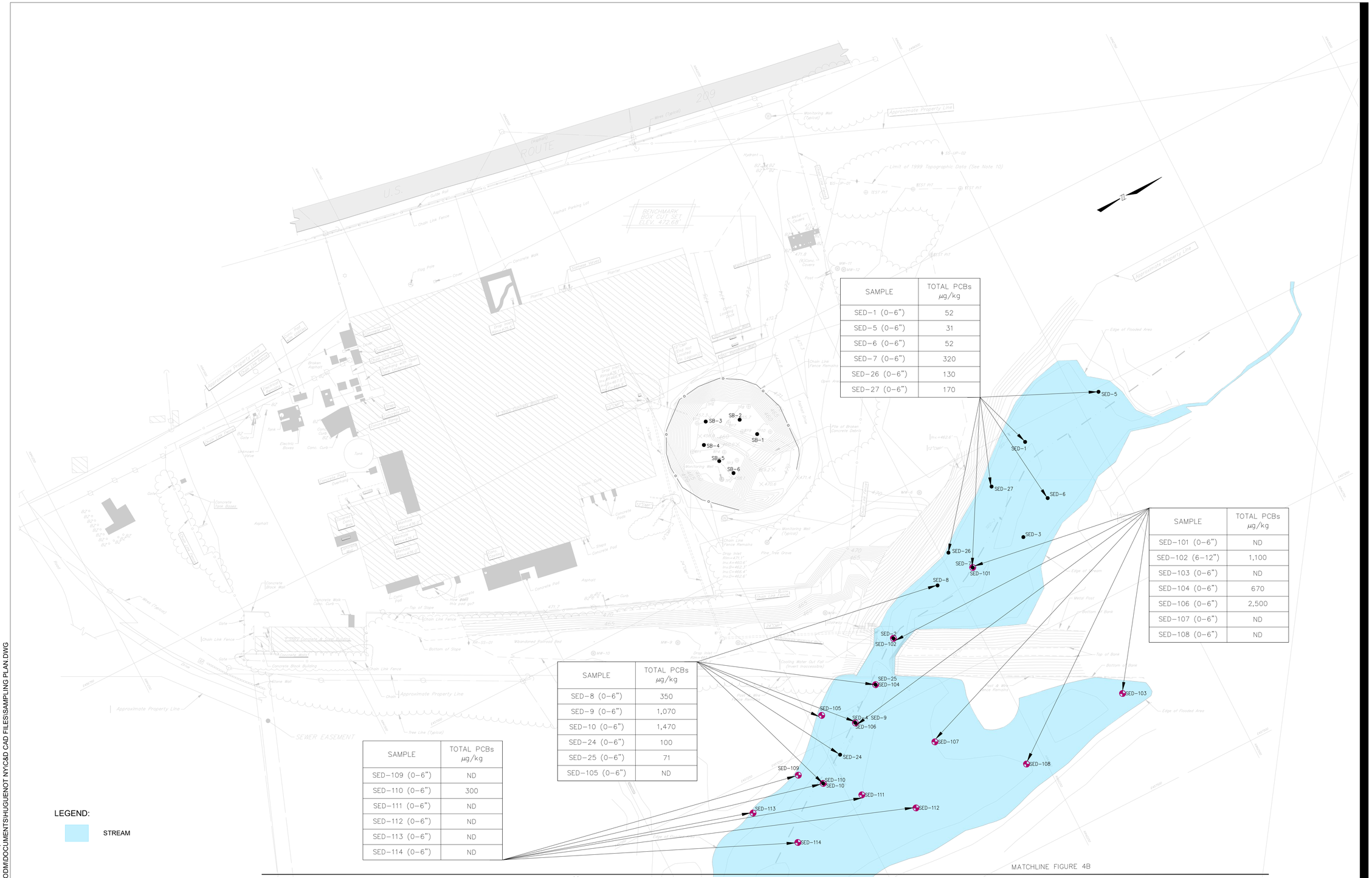

SAMPLE	TOTAL PCBs µg/kg
SED-1 (0-6")	52
SED-5 (0-6")	31
SED-6 (0-6")	52
SED-7 (0-6")	320
SED-26 (0-6")	130
SED-27 (0-6")	170

SAMPLE	TOTAL PCBs µg/kg
SED-101 (0-6")	ND
SED-102 (6-12")	1,100
SED-103 (0-6")	ND
SED-104 (0-6")	670
SED-106 (0-6")	2,500
SED-107 (0-6")	ND
SED-108 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-8 (0-6")	350
SED-9 (0-6")	1,070
SED-10 (0-6")	1,470
SED-24 (0-6")	100
SED-25 (0-6")	71
SED-105 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-109 (0-6")	ND
SED-110 (0-6")	300
SED-111 (0-6")	ND
SED-112 (0-6")	ND
SED-113 (0-6")	ND
SED-114 (0-6")	ND

LEGEND:

STREAM

NOTE:

FOR EACH SAMPLE LOCATION, THE HIGHEST PCB CONCENTRATIONS ARE PRESENTED. THE DEPTH INTERVAL WHERE THE HIGHEST CONCENTRATIONS WERE OBSERVED ARE INDICATED.

60 0 60 120
GRAPHIC SCALE 1" = 60'

AECOM

PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.07.31

PROJECT NUMBER

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FIGURE TITLE

SEDIMENT PCB ANALYTICAL DATA (UPPER TRIBUTARY)

FIGURE 4A

Project Management Initials: Designer: EMR/KH Checked: KF/RKH Approved:

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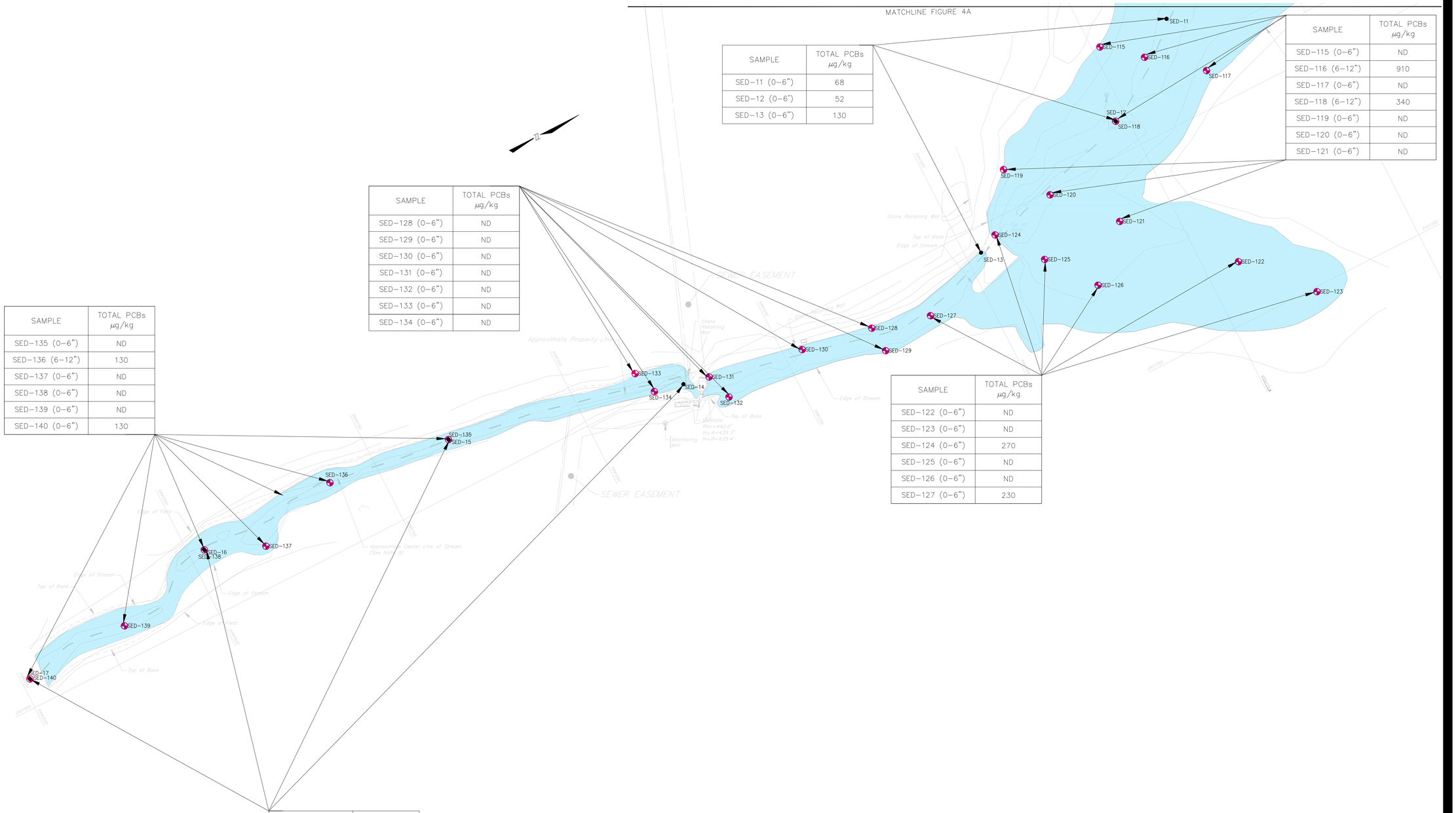


SAMPLE	TOTAL PCBs µg/kg
SED-11 (0-6")	68
SED-12 (0-6')	52
SED-13 (0-6")	130

SAMPLE	TOTAL PCBs µg/kg
SED-115 (0-6")	ND
SED-116 (6-12")	910
SED-117 (0-6")	ND
SED-118 (6-12")	340
SED-119 (0-6")	ND
SED-120 (0-6")	ND
SED-121 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-128 (0-6")	ND
SED-129 (0-6")	ND
SED-130 (0-6")	ND
SED-131 (0-6")	ND
SED-132 (0-6")	ND
SED-133 (0-6")	ND
SED-134 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-135 (0-6")	ND
SED-136 (6-12")	130
SED-137 (0-6")	ND
SED-138 (0-6")	ND
SED-139 (0-6")	ND
SED-140 (0-6")	130

SAMPLE	TOTAL PCBs µg/kg
SED-122 (0-6")	ND
SED-123 (0-6")	ND
SED-124 (0-6")	270
SED-125 (0-6")	ND
SED-126 (0-6")	ND
SED-127 (0-6")	230

SAMPLE	TOTAL PCBs µg/kg
SED-14 (6-12")	170
SED-15 (0-6')	60
SB-16 (0-6")	ND
SB-17 (0-6")	100

LEGEND:

STREAM

NOTE:

FOR EACH SAMPLE LOCATION, THE HIGHEST PCB CONCENTRATIONS ARE PRESENTED. THE DEPTH INTERVAL WHERE THE HIGHEST CONCENTRATIONS WERE OBSERVED ARE INDICATED.

60 0 60 120
GRAPHIC SCALE 1" = 60'

AECOM

PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.07.31

PROJECT NUMBER

60612108

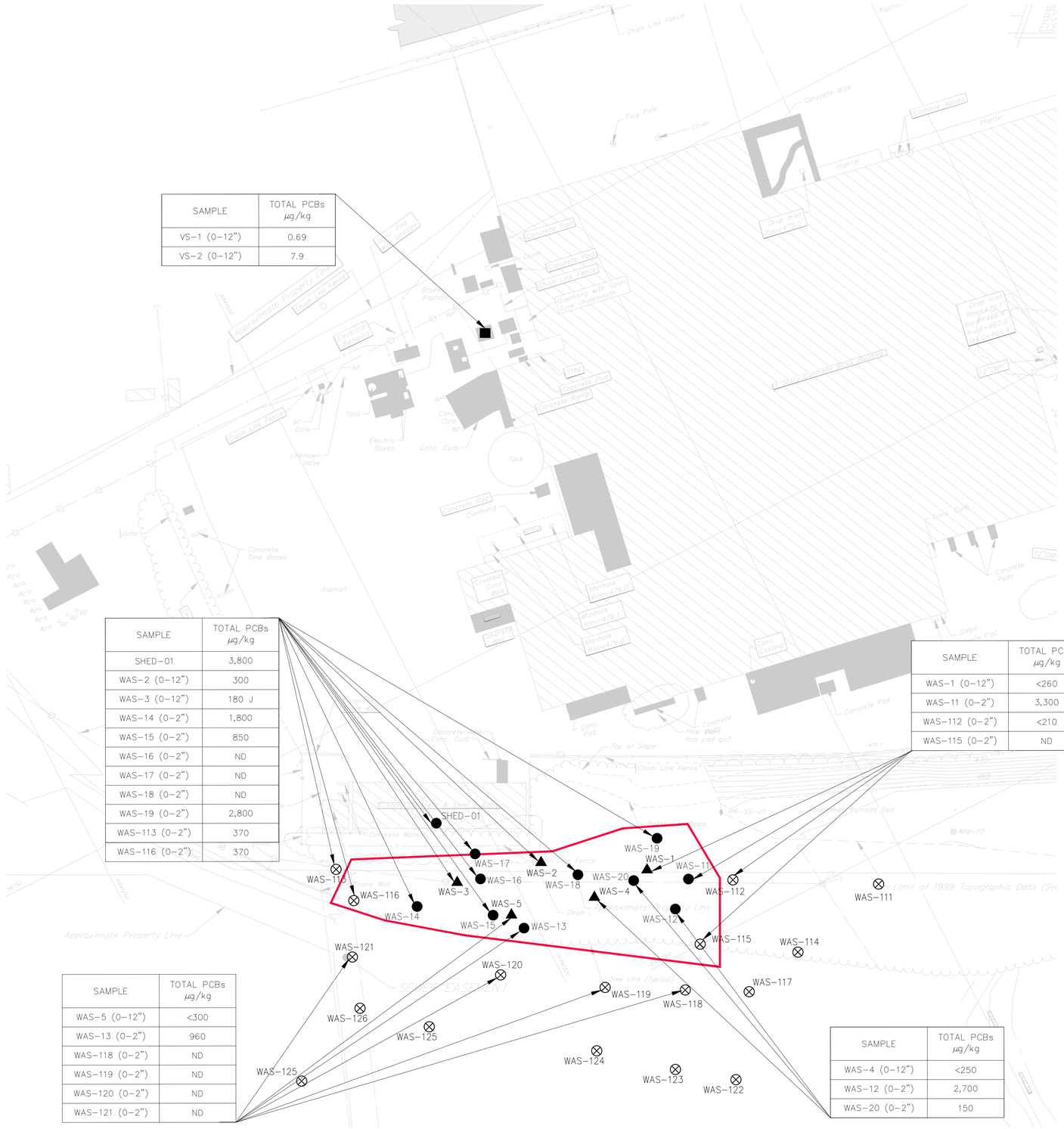
FIGURE TITLE

SEDIMENT PCB ANALYTICAL DATA (LOWER TRIBUTARY)

FIGURE 4B

Project Management Initials: Designer:EMR/KH Checked:KF/RKH Approved:

Last saved by: THIBODM(2020-07-31) Last Plotted: 2020-07-31
Filename: C:\USERS\THIBODM\DOCUMENTS\HUGUENOT NY\C&D CAD FILES\SAMPLING PLAN.DWG



SAMPLE	TOTAL PCBs µg/kg
VS-1 (0-12")	0.69
VS-2 (0-12")	7.9

SAMPLE	TOTAL PCBs µg/kg
SHED-01	3,800
WAS-2 (0-12")	300
WAS-3 (0-12")	180 J
WAS-14 (0-2")	1,800
WAS-15 (0-2")	850
WAS-16 (0-2")	ND
WAS-17 (0-2")	ND
WAS-18 (0-2")	ND
WAS-19 (0-2")	2,800
WAS-113 (0-2")	370
WAS-116 (0-2")	370

SAMPLE	TOTAL PCBs µg/kg
WAS-1 (0-12")	<260
WAS-11 (0-2")	3,300
WAS-112 (0-2")	<210
WAS-115 (0-2")	ND

SAMPLE	TOTAL PCBs µg/kg
WAS-5 (0-12")	<300
WAS-13 (0-2")	960
WAS-118 (0-2")	ND
WAS-119 (0-2")	ND
WAS-120 (0-2")	ND
WAS-121 (0-2")	ND

SAMPLE	TOTAL PCBs µg/kg
WAS-4 (0-12")	<250
WAS-12 (0-2")	2,700
WAS-20 (0-2")	150

LEGEND:

- WOODLAND AREA EXCAVATION
- WOODLAND AREA DELINEATION SAMPLING LOCATION
- VAULT SAMPLING LOCATION
- SURFICIAL SOIL SAMPLING LOCATION 2019
- SURFICIAL SOIL (0-2") SAMPLING LOCATION SEPTEMBER 2020

NOTE: FOR WAS-1 THROUGH WAS-5 SAMPLE LOCATIONS, THE HIGHEST PCB CONCENTRATIONS ARE PRESENTED. THE DEPTH INTERVAL WHERE THE HIGHEST CONCENTRATIONS WERE OBSERVED ARE INDICATED.

40 0 40 80
GRAPHIC SCALE 1" = 40'

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PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.12.18

PROJECT NUMBER

60612108

FIGURE TITLE

WOODED AREA PCB ANALYTICAL DATA

FIGURE 5

Project Management Initials: Designer: EMR/KH Checked: KF/RKH Approved:

Last saved by: THIBODM(2021-02-02) Last Plotted: 2021-02-02
Filename: C:\USERS\THIBODM\DOCUMENTS\HUGUENOT NY\C&D CAD FILES\SAMPLING PLAN.DWG

LEGEND

- LAGOON SOIL-3 (PCBs, LEAD, AND CADMIUM)
- COMMERCIAL SCO CLEANUP AREA (LEAD)
- RESIDENTIAL SCO CLEANUP AREA (PCBs, LEAD)
- SED-3 ALTERNATIVE (LEAD, CADMIUM, AND/OR PCBs)
- VAULT SEDIMENT CLEANUP AREA (PCBs)

120 0 120 240
GRAPHIC SCALE 1" = 120'

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PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.12.18

PROJECT NUMBER

60612108

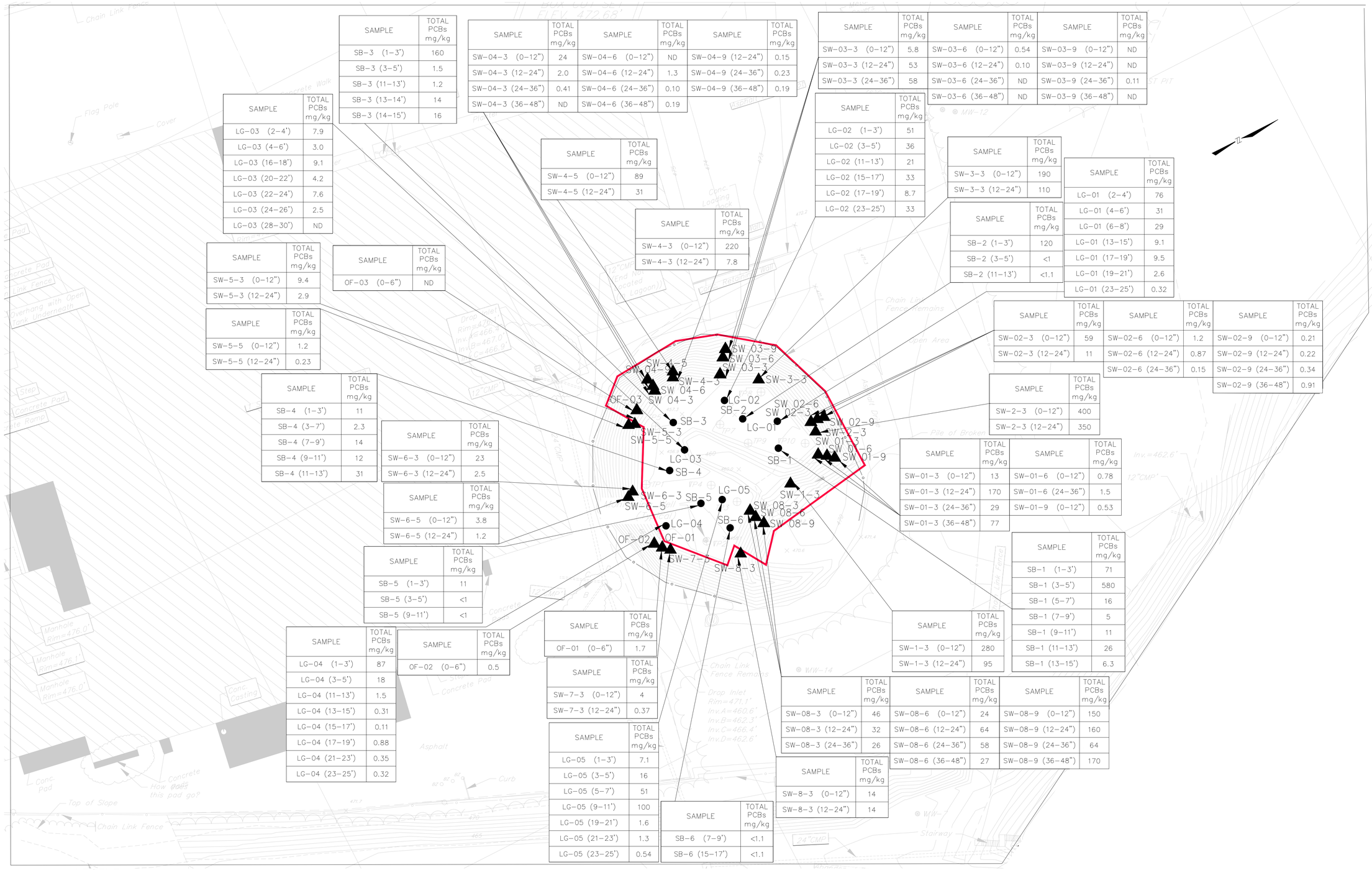
FIGURE TITLE

REMEDIATION TARGET AREAS

FIGURE 6

Project Management Initials: Designer: EM/RKH Checked: KF/RKH Approved: ____

Last Plotted: 2020-12-28
Last saved by: THIBODM(2020-12-28)
Filename: C:\USERS\THIBODM\DOCUMENTS\HUGUENOT NY\C&D CAD FILES\SAMPLING PLAN.DWG



SAMPLE	TOTAL PCBs mg/kg
SB-3 (1-3')	160
SB-3 (3-5')	1.5
SB-3 (11-13')	1.2
SB-3 (13-14')	14
SB-3 (14-15')	16

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-04-3 (0-12")	24	SW-04-6 (0-12")	ND	SW-04-9 (12-24")	0.15
SW-04-3 (12-24")	2.0	SW-04-6 (12-24")	1.3	SW-04-9 (24-36")	0.23
SW-04-3 (24-36")	0.41	SW-04-6 (24-36")	0.10	SW-04-9 (36-48")	0.19
SW-04-3 (36-48")	ND	SW-04-6 (36-48")	0.19		

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-03-3 (0-12")	5.8	SW-03-6 (0-12")	0.54	SW-03-9 (0-12")	ND
SW-03-3 (12-24")	53	SW-03-6 (12-24")	0.10	SW-03-9 (12-24")	ND
SW-03-3 (24-36")	58	SW-03-6 (24-36")	ND	SW-03-9 (24-36")	0.11
		SW-03-6 (36-48")	ND	SW-03-9 (36-48")	ND

SAMPLE	TOTAL PCBs mg/kg
LG-03 (2-4')	7.9
LG-03 (4-6')	3.0
LG-03 (16-18')	9.1
LG-03 (20-22')	4.2
LG-03 (22-24')	7.6
LG-03 (24-26')	2.5
LG-03 (28-30')	ND

SAMPLE	TOTAL PCBs mg/kg
SW-4-5 (0-12")	89
SW-4-5 (12-24")	31

SAMPLE	TOTAL PCBs mg/kg
LG-02 (1-3')	51
LG-02 (3-5')	36
LG-02 (11-13')	21
LG-02 (15-17')	33
LG-02 (17-19')	8.7
LG-02 (23-25')	33

SAMPLE	TOTAL PCBs mg/kg
SW-3-3 (0-12")	190
SW-3-3 (12-24")	110

SAMPLE	TOTAL PCBs mg/kg
LG-01 (2-4')	76
LG-01 (4-6')	31
LG-01 (6-8')	29
LG-01 (13-15')	9.1
LG-01 (17-19')	9.5
LG-01 (19-21')	2.6
LG-01 (23-25')	0.32

SAMPLE	TOTAL PCBs mg/kg
SW-4-3 (0-12")	220
SW-4-3 (12-24")	7.8

SAMPLE	TOTAL PCBs mg/kg
SB-2 (1-3')	120
SB-2 (3-5')	<1
SB-2 (11-13')	<1.1

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-02-3 (0-12")	59	SW-02-6 (0-12")	1.2	SW-02-9 (0-12")	0.21
SW-02-3 (12-24")	11	SW-02-6 (12-24")	0.87	SW-02-9 (12-24")	0.22
		SW-02-6 (24-36")	0.15	SW-02-9 (24-36")	0.34
				SW-02-9 (36-48")	0.91

SAMPLE	TOTAL PCBs mg/kg
SW-5-3 (0-12")	9.4
SW-5-3 (12-24")	2.9

SAMPLE	TOTAL PCBs mg/kg
OF-03 (0-6")	ND

SAMPLE	TOTAL PCBs mg/kg
SW-2-3 (0-12")	400
SW-2-3 (12-24")	350

SAMPLE	TOTAL PCBs mg/kg
SW-5-5 (0-12")	1.2
SW-5-5 (12-24")	0.23

SAMPLE	TOTAL PCBs mg/kg
SB-4 (1-3')	11
SB-4 (3-7')	2.3
SB-4 (7-9')	14
SB-4 (9-11')	12
SB-4 (11-13')	31

SAMPLE	TOTAL PCBs mg/kg
SW-6-3 (0-12")	23
SW-6-3 (12-24")	2.5

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-01-3 (0-12")	13	SW-01-6 (0-12")	0.78
SW-01-3 (12-24")	170	SW-01-6 (24-36")	1.5
SW-01-3 (24-36")	29	SW-01-9 (0-12")	0.53
SW-01-3 (36-48")	77		

SAMPLE	TOTAL PCBs mg/kg
SW-6-5 (0-12")	3.8
SW-6-5 (12-24")	1.2

SAMPLE	TOTAL PCBs mg/kg
SB-1 (1-3')	71
SB-1 (3-5')	580
SB-1 (5-7')	16
SB-1 (7-9')	5
SB-1 (9-11')	11
SB-1 (11-13')	26
SB-1 (13-15')	6.3

SAMPLE	TOTAL PCBs mg/kg
SB-5 (1-3')	11
SB-5 (3-5')	<1
SB-5 (9-11')	<1

SAMPLE	TOTAL PCBs mg/kg
SW-1-3 (0-12")	280
SW-1-3 (12-24")	95

SAMPLE	TOTAL PCBs mg/kg
LG-04 (1-3')	87
LG-04 (3-5')	18
LG-04 (11-13')	1.5
LG-04 (13-15')	0.31
LG-04 (15-17')	0.11
LG-04 (17-19')	0.88
LG-04 (21-23')	0.35
LG-04 (23-25')	0.32

SAMPLE	TOTAL PCBs mg/kg
OF-02 (0-6")	0.5

SAMPLE	TOTAL PCBs mg/kg
OF-01 (0-6")	1.7

SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg	SAMPLE	TOTAL PCBs mg/kg
SW-08-3 (0-12")	46	SW-08-6 (0-12")	24	SW-08-9 (0-12")	150
SW-08-3 (12-24")	32	SW-08-6 (12-24")	64	SW-08-9 (12-24")	160
SW-08-3 (24-36")	26	SW-08-6 (24-36")	58	SW-08-9 (24-36")	64
		SW-08-6 (36-48")	27	SW-08-9 (36-48")	170

SAMPLE	TOTAL PCBs mg/kg
SW-7-3 (0-12")	4
SW-7-3 (12-24")	0.37

SAMPLE	TOTAL PCBs mg/kg
SW-8-3 (0-12")	14
SW-8-3 (12-24")	14

SAMPLE	TOTAL PCBs mg/kg
LG-05 (1-3')	7.1
LG-05 (3-5')	16
LG-05 (5-7')	51
LG-05 (9-11')	100
LG-05 (19-21')	1.6
LG-05 (21-23')	1.3
LG-05 (23-25')	0.54

SAMPLE	TOTAL PCBs mg/kg
SB-6 (7-9')	<1.1
SB-6 (15-17')	<1.1

LEGEND

- TSCA PCBs REMEDIATION AREA
- ▲ SIDEWALL SAMPLING LOCATION
- ● BOTTOM SAMPLING LOCATION

30 0 30 60
GRAPHIC SCALE 1" = 30'

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PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.12.18

PROJECT NUMBER

60612108

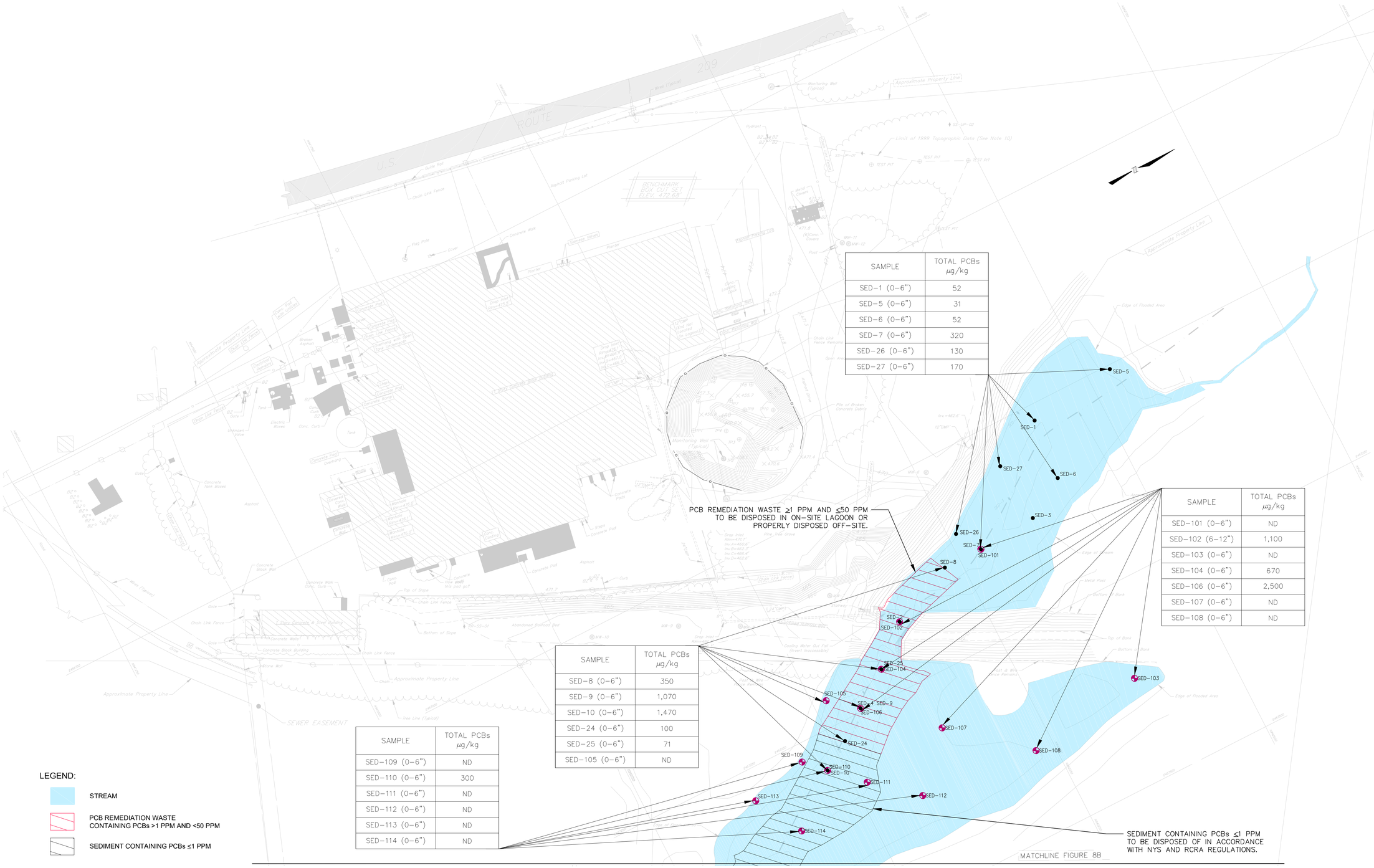
FIGURE TITLE

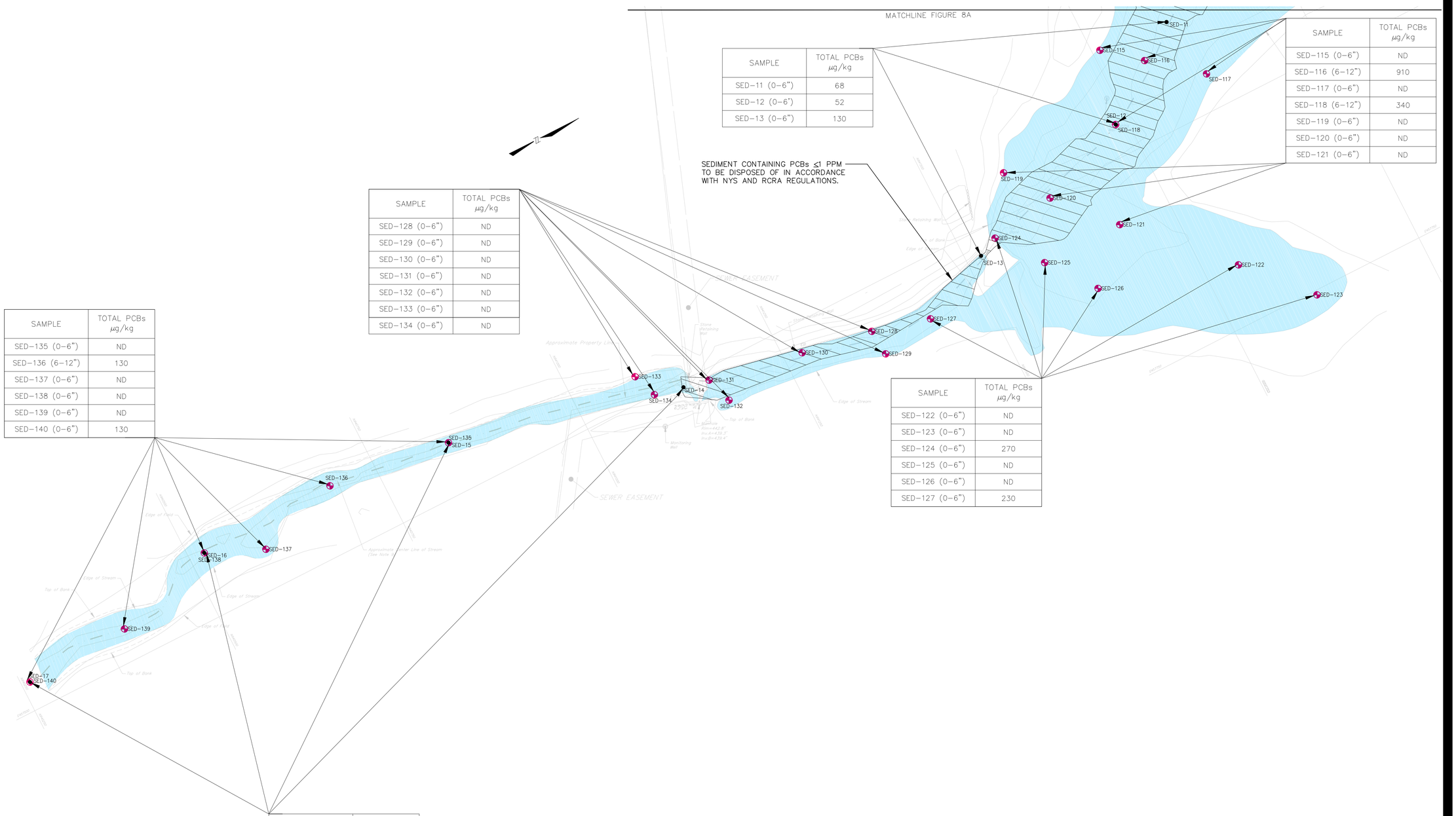
LAGOON SOILS TSCA REMEDIATION AREA

FIGURE 7

Project Management Initials: Designer:EMR/KH Checked:KE/RKH Approved:

Last saved by: THIBODM(2021-02-02) Last Plotted: 2021-02-10
Filename: C:\USERS\THIBODM\DOCUMENTS\HUGUENOT NYYC&D CAD FILES\SAMPLING PLAN.DWG


SED-5
SED-1
SED-27
SED-6
SED-3
SED-26
SED-7
SED-101
SED-8
SED-2
SED-102
SED-25
SED-104
SED-105
SED-4
SED-9
SED-106
SED-107
SED-24
SED-108
SED-103
SED-109
SED-110
SED-10
SED-111
SED-112
SED-113
SED-114
PCB REMEDIATION WASTE ≥1 PPM AND ≤50 PPM TO BE DISPOSED IN ON-SITE LAGOON OR PROPERLY DISPOSED OFF-SITE.
SEDIMENT CONTAINING PCBs ≤1 PPM TO BE DISPOSED OF IN ACCORDANCE WITH NYS AND RCRA REGULATIONS.
MATCHLINE FIGURE 8B
SEWER EASEMENT
Approximate Property Line
Edge of Flooded Area
Limit of 1999 Topographic Data (See Note 10)
BENCHMARK BOX CUT SET ELEV. 472.68'
U.S. ROUTE 209
Monitoring Well (Typical)
Tree Line (Typical)
Chain Link Fence
Asphalt Parking Lot
Abandoned Railroad Bed
Cooling Water Out Fall (Invert Inaccessible)
Pile of Broken Concrete Debris
Pine Tree Grove
Bottom of Slope
Top of Bank
Bottom of Bank
Edge of Water
Wood Post
Steel Concrete Pad
Concrete Block Wall
Concrete Block Building
Concrete Tank Bases
Electric Boxes
Tank
Gate
Fence
Guide Rail
Flag Pole
Concrete Walk
Concrete Pad
Overhang
Asphalt
Concrete Curb
Drop Inlet
Manhole
Hydrant
Metal Covers
Post
Cover
Tree (Typical)
Wire (Typical)
Pavement Remains
Broken Asphalt
Chainlink Fence
Concrete Block Building
Stone Wall
Top of Slope
Concrete Walk
Concrete Curb
Concrete Pad
Concrete Pad Overhang
Concrete Pad Over Tank
Concrete Pad Over Manhole
Concrete Pad Over Electric Meter
Concrete Pad Over Electric Boxes
Concrete Pad Over Manhole
Concrete Pad Over Tank
Concrete Pad Over Manhole
Concrete Pad Over Tank
Concrete Pad Over Tank
Concrete Pad Over Tank



SAMPLE	TOTAL PCBs µg/kg
SED-11 (0-6")	68
SED-12 (0-6')	52
SED-13 (0-6")	130

SAMPLE	TOTAL PCBs µg/kg
SED-115 (0-6")	ND
SED-116 (6-12")	910
SED-117 (0-6")	ND
SED-118 (6-12")	340
SED-119 (0-6")	ND
SED-120 (0-6")	ND
SED-121 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-128 (0-6")	ND
SED-129 (0-6")	ND
SED-130 (0-6")	ND
SED-131 (0-6")	ND
SED-132 (0-6")	ND
SED-133 (0-6")	ND
SED-134 (0-6")	ND

SAMPLE	TOTAL PCBs µg/kg
SED-135 (0-6")	ND
SED-136 (6-12")	130
SED-137 (0-6")	ND
SED-138 (0-6")	ND
SED-139 (0-6")	ND
SED-140 (0-6")	130

SAMPLE	TOTAL PCBs µg/kg
SED-122 (0-6")	ND
SED-123 (0-6")	ND
SED-124 (0-6")	270
SED-125 (0-6")	ND
SED-126 (0-6")	ND
SED-127 (0-6")	230

SAMPLE	TOTAL PCBs µg/kg
SED-14 (6-12")	170
SED-15 (0-6')	60
SB-16 (0-6")	ND
SB-17 (0-6")	100

LEGEND:

STREAM

SEDIMENT CONTAINING PCBs ≤1PPM

NOTE:

FOR EACH SAMPLE LOCATION, THE HIGHEST PCB CONCENTRATIONS ARE PRESENTED. THE DEPTH INTERVAL WHERE THE HIGHEST CONCENTRATIONS WERE OBSERVED ARE INDICATED.

60 0 60 120
GRAPHIC SCALE 1" = 60'

AECOM

PROJECT

PRE-DESIGN INVESTIGATION

FORMER C&D POWER SYSTEMS
SITE #336001
HUGUENOT, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

PREPARED BY

AECOM
125 BROAD STREET
NEW YORK, NEW YORK 10004
WWW.AECOM.COM

DATE

2020.07.31

PROJECT NUMBER

60612108

FIGURE TITLE

TRIBUTARY SEDIMENT SEGREGATION PLAN (LOWER TRIBUTARY)

FIGURE 8B

Project Management Initials: Designer:EMR/KH Checked:KF/RKH Approved:

Last saved by: THIBODM(2021-07-09) Last Plotted: 2021-07-12
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Tables

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	OF-01-20200921	OF-02-20200921	OF-03-20200921	SW1-3 0-12-20200921	SW1-3 12-24-20200921	SW1-3 24-36-20200921	SW1-3 36-38-20200921	SW1-6 0-12-20200922	SW1-6 24-36-20200922
Sample Date	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/22/2020**	**9/22/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**1.7**	**0.5**	ND	**13**	**170**	**29**	**77**	**0.78**	**1.5**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**1.7**	**0.5**	ND	**13**	**170**	**29**	**77**	**0.78**	**1.5**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW1-9 0-12-20200922	SW2-3 0-12-20200922	SW2-3 12-24-20200922	SW2-6 0-12-20200923	SW2-6 12-24-20200923	SW2-6 24-36-20200923	SW2-9 0-12-20200923	SW2-9 12-24-20200923	SW2-9 24-36-20200923
Sample Date	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**0.53**	**59**	**11**	**1.2**	**0.87**	**0.15**	**0.21**	**0.22**	**0.34**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**0.53**	**59**	**11**	**1.2**	**0.87**	**0.15**	**0.21**	**0.22**	**0.34**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW2-9 36-48-20200923	SW3-3 0-12-20200923	SW3-3 12-24-20200923	SW3-3 24-36-20200923	SW3-6 0-12-20200923	SW3-6 12-24-20200923	SW3-6 24-36-20200923	SW3-6 36-48-20200923	SW3-9 0-12-20200923
Sample Date	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**0.91**	**5.8**	**53**	**58**	ND	**0.10**	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	**0.54**	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**0.91**	**5.8**	**53**	**58**	**0.54**	**0.10**	ND	ND	ND

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW3-9 12-24-20200923	SW3-9 24-36-20200923	SW3-9 36-48-20200923	SW4-3 0-12-20200921	SW4-3 12-24-20200921	SW4-3 24-36-20200921	SW4-3 36-48-20200921	SW4-6 0-12-20200921	SW4-6 12-24-20200921
Sample Date	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	**24**	**2.0**	**0.41**	ND	ND	**1.3**
Aroclor-1260	ND	**0.11**	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ND	**0.11**	ND	**24**	**2.0**	**0.41**	ND	ND	**1.3**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW4-6 24-36-20200921	SW4-6 36-48-20200921	SW4-9 0-12-20200921	SW4-9 12-24-20200921	SW4-9 24-36-20200921	SW4-9 36-48-20200921	SW8-3 0-12-20200923	SW8-3 12-24-20200923	SW8-3 24-36-20200923
Sample Date	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1254	**0.10**	**0.19**	NR	ND	ND	ND	**46**	**32**	**26**
Aroclor-1260	ND	ND	NR	**0.15**	**0.23**	**0.19**	ND	ND	ND
Aroclor-1262	ND	ND	NR	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	NR	ND	ND	ND	ND	ND	ND
Total PCBs	**0.10**	**0.19**	NR	**0.15**	**0.23**	**0.19**	**46**	**32**	**26**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW8-6 0-12-20200923	SW8-6 12-24-20200923	SW8-6 24-36-20200923	SW8-6 36-48-20200923	SW8-9 0-12-20200923	SW8-9 12-24-20200923	SW8-9 24-36-20200923	SW8-9 36-48-20200923	LG-1 2-4-20200921
Sample Date	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/21/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**24**	**64**	**58**	**27**	**150**	**160**	**64**	**170**	**76**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**24**	**64**	**58**	**27**	**150**	**160**	**64**	**170**	**76**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	LG-1 4-6-20200921	LG-1 6-8-20200921	LG-1 13-15-20200921	LG-1 17-19-20200921	LG-1 19-21-20200921	LG-1 23-25-20200921	LG-2 1-3-20200921	LG-2 3-5-20200921	LG-2 11-13-20200922
Sample Date	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/21/2020**	**9/22/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**31**	**29**	**9.1**	**9.5**	**2.6**	**0.32**	**51**	**36**	**21**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**31**	**29**	**9.1**	**9.5**	**2.6**	**0.32**	**51**	**36**	**21**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	LG-2 15-17-20200922	LG-2 17-19-20200922	LG-2 23-25-20200922	LG-3 2-4-20200922	LG-3 4-6-20200922	LG-3 16-18-20200922	LG-3 20-22-20200922	LG-3 22-24-20200922	LG-3 24-26-20200922
Sample Date	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**33**	**8.7**	**33**	**7.9**	**3.0**	**9.1**	**4.2**	**7.6**	**2.5**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**33**	**8.7**	**33**	**7.9**	**3.0**	**9.1**	**4.2**	**7.6**	**2.5**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	LG-3 28-30-20200922	LG-4 1-3-20200922	LG-4 3-5-20200922	LG-4 11-13-20200922	LG-4 13-15-20200922	LG-4 15-17-20200922	LG-4 17-19-20200922	LG-4 21-23-20200922	LG-4 23-25-20200922
Sample Date	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**	**9/22/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	**87**	**18**	**1.5**	**0.31**	**0.11**	**0.88**	**0.35**	**0.32**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	ND	**87**	**18**	**1.5**	**0.31**	**0.11**	**0.88**	**0.35**	**0.32**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	LG-52 11-13-20200922	LG-5 1-3-20200923	LG-5 3-5-20200923	LG-5 5-7-20200923	LG-5 9-11-20200923	LG-5 19-21-20200923	LG-5 21-23-20200923	LG-5 23-25-20200923	SW-1-3-0-12-02172020
Sample Date	**9/22/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**9/23/2020**	**2/17/2020**
PCBs (mg/kg)									
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1254	**16**	**7.1**	**16**	**51**	**100**	**1.6**	**1.3**	**0.54**	**280**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	<29
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	<29
Total PCBs	**16**	**7.1**	**16**	**51**	**100**	**1.6**	**1.3**	**0.54**	**280**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SW-1-3-12-24-02172020	SW-2-3-0-12-02172020	SW-2-3-0-12-02172020	SW-3-3-0-12-02172020	SW-3-3-12-24-02172020	SW-4-3-0-12-02172020	SW-4-3-12-24-02172020	SW-4-5-0-12-02172020	SW-4-5-12-24-02172020
Sample Date	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**
PCBs (mg/kg)									
Aroclor-1016	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1221	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1232	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1242	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1248	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1254	**95**	**400**	**350**	**190**	**110**	**220**	**7.8**	**89**	**31**
Aroclor-1260	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1262	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Aroclor-1268	<6.2	<25	<30	<14	<5.0	<17	<0.20	<6	<2.3
Total PCBs	**95**	**400**	**350**	**190**	**110**	**220**	**7.8**	**89**	**31**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SW-5-3-0-12-02172020**	**SW-5-3-12-24-02172020**	**SW-5-5-0-12-02172020**	**SW-5-5-12-24-02172020**	**SW-6-3-0-12-02172020**	**SW-6-3-12-24-02172020**	**SW-6-5-0-12-02172020**	**SW-6-5-12-24-02172020**	**SW-7-3-0-12-02172020**
Sample Date	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**
PCBs (mg/kg)									
Aroclor-1016	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1221	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1232	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1242	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1248	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1254	**9.4**	**2.9**	**1.2**	**0.23**	**23**	**2.5**	**3.8**	**1.2**	**4.0**
Aroclor-1260	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1262	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Aroclor-1268	<0.26	<0.30	<0.26	<0.20	<1.6	<0.21	<0.28	<0.23	<0.24
Total PCBs	**9.4**	**2.9**	**1.2**	**0.23**	**23**	**2.5**	**3.8**	**1.2**	**4.0**

Notes:
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mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SW-7-3-12-24-02172020**	**SW-8-3-0-12-02172020**	**SW-8-3-12-24-02172020**	**LG-4-1-3-02172020**	**SS-1-0100**	**SS-2-0100**	**SS-3-0100**	**SS-4-0100**	**SS-5-0100**	**SS-6-0100**
Sample Date	**2/17/2020**	**2/17/2020**	**2/17/2020**	**2/17/2020**	**1/13/2000**	**1/13/2000**	**1/13/2000**	**1/13/2000**	**1/13/2000**	**1/13/2000**
PCBs (mg/kg)										
Aroclor-1016	<0.27	<1.3	<2.4	<31	<2.3	<2.2	<2.7	<1.6	<2.3	<2.1
Aroclor-1221	<0.27	<1.3	<2.4	<31	<4.6	<4.4	<5.4	<3.2	<4.6	<4.2
Aroclor-1232	<0.27	<1.3	<2.4	<31	<2.3	<2.2	<2.7	<1.6	<2.3	<2.1
Aroclor-1242	<0.27	<1.3	<2.4	<31	<2.3	<2.2	<2.7	<1.6	<2.3	<2.1
Aroclor-1248	<0.27	<1.3	<2.4	<31	<2.3	<2.2	<2.7	<1.6	<2.3	<2.1
Aroclor-1254	**0.37**	**14**	**14**	**380**	**460**	**460**	**550**	**170**	**470**	**380**
Aroclor-1260	<0.27	<1.3	<2.4	<31	<2.3	<2.2	<2.7	<1.6	<2.3	<2.1
Aroclor-1262	<0.27	<1.3	<2.4	<31	NP	NP	NP	NP	NP	NP
Aroclor-1268	<0.27	<1.3	<2.4	<31	NP	NP	NP	NP	NP	NP
Total PCBs	**0.37**	**14**	**14**	**380**	**460**	**460**	**550**	**170**	**470**	**380**

Notes:
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mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SS-7-0100**	**SS-8-0100**	**SS-9-0100**	**SS-10-0100**	**X-I (Field Dup SS-10-0100)**	**SB-1 (2'-2.5')**	**SB-1 (3.5'-4')**	**SB-1 (5.5'-6')**	**SB-1 (7.5'-8')**	**SB-1 (9.5'-10')**
Sample Date	**1/13/2000**	**1/13/2000**	**1/13/2000**	**1/13/2000**	**1/13/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**
PCBs (mg/kg)										
Aroclor-1016	<1.6	<2.1	<1.9	<1.6	<1.7	NP	NP	NP	NP	NP
Aroclor-1221	<3.2	<4.2	<3.8	<3.2	<3.4	NP	NP	NP	NP	NP
Aroclor-1232	<1.6	<2.1	<1.9	<1.6	<1.7	NP	NP	NP	NP	NP
Aroclor-1242	<1.6	<2.1	<1.9	<1.6	<1.7	NP	NP	NP	NP	NP
Aroclor-1248	<1.6	<2.1	<1.9	<1.6	<1.7	NP	NP	NP	NP	NP
Aroclor-1254	**34**	**1,100**	**470**	**110**	**87**	**71**	**580**	**16**	**5**	**11**
Aroclor-1260	<1.6	<2.1	<1.9	<1.6	<1.7	NP	NP	NP	NP	NP
Aroclor-1262	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1268	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total PCBs	**34**	**1,100**	**470**	**110**	**87**	**71**	**580**	**16**	**5**	**11**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SB-1 (11.5'-12')**	**SB-1 (13.5'-14')**	**SB-2 (2'-2.5')**	**SB-2 (3.5'-4')**	**SB-2 (12'-12.5')**	**SB-3 (2'-2.5')**	**SB-3 (3.5'-4)**	**SB-3 (12'-12.5')**	**SB-3 (13.5'-14')**	**SB-3 (14'-14.5')**
Sample Date	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**
PCBs (mg/kg)										
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	**26**	**6.3**	**120**	<1	<1.1	**160**	**1.5**	**1.2**	**14**	**15**
Aroclor-1260	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1262	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1268	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total PCBs	**26**	**6.3**	**120**	<1	<1.1	**160**	**1.5**	**1.2**	**14**	**15**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SB-4 (2'-2.5')**	**SB-4 (5.5'-6')**	**SB-4 (7.5'-8')**	**SB-4 (9.5'-10')**	**SB-4 (11.5'-12')**	**SB-5 (2'-2.5')**	**SB-5 (3.5'-4')**	**SB-5 (9.5'-10')**	**SB-6 (7.5'-8')**	**SB-6 (15.5'-16')**
Sample Date	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**	**3/27/2000**
PCBs (mg/kg)										
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	**11**	**2.3**	**14**	**12**	**31**	**11**	<1	<1.0	<1.1	<1.1
Aroclor-1260	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1262	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1268	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Total PCBs	**11**	**2.3**	**14**	**12**	**31**	**11**	<1	<1.0	<1.1	<1.1

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 1
Summary of Lagoon PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**TP-4 (10)**	**TP-9 (0)**	**SS-UP-01 (6-12")**	**SS-UP-02 (6-12")**
Sample Date	**8/10/1999**	**8/10/1999**	**8/10/1999**	**8/10/1999**
PCBs (mg/kg)				
Aroclor-1016	<0.043	<0.072	<0.017	<0.017
Aroclor-1221	<0.086	**0.140**	<0.022	<0.022
Aroclor-1232	<0.043	<0.072	<0.017	<0.017
Aroclor-1242	<0.043	<0.072	<0.017	<0.017
Aroclor-1248	<0.043	<0.072	<0.017	<0.017
Aroclor-1254	**6.5**	**40**	<0.017	<0.017
Aroclor-1260	<0.043	<0.072	<0.017	<0.017
Aroclor-1262	NP	NP	NP	NP
Aroclor-1268	NP	NP	NP	NP
Total PCBs	**6.5**	**40.1**	<0.022	<0.022

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
NP = Not Provided
ND = Not Detected

Table 2A
Summary of Historic Sediment PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	SED-1 8/1/1999	SED-5 7/1/2001	SED-7 7/1/2001	SED-8 7/1/2001	SED-9 7/1/2001	SED-10 7/1/2001	SED-11 (0-6") 9/1/2003	SED-11 (6-12") 9/1/2003	SED-12 (0-6") 9/1/2003	SED-12 (6-12") 9/1/2003	SED-13 (0-6") 9/1/2003	SED-13 (6-12") 9/1/2003
PCBs (ug/kg)												
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	**15 J**	<63	**170**	**210**	**350**	**1100**	**68**	<41	**52**	<43	<79	<37
Aroclor-1260	**37 J**	**31 J**	**150**	**140**	**720**	**370**	<45	<41	<48	<43	**130**	<37
Total PCBs	**52 J**	**31 J**	**320**	**350**	**1070**	**1470**	**68**	<41	**52**	<43	**130**	<37

Notes:
Bold = Detected above reporting limit
ug/kg = microgram per kilogram
NP = Not Provided
Sample locations FP-1 through FP-4 are not available in the project records
PCB Concentrations exceed the SCG of 1 mg/Kg

Table 2A
Summary of Historic Sediment PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	SED-14 (0-6") 9/1/2003	SED-14 (6-12") 9/1/2003	SED-15 (0-6") 9/1/2003	SED-15 (6-12") 9/1/2003	SED-16 (0-6") 10/1/2006	SED-16 (6-12") 10/1/2006	SED-17 (0-6") 10/1/2006	SED-17 (6-12") 10/1/2006	SED-18 (0-6") 10/1/2006	SED-18 (6-12") 10/1/2006	FP-1 (0-6") 9/1/2003	FP-1 (6-12") 9/1/2003
PCBs (ug/kg)												
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	<58	**170**	<59	<49	<49	<47	**100**	<49	<49	<46	<58	<45
Aroclor-1260	**72**	<46	**60**	**45 J**	<49	<47	<52	<49	<49	<46	**18 J**	**10 J**
Total PCBs	**72**	**170**	**60**	**45 J**	<49	<47	**100**	<49	<49	<46	**18**	**10 J**

Notes:
Bold = Detected above reporting limit
ug/kg = microgram per kilogram
NP = Not Provided
Sample locations FP-1 through FP-4 are not available in the project records
PCB Concentrations exceed the SCG of 1 mg/Kg

Table 2A
Summary of Historic Sediment PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	FP-2 (0-6") 9/1/2003	FP-2 (6-12") 9/1/2003	FP-3 (0-6") 9/1/2003	FP-3 (6-12") 9/1/2003	FP-4 (0-6") 9/1/2003	FP-4 (6-12") 9/1/2003	SED-19 (0-6") 10/1/2006	SED-19 (6-12") 10/1/2006	SED-20 (0-6") 10/1/2006	SED-20 (6-12") 10/1/2006	SED-21 (0-6") 10/1/2006	SED-21 (6-12") 10/1/2006
PCBs (ug/kg)												
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	<49	<47	<52	<43	**90**	<45	<63	**100**	**99**	**160**	<75	<59
Aroclor-1260	**24 J**	<47	<52	**17 J**	<76	<45	**62 J**	<59	<67	<65	<75	<59
Total PCBs	**24 J**	<47	<52	**17 J**	**90**	<45	**62 J**	**100**	**99**	**160**	<75	<59

Notes:

Bold = Detected above reporting limit

ug/kg = microgram per kilogram

NP = Not Provided

Sample locations FP-1 through FP-4 are not available in the project records

PCB Concentrations exceed the SCG of 1 mg/Kg

Table 2A
Summary of Historic Sediment PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	SED-22 (0-6") 10/1/2006	SED-22 (6-12") 10/1/2006	SED-23 (0-6") 10/1/2006	SED-23 (6-12") 10/1/2006	SED-24 (0-6") 10/1/2006	SED-24 (6-12") 10/1/2006	SED-25 (0-6") 10/1/2006	SED-25 (6-12") 10/1/2006	SED-26 (0-6") 10/1/2006	SED-26 (6-12") 10/1/2006	SED-27 (0-6") 10/1/2006	SED-27 (6-12") 10/1/2006
PCBs (ug/kg)												
Aroclor-1016	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1221	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1232	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1242	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1248	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Aroclor-1254	<51	<45	<65	<48	**100**	**32 J**	<49	<59	**130**	**47 J**	**170**	**88 J**
Aroclor-1260	<51	<45	<65	<48	<59	<56	**71**	<59	<100	<54	<130	<110
Total PCBs	<51	<45	<65	<48	**100**	**32 J**	**71**	<59	**130**	**47 J**	**170**	**88 J**

Notes:
Bold = Detected above reporting limit
ug/kg = microgram per kilogram
NP = Not Provided
Sample locations FP-1 through FP-4 are not available in the project records
PCB Concentrations exceed the SCG of 1 mg/Kg

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-101-00-06-052220			SED-101-06-12-052220		SED-102-00-06-052220		SED-102-06-12-052220		*DUPE-1-052220		SED-102-18-24-052220	
Sampling Date	**05/22/2020 09:20:00**			**05/22/2020 09:25:00**		**05/22/2020 09:50:00**		**05/22/2020 09:55:00**		**05/22/2020 00:00:00**		**05/22/2020 09:55:00**	
GC Semivolatiles - 8082A (mg/kg)													
PCB-1016	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U		ND	U	0.61		**1.1**		0.49		0.93	
PCB-1260	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U		ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)													
Cadmium	0.31			0.47		**2.3**		**3.2**		**1.1**		**1.8**	
Lead	20.6			20.5	1 F2	56.2		**371**		64.3		**470**	
Wet Chemistry (mg/kg)													
Total Organic Carbon	11300			8670	F1	19700		9890		10500		5590	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-103-00-06-052220		SED-103-06-12-052220		SED-104-00-06-052220		SED-104-06-12-052220		SED-105-00-06-052020		SED-105-06-12-052020	
Sampling Date	**05/22/2020 11:20:00**		**05/22/2020 11:25:00**		**05/22/2020 10:20:00**		**05/22/2020 10:25:00**		**5/20/2020 14:05**		**5/20/2020 14:10**	
GC Semivolatiles - 8082A (mg/kg)												
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	0.67		0.61		ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)												
Cadmium	0.25	J	0.25	J	**3.7**		**4.9**		0.16	J	0.10	J
Lead	41.4		30.9		40.8		90.0		22.9		10	
Wet Chemistry (mg/kg)												
Total Organic Carbon	18800		13800		20800		19900		9530		2010	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-106-00-06-052220		SED-106-06-12-052220		SED-106-18-24-052220		SB-107-00-06-052120		SB-107-06-12-052120	
Sampling Date	**05/22/2020 10:50:00**		**05/22/2020 10:55:00**		**05/22/2020 10:55:00**		**05/21/2020 14:05:00**		**05/21/2020 14:10:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	**2.5**		**1.3**		ND		ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	**11.2**		**9.3**		**1.4**		0.18	J	0.18	J
Lead	**602**		**563**		**53.4**		31.7		26.6	
Wet Chemistry (mg/kg)										
Total Organic Carbon	65700		92300		NA		16400		10400	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SB-108-00-06-052120		*DUPE-4-052120		SB-108-06-12-052120		SED-109-00-06-052020		SED-109-06-12-052020	
Sampling Date	**05/21/2020 14:30:00**		**05/21/2020 00:00:00**		**05/21/2020 14:35:00**		**5/20/2020 13:20**		**5/20/2020 13:25**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	0.30	J	0.36	J	0.23	J	0.21	J	0.14	J
Lead	45.1		45.5		26.7		21.3		22.1	
Wet Chemistry (mg/kg)										
Total Organic Carbon	29300		23800		12500		11600		18500	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-110-00-06-052120		SED-110-06-12-052120		SED-111-00-06-052120		SED-111-06-12-052120	
Sampling Date	**05/21/2020 15:20:00**		**05/21/2020 15:25:00**		**05/21/2020 12:50:00**		**05/21/2020 12:55:00**	
GC Semivolatiles - 8082A (mg/kg)								
PCB-1016	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U
PCB-1254	0.30	J	0.22	J	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)								
Cadmium	**1.7**		**0.93**		0.27	J	0.27	J
Lead	26.7		19.1		23.8		22.6	
Wet Chemistry (mg/kg)								
Total Organic Carbon	10700		22000		29900		48100	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SED-112-00-06-052120**		***DUPE-3-052120**		**SED-112-06-12-052120**	
Sampling Date	**05/21/2020 12:20:00**		**05/21/2020 00:00:00**		**05/21/2020 12:25:00**	
GC Semivolatiles - 8082A (mg/kg)						
PCB-1016	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U
Metals (mg/kg)						
Cadmium	0.28	J	0.24	J	0.29	
Lead	44.6		41.9		30.0	
Wet Chemistry (mg/kg)						
Total Organic Carbon	16300		18800		16800	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	**SED-113-00-06-052020**		**SED-113-06-12-052020**		***DUPE-3-052020**	
Sampling Date	**5/20/2020 12:50**		**5/20/2020 12:55**		**5/20/2020 0:00**	
GC Semivolatiles - 8082A (mg/kg)						
PCB-1016	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U
Metals (mg/kg)						
Cadmium	0.2	J	0.12	J	0.16	J
Lead	41.0		14.2		15.3	
Wet Chemistry (mg/kg)						
Total Organic Carbon	23200		8550		3180	

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F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-114-00-06-052120		*DUPE-2-052120		SED-114-06-12-052120	
Sampling Date	**05/21/2020 11:50:00**		**05/21/2020 00:00:00**		**05/21/2020 11:55:00**	
GC Semivolatiles - 8082A (mg/kg)						
PCB-1016	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U
Metals (mg/kg)						
Cadmium	**0.88**		**0.63**		0.26	J
Lead	57.3		39.7		22.0	
Wet Chemistry (mg/kg)						
Total Organic Carbon	28800		23900		7240	

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-115-00-06-052020		SED-115-06-12-052020		SED-116-00-06-052120		SED-116-06-12-052120		SED-117-00-06-052220		SED-117-06-12-052220	
Sampling Date	**5/20/2020 12:20**		**5/20/2020 12:25**		**05/21/2020 11:20:00**		**05/21/2020 11:25:00**		**05/22/2020 11:50:00**		**05/22/2020 11:55:00**	
GC Semivolatiles - 8082A (mg/kg)												
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND		0.44	J	0.91	J	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)												
Cadmium	0.18	J	0.24	J	**9.7**		**10.1**		0.22	J	0.25	J
Lead	13	F1	26.6		**140**		**238**		37.0		29.4	
Wet Chemistry (mg/kg)												
Total Organic Carbon	15700	F1	14300		104000		77000		19500		11700	

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PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-118-00-06-052120		SED-118-06-12-052120		SED-119-00-06-052020		SED-119-06-12-052020		SED-120-00-06-052120		SED-120-06-12-052120
Sampling Date	**05/21/2020 10:50:00**		**05/21/2020 10:55:00**		**5/20/2020 11:20**		**5/20/2020 11:25**		**05/21/2020 10:20:00**		**05/21/2020 10:25:00**
GC Semivolatiles - 8082A (mg/kg)											
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1254	ND	U	0.34	J	ND	U	ND	U	ND	U	ND
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND
Metals (mg/kg)											
Cadmium	7.3		3.2		0.25	J	0.15	J	0.18	J	0.19
Lead	134		95.9	F1	33.3		19.9		11.8		19.6
Wet Chemistry (mg/kg)											
Total Organic Carbon	73300		80700		6640		4690		9320		9820

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MS/MSD - Matrix Spike/Matrix Spike Duplicate

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ND - Not Detected

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Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID		**SED-121-00-06-052220**		**SED-121-06-12-052220**		**SED-122-00-06-052220**		**SED-122-06-12-052220**
Sampling Date		**05/22/2020 13:20:00**		**05/22/2020 13:25:00**		**05/22/2020 14:05:00**		**05/22/2020 14:10:00**
GC Semivolatiles - 8082A (mg/kg)								
PCB-1016	U	ND	U	ND	U	ND	U	ND
PCB-1221	U	ND	U	ND	U	ND	U	ND
PCB-1232	U	ND	U	ND	U	ND	U	ND
PCB-1242	U	ND	U	ND	U	ND	U	ND
PCB-1248	U	ND	U	ND	U	ND	U	ND
PCB-1254	U	ND	U	ND	U	ND	U	ND
PCB-1260	U	ND	U	ND	U	ND	U	ND
PCB-1262	U	ND	U	ND	U	ND	U	ND
PCB-1268	U	ND	U	ND	U	ND	U	ND
Metals (mg/kg)								
Cadmium	J	0.75		0.24	J	0.23	J	0.11
Lead		32.0		19.0		36.5		11.9
Wet Chemistry (mg/kg)								
Total Organic Carbon		9070		7920	F1	12800		10000

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F1 : MS and/or MSD recovery exceeds control limits.

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MS/MSD - Matrix Spike/Matrix Spike Duplicate

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PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID		SED-123-00-06-052220		*DUPE-2-052220		SED-123-06-12-052220		SED-124-00-06-052020		SED-124-06-12-052020	
Sampling Date		**05/22/2020 12:20:00**		**05/22/2020 00:00:00**		**05/22/2020 12:25:00**		**5/20/2020 11:50**		**5/20/2020 11:55**	
GC Semivolatiles - 8082A (mg/kg)											
PCB-1016	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	U	ND	U	ND	U	ND	U	0.27	J	0.27	J
PCB-1260	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)											
Cadmium	J	0.20	J	0.27	J	0.15	J	**5.9**		**4.0**	
Lead		19.8		28.6		15.6		**144**		**111**	
Wet Chemistry (mg/kg)											
Total Organic Carbon		13300		15900		5480		90300		116000	

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PCB Concentrations exceed the SCO of 1 mg/Kg

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-125-00-06-052120		*DUPE-1-052120		SED-125-06-12-052120		SED-126-00-06-052220		*DUPE-3-052220		SED-126-06-12-052220	
Sampling Date	**05/21/2020 09:40:00**		**05/21/2020 00:00:00**		**05/21/2020 09:45:00**		**05/22/2020 12:50:00**		**05/22/2020 00:00:00**		**05/22/2020 12:55:00**	
GC Semivolatiles - 8082A (mg/kg)												
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)												
Cadmium	0.33		0.21	J	0.18	J	0.28		0.32		0.14	J
Lead	23.8		18.5		12.9		21.0		21.6		8.5	
Wet Chemistry (mg/kg)												
Total Organic Carbon	5260		5210		11700		10800		7920		3390	

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-127-00-06-051920		SED-127-06-12-051920		SED-128-00-06-051920		SED-128-06-12-051920		SED-129-00-06-051920		SED-129-06-12-051920	
Sampling Date	**05/19/2020 14:20:00**		**05/19/2020 14:25:00**		**05/19/2020 13:40:00**		**05/19/2020 13:45:00**		**05/19/2020 13:05:00**		**05/19/2020 13:10:00**	
GC Semivolatiles - 8082A (mg/kg)												
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	0.23	J	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)												
Cadmium	3.2		3.6		2.6		1.7		0.27		0.14	J
Lead	79.4		71.9		25.3		32.1		32.2		9.9	
Wet Chemistry (mg/kg)												
Total Organic Carbon	61700		26200		40800		44800		13000		4480	

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-130-00-06-051920		SED-130-06-12-051920		*DUPE-3-051920		SED-131-00-06-051920		SED-131-06-12-051920	
Sampling Date	**05/19/2020 12:20:00**		**05/19/2020 12:25:00**		**05/19/2020 00:00:00**		**05/19/2020 11:50:00**		**05/19/2020 11:55:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	**1.7**		**2.7**		**3.5**		**1.9**		**3.3**	
Lead	34.9		49.7		85.7		44.3		107	
Wet Chemistry (mg/kg)										
Total Organic Carbon	36100		36500		46800		50000		41800	

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F1 : MS and/or MSD recovery exceeds control limits.

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-132-00-06-051920		SED-132-06-12-051920		SED-133-00-06-051920		SED-133-06-12-051920		*DUPE-2-051920	
Sampling Date	**05/19/2020 11:20:00**		**05/19/2020 11:25:00**		**05/19/2020 10:50:00**		**05/19/2020 10:55:00**		**05/19/2020 00:00:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	0.18	J	0.14	J	0.14	J	0.090	J	0.21	J
Lead	27.3		8.9		12.6		13.3		14.7	
Wet Chemistry (mg/kg)										
Total Organic Carbon	7040		9970		3960		3720		9940	

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F1 : MS and/or MSD recovery exceeds control limits.

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Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-134-00-06-051920		SED-134-06-12-051920		SED-135-00-06-051920		*DUPE-1-051920		SED-135-06-12-051920	
Sampling Date	**05/19/2020 10:20:00**		**05/19/2020 10:25:00**		**05/19/2020 09:20:00**		**05/19/2020 00:00:00**		**05/19/2020 09:25:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	**1.9**		**1.9**		**1.1**		**2.2**		**1.1**	
Lead	26.0		67.4		15.7		29.7		23.8	
Wet Chemistry (mg/kg)										
Total Organic Carbon	28600		39800		24300		12800		7690	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-136-00-06-051920		SED-136-06-12-051920		SED-137-00-06-051820		SED-137-06-12-051820		SED-138-00-06-051820		SED-138-06-12-051820	
Sampling Date	**05/19/2020 09:00:00**		**05/19/2020 09:05:00**		**05/18/2020 13:50:00**		**05/18/2020 13:55:00**		**05/18/2020 12:50:00**		**05/18/2020 12:55:00**	
GC Semivolatiles - 8082A (mg/kg)												
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	0.13	J	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)												
Cadmium	**1.8**		**1.4**		**3.6**		**2.4**		0.12	J	0.10	J
Lead	20.7		25.7		26.5		53.7		11.4		10.8	
Wet Chemistry (mg/kg)												
Total Organic Carbon	9510		9040		44200		31200		12000		10000	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-139-00-06-051820		*DUPE-1-051820		SED-139-06-12-051820		SED-140-00-06-051820		SED-140-06-12-051820	
Sampling Date	**05/18/2020 12:00:00**		**05/18/2020 00:00:00**		**05/18/2020 12:05:00**		**05/18/2020 11:30:00**		**05/18/2020 11:35:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	0.13	J	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	**2.0**		**2.0**		**1.3**		**1.7**		**1.3**	
Lead	25.8		26.0		18.4		33.1		31.1	
Wet Chemistry (mg/kg)										
Total Organic Carbon	26600		13200		12800		13500		10500	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-141-00-06-052020		SED-141-06-12-052020		SED-142-00-06-052020		*DUPE-1-052020		SED-142-06-12-052020	
Sampling Date	**5/20/2020 9:05**		**5/20/2020 9:10**		**5/20/2020 9:55**		**5/20/2020 0:00**		**5/20/2020 10:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	**2.4**		**2.1**		**0.84**		0.41		0.26	J
Lead	69.6		53.7		14.7		12.5		9.4	
Wet Chemistry (mg/kg)										
Total Organic Carbon	28500		23600		21800		12300		16000	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

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ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 2B
May 2020 Sediment Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID	SED-143-00-06-052020		SED-143-06-12-052020		SED-144-00-06-052020		SED-144-06-12-052020		*DUPE-2-052020	
Sampling Date	**5/20/2020 10:10**		**5/20/2020 10:15**		**5/20/2020 10:30**		**5/20/2020 10:35**		**5/20/2020 0:00**	
GC Semivolatiles - 8082A (mg/kg)										
PCB-1016	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1221	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1232	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1242	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1248	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1254	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1260	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1262	ND	U	ND	U	ND	U	ND	U	ND	U
PCB-1268	ND	U	ND	U	ND	U	ND	U	ND	U
Metals (mg/kg)										
Cadmium	0.31	J	0.23	J	0.32		0.27	J	0.24	J
Lead	9.9		10.8		20.6		26.5		18.6	
Wet Chemistry (mg/kg)										
Total Organic Carbon	21900		13700		8020		5410		9230	

* : Duplicate samples are listed immediately following the primary sample of which they are a duplicate.

J : Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit, and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

MS/MSD - Matrix Spike/Matrix Spike Duplicate

RPD - Relative Percent Difference

ND - Not Detected

NA - Not Analyzed

SCO - Soil Cleanup Objective

LEL - Lowest Effect Level

SEL - Severe Effect Level

PCB Concentrations exceed the SCO of 1 mg/Kg

Lead ceoncentrations exceed the SCOs of 110 mg/Kg (i.e., SEL for lead)

Cadmium concentrations exceed the SCOs of 0.6 mg/Kg (i.e., LEL for cadmium)

Table 3
Summary of Surficial Soil PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	Was-1 (0-12) 012820 1/28/2020	Was-1 (12-24) 012820 1/28/2020	Was-2 (0-12) 012820 1/28/2020	Was-2 (12-24) 012820 1/28/2020	Was-3 (0-12) 012820 1/28/2020	Was-3 (12-24) 012820 1/28/2020	Was-4 (0-12) 012820 1/28/2020	Was-4 (12-24) 012820 1/28/2020	Was-5 (0-12) 012820 1/28/2020	Was-5 (12-24) 012820 1/28/2020
PCBs (mg/kg)										
Aroclor-1016	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1221	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1232	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1242	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1248	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1254	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1260	<0.26	<0.24	**0.30**	<0.20	**0.18 J**	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1262	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Aroclor-1268	<0.26	<0.24	<0.29	<0.20	<0.23	<0.20	<0.25	<0.24	<0.30	<0.21
Total PCBs	<0.26	<0.24	**0.30**	<0.20	**0.18 J**	<0.20	<0.25	<0.24	<0.30	<0.21

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
ND = Not Detected

Table 3
Summary of Surficial Soil PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	WAS-11-20200921 9/21/2020	WAS-12-20200921 9/21/2020	WAS-13-20200921 9/21/2020	WAS-14-20200921 9/21/2020	WAS-15-20200921 9/21/2020	WAS-16-20200921 9/21/2020	WAS-17-20200921 9/21/2020	WAS-18-20200921 9/21/2020	WAS-19-20200921 9/21/2020	WAS-20-20200921 9/21/2020
PCBs (mg/kg)										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	**2.8**	ND
Aroclor-1260	**3.3**	**2.7**	**0.96**	**1.8**	**0.85**	ND	ND	ND	ND	**0.15**
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**3.3**	**2.7**	**0.96**	**1.8**	**0.85**	ND	ND	ND	**2.8**	**0.15**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
ND = Not Detected

Table 3
Summary of Surficial Soil PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	WAS-112-20201124 11/24/2020	WAS-113-20201124 11/24/2020	WAS-115-20201124 11/24/2020	WAS-116-20201124 11/24/2020	WAS-118-20201124 11/24/2020	WAS-119-20201124 11/24/2020	WAS-120-20201124 11/24/2020	WAS-121-20201124 11/24/2020
PCBs (mg/kg)								
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	**0.21**	**0.37**	ND	**0.37**	ND	ND	ND	ND
Aroclor-1262	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1268	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	**0.21**	**0.37**	ND	**0.37**	ND	ND	ND	ND

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
ND = Not Detected

Table 4
Summary of Vault and Shed PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	SHED-01-20200921 9/21/2020	VS-1 (0-12) 012920 1/29/2020	VS-2 (0-12) 012920 11/24/2020
PCBs (mg/kg)			
Aroclor-1016	ND	ND	ND
Aroclor-1221	ND	ND	ND
Aroclor-1232	ND	ND	ND
Aroclor-1242	ND	ND	ND
Aroclor-1248	**2.6**	ND	ND
Aroclor-1254	**1.2**	**0.69**	**7.9**
Aroclor-1260	ND	ND	ND
Aroclor-1262	ND	ND	ND
Aroclor-1268	ND	ND	ND
Total PCBs	**3.8**	**0.69**	**7.9**

Notes:
Bold = Detected above reporting limit
mg/kg = miligram per kilogram
ND = Not Detected

Table 5
Summary of Ground Water PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	MW-6-112219 11/22/19	MW-6 3/27/2000	MW-6 1/13/2000	MW-6 9/9/1999	MW-7-112119 11/21/19	MW-7 3/27/2000	MW-7 1/13/2000	MW-7 9/9/1999	MW-8-112219 11/22/19	MW-8 3/27/2000	MW-8 1/13/2000
PCBs (ug/l)											
Aroclor-1016	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0
Aroclor-1221	<0.40	<0.05	<1.0	<2.0	<0.40	<0.05	<1.0	<2.0	<0.40	<0.05	<1.0
Aroclor-1232	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0
Aroclor-1242	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0
Aroclor-1248	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0
Aroclor-1254	<0.40	**0.24**	<1.0	<1.0	<0.40	**0.084**	<1.1	<1.0	<0.40	<0.05	<1.0
Aroclor-1260	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0	<1.0	<0.40	<0.05	<1.0
Total PCBs	<0.40	**0.24**	<1.0	<2.0	<0.40	**0.084**	<1.1	<2.0	<0.40	<0.05	<1.0

Notes:
Bold = Detected above reporting limit
ug/l = microgram per liter
NA = Not Analyzed

Table 5
Summary of Ground Water PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	MW-9-112019 11/20/19	MW-9 3/27/2000	MW-9 1/13/2000	MW-10-112219 11/22/19	MW-10 1/13/2000	MW-11 1/13/2000	MW-12 1/13/2000	MW-13 1/13/2000	MW-10 3/27/2000	MW-11 3/27/2000	MW-12-112219 11/22/19	MW-12 3/27/2000
PCBs (ug/l)												
Aroclor-1016	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Aroclor-1221	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Aroclor-1232	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Aroclor-1242	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Aroclor-1248	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Aroclor-1254	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.4	<0.05	<0.05	<0.40	<0.05
Aroclor-1260	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.0	<0.05	<0.05	<0.40	<0.05
Total PCBs	<0.40	<0.05	<1.0	<0.40	<1.0	NA	<1.0	<1.4	<0.05	<0.05	<0.40	<0.05

Notes:
Bold = Detected above reporting limit
ug/l = microgram per liter
NA = Not Analyzed

Table 5
Summary of Ground Water PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	MW-13-112219 11/22/19	MW-13 3/27/2000	MW-14-01282020 01/28/20	MW-14-DUP-01282020 01/28/20	MW-14-112019 11/20/19	MW-15-112119 11/21/19	MW-17A-112119 11/21/19	MW-17-112119 11/21/19	MW-57-112119 11/21/19
PCBs (ug/l)									
Aroclor-1016	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1221	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1232	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1242	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1248	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1254	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Aroclor-1260	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Total PCBs	<0.40	<0.05	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40

Notes:
Bold = Detected above reporting limit
ug/l = microgram per liter
NA = Not Analyzed

Table 6
Summary of Potable Well PCB Analytical Data
C and D Power Systems #336001
Huguenot, New York

Sample ID Sample Date	SWT. Well (First Flush) Feb-2000/Mar-2000	SWT. Well (10 Minutes) Feb-2000/Mar-2000	75-SWARTWOUT-RD-01292020 01/29/2020	POT-1-112119 11/21/19	POT-2-112119 11/21/19
PCBs (ug/l)					
Aroclor-1016	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1221	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1232	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1242	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1248	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1254	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Aroclor-1260	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40
Total PCBs	<1.0 / <0.05	<1.0 / <0.05	<0.50	<0.40	<0.40

Notes:
ug/l = microgram per liter

Appendix A
Notification and Certification

06/17/2021

Property Owner Certification – 40 CFR 761.61(a)(3)(i)(e)

430 Route 209 LLC is the Owner of the property where the New York State Department of Environmental Conservation (NYSDEC) is performing the cleanup of the C&D Power Systems (C&D Batteries) site. 430 Route 209 LLC provides this certification in accordance with 40 CFR 761.61(a)(3)(i)(e) and hereby certifies, to the best of its knowledge, information and belief, that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the C&D Power Systems (C&D Batteries) site, are on file at 625 Broadway, Albany, NY 12233, and are available for EPA inspection.

If you have any questions, comments, or concerns you may contact me via phone at 4439291569 or via email-berel@Lbhrealestate.com.

Very Truly Yours,

Berel Krug
Manager, 430 Route 209 LLC

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation
625 Broadway, 12th Floor, Albany, New York 12233-7011
P: (518) 402-9706 | F: (518) 402-9020
www.dec.ny.gov

July 23, 2020

Benny Conetta, Region 2 PCB Coordinator
United State Environmental Protection Agency
290 Broadway
New York, NY 10007-1866

Subject: Written Certification Required Under §761.61(a)(3)(E)
PCB Cleanup Plan
C&D Batteries Site
Huguenot, New York

Dear Mr. Conetta,

I certify that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the C&D Batteries site, are on file at 625 Broadway, Albany NY, 12233, and are available for EPA inspection.

If you have any questions, comments, or concerns you may contact me via phone at 518-402-9662 or via email at justin.starr@dec.ny.gov.

Very Truly Yours,

Justin C. Starr, P.G.
Assistant Geologist, Remedial Bureau C
Division of Environmental Remediation

ec.: A. Omorogbe - amen.omorogbe@dec.ny.gov
B. Rung - benjamin.rung@dec.ny.gov
A. Haryani - Amit.Haryani@aecom.com

Appendix B
2020 Analytical Reports (on DVD)

Appendix C
Historical Laboratory Reports (on DVD)

Appendix D
March 2015 Record of Decision and Record of Decision Amendment

RECORD OF DECISION &
RECORD OF DECISION AMENDMENT

C&D Power Systems (C&D Batteries)
State Superfund Project/RCRA Project
Deer Park, Orange County
Site No. 336001
EPA ID #NYD064337298
March 2015

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - RECORD OF DECISION & RECORD OF DECISION AMENDMENT

C&D Power Systems (C&D Batteries)
State Superfund Project/RCRA Project
Deer Park, Orange County
Site No. 336001
EPA ID #NYD064337298
March 2015

Statement of Purpose and Basis

This Record of Decision and Record of Decision Amendment presents the remedy for the C&D Power Systems (C&D Batteries) site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 373 (RCRA) and 375 (State Superfund), and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended. This is a Toxic Substance Control Act (TSCA) risk based cleanup in accordance with 40 CFR 761.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the C&D Power Systems (C&D Batteries) site and the public's input to the proposed remedy and proposed record of decision amendment presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

This remedy addresses both operable unit (OU) 01 and OU 02 and replaces the March 2002 Record of Decision (ROD) issued for OU 01. Upon issuance of the Record of Decision, OU 01 and OU 02 will be combined into a single operable unit.

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Re-sampling of the groundwater to confirm past sampling data and re-evaluation of the wells in the area will be conducted as part of the remedial design program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering Green and healthy communities and working landscapes with balanced ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

Lagoon: Excavation and off-site disposal of contaminated lagoon soils to a depth of 4 to 6 feet below the lagoon floor (19 to 21 feet below surrounding grade (bsg)). It is estimated that approximately 1,600 cubic yards of contaminated lagoon soil will be excavated and transported to an off-site TSCA and/or RCRA-permitted disposal facility for treatment and/or disposal. The excavation of lagoon soils to a depth up to six feet (21 feet bsg) will address all PCB concentrations that exceed 50 parts per million (ppm). All soils that contain PCB concentrations above 50 parts per million (ppm) will be disposed off-site as hazardous waste. Excavated soils that contain PCB concentrations above 1,000 parts per million (ppm) will be transported to an approved facility for incineration. Excavated soils that contain PCB concentrations above 500 ppm and below 1,000 ppm that are also a characteristic hazardous waste for metals toxicity will be stabilized on-site and transported to an approved facility for disposal.

On-site Soil: All on-site soils and sub-pavement soils containing lead concentrations greater than the Part 375 commercial SCO of 1,000 ppm will be excavated and stabilized for use as backfill in the lagoon as described in remedy element 4. The areas of on-site excavation are shown on Figure 2. It is estimated that approximately 600 cubic yards of soil and 2,500 cubic yards of sub-pavement soil will be excavated.

Off-site Soil: All areas of off-site soil containing lead concentrations greater than Part 375 residential SCO of 400 ppm will be excavated and stabilized for use as backfill in the lagoon as described in remedy element 4. It is estimated that approximately 325 cubic yards of off-site soil will be excavated from the area shown on Figure 2.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use on-site and residential use off-site will be brought in to complete the backfilling of the excavations, lagoon and establish the designed grades at the site to accommodate installation of the cover system described in remedy element 5. Off-site areas will be restored to pre-existing grades.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented for the on-site lagoon, as indicated on Figure 2. The treatment zone will extend from the bottom of the excavation as described in remedy element 2 (approximately 19 to 21 feet bsg) to the groundwater table, at approximately 28 feet bsg and from the groundwater table to approximately 35 feet bsg in an area where the cadmium toxicity characteristic leaching procedure (TCLP) regulatory limit is exceeded. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

4. Ex-Situ Stabilization; On-site disposal

Ex-situ stabilization will be implemented to treat the lead contaminated soil excavated from on- and off-site as described in remedy element 2. Ex-situ stabilization is a process that mixes agents with contaminated soil to chemically modify the material to allow it to meet remedial goals, allowing it to be placed back on-site. Under this process the excavated contaminated soil (approximately 3,425 cubic yards) will be mixed in a temporary mixing facility (i.e., pug mill, mixer, etc.) with stabilizing agents (i.e., Enviroblend or an equivalent product) to address lead contamination. The treated soil will then be used as backfill in the lagoon and covered with a site cover to prevent direct exposure.

5. Site Cover

A site cover will be required to allow for commercial use of the site. The site will be restored to existing grade and the cover will consist of either structures such as buildings, pavement, sidewalks comprising any site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil meeting the soil cleanup objectives (SCOs) for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Where the soil cover is required over the on-site ISS treatment area, it will consist of a minimum of four feet of soil meeting the SCOs for commercial use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

6. Sediment Removal

Contaminated stream sediment will be removed from tributary D-1-7 to a depth of 12 inches along approximately 1,132 linear feet of stream bed as shown on Figure 2. Approximately, 2,270 cubic yards of sediment will be removed. The removal of sediment to a depth of 12 inches would achieve SCGs for protection of the environment and would be expected to meet residential SCOs. The sediment will be place in the lagoon above the stabilized soils, below the cover system.

The stream will be excavated by diverting or pumping the stream around the contaminated area. Excavated sediments will be replaced with an appropriate substrate and the area restored to pre-excavation contours. Disturbed stream, stream bank and adjacent area vegetation will be re-established by planting and seeding. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Prior to sediment removal, an assessment of the biota and plant communities in the area, including an assessment of the presence of mussels in the disturbed areas will be performed. If mussels are found in the remediation areas or adjacent areas, measures will be taken to limit the deleterious effects of the remedial action.

Following sediment removal, monitoring of restoration success with replacement of failed vegetation and post-removal monitoring of contaminants will be performed.

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);

b. allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and

d. requires compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in element 7.

Engineering Controls: The solidified mass and site cover discussed in elements 2 and 4.

This plan includes, but may not be limited to:

• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

• descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;

• a provision for further delineation of the nature and extent of contamination under the building when the building is demolished and for removal or treatment of any identified source area located under the building if and when the building is demolished;

• a provision for implementing actions recommended to address well contamination if identified;

• provisions for the management and inspection of the identified engineering controls;

• maintaining site access controls and Department notification; and

• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater to assess the performance and effectiveness of the remedy;

• monitoring for site-related groundwater contamination for any off-site private wells, as may be required; and

• a schedule of monitoring and frequency of submittals to the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 26, 2015	
Date	Robert W. Schick, P.E., Director Division of Environmental Remediation

RECORD OF DECISION &
RECORD OF DECISION AMENDMENT

C&D Power Systems (C&D Batteries)
Deer Park, Orange County
Site No. 336001
EPA ID#NYD064337298
March 2015

SECTION 1: SUMMARY AND PURPOSE OF THE RECORD OF DECISION AND RECORD OF DECISION AMENDMENT

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) and ROD Amendment identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment. The New York State Hazardous Waste Management Program (also known as the RCRA Program) requires corrective action for releases of hazardous waste and hazardous constituents to the environment. The Toxic Substance Control Act (TSCA) governs the management of polychlorinated biphenyls (PCB) containing materials in the United States. This facility is subject to these three programs.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Parts 373 (RCRA) and 375 (State Superfund). This is a TSCA risk based cleanup in accordance with 40 CFR 761. This document serves as the Statement of Basis (SB) for the Corrective Action (CA). This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

On March 27, 2002, The New York State Department of Environmental Conservation (Department) signed a Record of Decision (ROD) which selected a remedy to clean up the C&D Power Systems Site Operable Unit (OU) Number 01, the unsaturated lagoon soils, The ROD

outlined a set of remedial actions for the site that included excavation and disposal of the top six to eight feet (21 feet to 23 feet below surrounding grade (bsg)) of the contaminated lagoon soil and ex-situ stabilization of the remaining contaminated unsaturated lagoon soil. Following the issuance of the ROD, investigations for OU 02 were completed. OU 02 consists of the saturated zone beneath the lagoon, tributary sediment, surface water, on- and off-site groundwater, and on- and off-site surface soil and sub-paved surface soils.

The remedial investigation for OU 02 identified constructability issues associated with the driving of sheet pile due to the site's geology and the need to combine OU 01 and OU 02 remedies due to the presence of contamination in saturated lagoon soils (i.e., below the groundwater table).

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy and proposed ROD amendment. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Port Jervis Library
138 Pike Street
Port Jervis, NY 12771
Phone: (845) 856-7313

Deerpark Town Hall
420 Rt. 209
Huguenot, NY 12746
Phone: (845) 856-5705

NYSDEC Region 3 Office
21 South Putt Corners Road
New Paltz, NY 12561
Phone: (845) 256-3018
Please call for an appointment

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy and ROD amendment. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy and ROD amendment.

Comments on the remedy received during the comment period are summarized and addressed in the Responsiveness Summary section of the ROD and ROD Amendment.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going

paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

3.1: Operable Units

Operable Units (OU) 01 and 02 are the subject of this document

OU 01 consists of the unsaturated lagoon soils. OU 02 consists of the balance of the site and off-site media. Specifically, OU 02 includes the saturated zone beneath the lagoon, off-site sediment, off-site surface water, on- and off-site groundwater, and on- and off-site soil.

The amended remedy described in this document supersedes the Record of Decision (ROD) previously issued for OU 01. Upon issuance of the amended OU 01 and OU 02 Records of Decision, OU 01 and OU 02 will be combined into a single operable unit.

A site location map is attached as Figure 1.

3.2: Site Details

Location: The C and D Power Systems site is located in the Hamlet of Huguenot in the Town of Deerpark, Orange County. The site is located approximately four miles northeast of the City of Port Jervis.

Site Features: The main site features include a large industrial building formerly used for the manufacturing of batteries, which is currently unoccupied, and an approximately 175-foot diameter wastewater treatment lagoon located 75 feet northeast of the plant building. The depth of the lagoon is approximately 15 feet. The site drops off rapidly to the northeast. Tributary D-1-7 to the Neversink River is located to the east/northeast and is currently accessible. The aquatic habitat of Tributary D-1-7 is consistent with the aquatic habitat preferred by the dwarf wedge mussel, a federal and New York State endangered species, known to inhabit the Neversink River.

Current Zoning and Land Use: The site is currently inactive, and is zoned for commercial use. Manufacturing operations at the site ceased in 2006. The site is in the Neversink River Valley and is bordered on the west by Route 209 and on the east by tributary D-1-7 to the Neversink River. The surrounding parcels are currently used for a combination of residential and commercial uses.

Past Use of the Site: From 1959 to approximately 1970, the facility was owned and operated by the Empire Tube Company (ETC), a manufacturer of black and white picture tubes. Hydrofluoric acid was used in the manufacturing process to remove carbon and potassium silicate from the

inside of the tubes. During this period, industrial wastewater was discharged to a lagoon adjacent to the northeastern corner of the plant building. C&D Technologies Incorporated operated at the facility manufacturing industrial lead batteries from the mid-1970s to 2006. From the mid-1970s until approximately 1982, C&D discharged non-contact cooling water into the lagoon.

The facility was formerly permitted to operate as a treatment, storage and/or disposal (TSDF) facility under the Resource Conservation and Recovery Act (RCRA) hazardous waste management program. The site has been included in the USEPA's tracking system under GPRA (Government Performance and Results Act) for corrective action. The RCRA Corrective Action Program requires investigation and cleanup of releases of hazardous wastes and hazardous constituents that pose an unacceptable risk at RCRA hazardous waste treatment, storage and disposal facilities. This site has not yet met indicators to show compliance with RCRA Corrective Action.

Operable Units: The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable unit (OU) 01 consists of the unsaturated lagoon soils. OU 02 consists of the saturated zone beneath the lagoon, off-site tributary sediment, surface water, on- and off-site groundwater, on- and off-site soil.

The Record of Decision (ROD) for OU 01 was issued in March 2002. Because the selected remedy for OU 01 included removal of the unsaturated lagoon soils, ex-situ stabilization of the soils with disposal back into the lagoon, it was necessary to complete the investigation and remedy selection for OU 02 prior to implementing the OU 01 remedy.

Site Geology and Hydrogeology: The site and surrounding area is underlain by glacially deposited sand and gravel that gets coarser with depth. The irregular thickness of the deposit ranges from less than 10 feet to approximately 150 feet. Depth to groundwater is approximately 30 feet below ground surface. Groundwater flows southeast towards the unnamed tributary to the Neversink River which lies east of the site.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the RI to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

C&D Technologies Inc.

The Department and C and D Technologies Inc. entered into a Consent Order on July 19, 1999. The Order obligates the responsible parties to implement a remedial investigation (RI)/feasibility study (FS)-only remedial program. After the remedy is determined, the Department will approach the PRPs to enter another consent order with the Department to implement the remedy.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that

are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminants of concern identified for this Operable Unit at this site is/are:

barium	lead
cadmium	PCB-aroclor 1254
fluoride	

As illustrated in Exhibit A, the contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- sediment

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

In 1998, the facility completed closure, in accordance with USEPA RCRA requirements, of a 90,000 gallon settling tank and a 6,800 gallon neutralization tank. The following closure activities took place in October 2006:

- Power washing and removal of equipment;
- Power washing of building walls and floors;
- Decontamination of building roof equipment;
- Cleanup of the interior offices, the maintenance room and outside area; and
- Segregation and removal off-site of non-hazardous and hazardous materials and wastes.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 02, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

The goal of a remedial investigation is to determine the nature and extent of contamination. Therefore, the investigation included sampling and analysis for the full target compound list/target analyte list. No volatile organic compounds or semi-volatile organic compounds were detected above applicable standards. Metals and polychlorinated biphenyls were detected above applicable standards and identified as the contaminants of concern for this site.

For OU 01: Unsaturated Lagoon Soils

The primary contaminants of concern for OU 01 include barium, cadmium, fluoride, polychlorinated biphenyls (PCBs) and lead.

Lagoon Soil – PCBs were detected in the top foot of lagoon soils up to 1,100 parts per million (ppm) (unrestricted use SCO of 0.1 ppm; commercial use SCO of 1 ppm).

The following metals were detected throughout the unsaturated lagoon soils, to a depth of 27 feet below surrounding grade (bsg): cadmium up to 46,000 ppm (unrestricted use SCO of 2.5 ppm; commercial use SCO of 9.3 ppm), lead up to 13,000 ppm (unrestricted use SCO of 63 ppm; commercial use SCO of 1,000 ppm) and barium up 7,710 ppm (unrestricted use SCO of 350 ppm; commercial use SCO of 400 ppm).

Fluoride was consistently detected in the unsaturated lagoon soils at concentrations up to 327 ppm, above background levels (less than 10.42 ppm).

For OU 02: Saturated zone beneath lagoon, tributary sediment, surface water, on- and off-site groundwater, on- and off-site soil.

The primary contaminants of concern for OU 02 include cadmium, fluoride, PCBs and lead.

Lagoon Soil Below Groundwater - Cadmium was detected up to 402 ppm (unrestricted use SCO of 2.5 ppm; commercial use SCO of 9.3 ppm) and barium was detected up to 1,370 ppm (unrestricted use SCO of 350 ppm; commercial use SCO of 400 ppm) in saturated lagoon soil. Cadmium concentrations were detected up to 1.94 ppm above the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit (1 ppm) in the saturated lagoon soil to a depth of 35 feet bsg. Exceedances of the TCLP regulatory limit for cadmium were limited to two areas of the lagoon

(northeast and southwest portion). All other areas of the lagoon exhibited barium, cadmium and lead concentrations below the respective TCLP regulatory limits in the saturated lagoon soil.

Soil Outside Lagoon– Surface soils and soil currently covered with pavement on-site, located east and south of the main building, are contaminated with lead up to 58,600 ppm above the unrestricted (63 ppm) and commercial (1,000 ppm) SCOs to a depth of approximately one foot. Off-site surface soils located southeast of the main building, are contaminated with lead up to 2,040 ppm above the unrestricted (63 ppm) and residential (400 ppm) SCOs to a depth of approximately one foot.

Groundwater – Groundwater both on- and off-site has been impacted by fluoride. The highest concentrations of fluoride in groundwater have been detected in the vicinity of the former lagoon. On-site, fluoride was detected in groundwater up to 10,400 parts per billion (ppb), above the standard of 1,500 ppb. Off-site impacts are limited; however, fluoride was detected up to 2,120 ppb, above the standard of 1,500 ppb, in one off-site groundwater monitoring well. Fluoride was not detected above the standard of 1,500 ppb in the off-site groundwater monitoring well located approximately 1,200 feet downgradient of the lagoon center. This off-site groundwater monitoring well is located downgradient of the off-site well where fluoride was detected above the standard. Samples collected from the Harriet Space Park ladies restroom and from the Town of Deerpark Town Hall, which are both located south of the lagoon, also did not contain fluoride concentrations above the standard of 1,500 ppb. Fluoride was detected in exceedance of the drinking water standard in one off-site residential well in 2000, but subsequent samples found no contamination in exceedance of the standard.

Sediments - Off-site tributary sediments also have been impacted by lead, cadmium and PCBs in excess of the NYSDEC sediment quality criteria. Lead was detected up to 400 ppm above the lowest effects level (LEL) (31 ppm) and severe effects level (SEL) (110 ppm). Lead concentrations above the SEL are primarily limited to the top six inches of sediment. Cadmium was detected up to 3.7 ppm above the LEL (0.6 ppm). Cadmium concentrations above the LEL are limited to the top six inches of sediment. PCBs were detected up to 1.470 ppm in the top twelve inches of sediment above the human health bioaccumulation sediment criteria value (0.000018 ppm) and wildlife bioaccumulation sediment criteria value (0.0315 ppm).

Surface Water – Surface water has not been impacted by site-related contamination. All concentrations of site-related contamination identified (lead (10.4 ppb); barium (16.7 ppb); and fluoride (360 ppb)) were below their NYSDEC water quality standards ((50 ppb); (1,000 ppb); and (1,500 ppb), respectively).

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

The former lagoon is fenced to restrict access, but the rest of the site is unrestricted. Persons who enter the site could contact contaminants in the soil by walking on the soil, digging, or otherwise disturbing the soil. Contaminated groundwater at the site is not used for drinking water; however,

private drinking water wells are in use near the site. It is unknown if these wells are affected by the site related contamination in groundwater. People may come in contact with contaminants present in the shallow tributary sediments while entering or exiting the tributary during recreational activities.

SECTION 7: SUMMARY OF ORIGINAL REMEDY AND ROD AMENDMENT

7.1.1: Original Remedy for OU 01

In the March 2002 ROD for OU 01 the NYSDEC selected partial excavation and ex-situ stabilization. The components of the original remedy were as follows:

- A remedial design program, including bench scale and pilot study programs, to provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program;

- Excavation of lagoon soil to a depth of six to eight feet (21 to 23 feet bsg), and transportation to an off-site TSCA/RCRA disposal facility for treatment and disposal. Excavation of remaining unsaturated lagoon soil to a depth of 14 feet (29 feet bsg) or groundwater table, whichever is encountered first, and on-site stabilization. Placement of several feet of clean fill in the lagoon excavation to provide a buffer from the fluctuations in the groundwater. Replacement of stabilized soils back into the lagoon excavation, backfill with clean fill to the existing grade of the surrounding areas, and installation of a geomembrane liner/asphalt cover.

- Semi-annual sampling of on-site monitoring wells to be conducted as part of a long-term monitoring program to monitor the effectiveness of the on-site stabilization;

- Institutional controls in the form of deed restrictions to be recorded in the chain of title of the property to restrict the future use of the former lagoon area to industrial use only, mandate the maintenance of the cap, and require notification to the NYSDEC when excavation of the capped area is planned; and

- Annual certification by the property owner that the site is in compliance with the institutional controls outlined in this ROD.

7.1.2: Elements of the OU 01 Remedy Already Performed

No elements of the OU 01 remedy have been performed to date. Because the selected remedy included removal of the unsaturated lagoon soils, ex-situ stabilization of the soils with disposal back into the lagoon, it was necessary to complete the investigation and remedy selection for the saturated lagoon soils (OU 02) prior to implementing the OU 01 remedy.

7.1.3: New Information

Since the issuance of the FS and ROD, new information about the site has been obtained. It was determined during the OU 02 remedial investigation that the feasibility of installing the sheet piling system, required to stabilize the adjacent building foundation and allow excavation of the unsaturated lagoon soils, would need to be installed to a substantially greater depth due to the loose nature of the on-site soil.

In addition, cadmium contamination, which failed the toxicity characteristic leaching procedure (TCLP), was also found in an area of the saturated zone of the lagoon to a depth of 35 feet bsg. The TCLP failure means the contamination is a characteristic hazardous waste, which would require a much deeper excavation and associated sheet pile support to address this material in accordance with the original remedy.

7.1.4: Selected Change to the Original Remedy

Based on the new information identified above and the identified need to coordinate the remedies for both operable units of the site as it relates to the lagoon area, the original remedy for the unsaturated lagoon soil will no longer be implemented. The OU 01 ROD Amendment will be combined with the OU 02 remedy and the selected remedy will encompass all lagoon soil. This ROD presents the evaluation and identification of a combined OU 01 and 02 selected remedy in the sections to follow.

7.2: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.

7.3: SUMMARY OF THE SELECTED OU 01 and 02 REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 7.2. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy addresses both OU 01 and OU 02 and replaces the March 2002 Record of Decision (ROD) issued for OU 01. Upon issuance of the Record of Decision, OU 01 and OU 02 will be combined into a single operable unit.

The selected remedy is referred to as the excavation and solidification with private well sampling, sediment removal and long-term monitoring remedy.

The estimated present worth cost to implement the remedy is $5,998,000. The cost to construct the remedy is estimated to be $5,375,000 and the estimated average annual cost is $40,000.

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Re-sampling of the groundwater to confirm past sampling data and re-evaluation of the wells in the area will be conducted as part of the remedial design program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering Green and healthy communities and working landscapes with balanced ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

Lagoon: Excavation and off-site disposal of contaminated lagoon soils to a depth of 4 to 6 feet below the lagoon floor (19 to 21 feet below surrounding grade (bsg)). It is estimated that approximately 1,600 cubic yards of contaminated lagoon soil will be excavated and transported to an off-site TSCA and/or RCRA-permitted disposal facility for treatment and/or disposal. The excavation of lagoon soils to a depth up to six feet (21 feet bsg) will address all PCB concentrations that exceed 50 parts per million (ppm). All soils that contain PCB concentrations above 50 parts per million (ppm) will be disposed off-site as hazardous waste. Excavated soils that contain PCB concentrations above 1,000 parts per million (ppm) will be transported to an approved facility for incineration. Excavated soils that contain PCB concentrations above 500 ppm and below 1,000 ppm that are also a characteristic hazardous waste for metals toxicity will be stabilized on-site and transported to an approved facility for disposal.

On-site Soil: All on-site soils and sub-pavement soils containing lead concentrations greater than the Part 375 commercial SCO of 1,000 ppm will be excavated and stabilized for use as backfill in the lagoon as described in remedy element 4. The areas of on-site excavation are shown on Figure 2. It is estimated that approximately 600 cubic yards of soil and 2,500 cubic yards of sub-pavement soil will be excavated.

Off-site Soil: All areas of off-site soil containing lead concentrations greater than Part 375 residential SCO of 400 ppm will be excavated and stabilized for use as backfill in the lagoon as described in remedy element 4. It is estimated that approximately 325 cubic yards of off-site soil will be excavated from the area shown on Figure 2.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use on-site and residential use off-site will be brought in to complete the backfilling of the excavations, lagoon and establish the designed grades at the site to accommodate installation of the cover system described in remedy element 5. Off-site areas will be restored to pre-existing grades.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented for the on-site lagoon, as indicated on Figure 2. The treatment zone will extend from the bottom of the excavation as described in remedy element 2 (approximately 19 to 21 feet bsg) to the groundwater table, at approximately 28 feet bsg and from the groundwater table to approximately 35 feet bsg in an area where the cadmium toxicity characteristic leaching procedure (TCLP) regulatory limit is exceeded. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

4. Ex-Situ Stabilization; On-site disposal

Ex-situ stabilization will be implemented to treat the lead contaminated soil excavated from on- and off-site as described in remedy element 2. Ex-situ stabilization is a process that mixes agents with contaminated soil to chemically modify the material to allow it to meet remedial goals, allowing it to be placed back on-site. Under this process the excavated contaminated soil (approximately 3,425 cubic yards) will be mixed in a temporary mixing facility (i.e., pug mill, mixer, etc.) with stabilizing agents (i.e., Enviroblend or an equivalent product) to address lead contamination. The treated soil will then be used as backfill in the lagoon and covered with a site cover to prevent direct exposure.

5. Site Cover

A site cover will be required to allow for commercial use of the site. The site will be restored to existing grade and the cover will consist of either structures such as buildings, pavement, sidewalks comprising any site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil meeting the soil cleanup objectives (SCOs) for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Where the soil cover is required over the on-site ISS treatment area, it will consist of a minimum of four feet of soil meeting the SCOs for commercial use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

6. Sediment Removal

Contaminated stream sediment will be removed from tributary D-1-7 to a depth of 12 inches along approximately 1,132 linear feet of stream bed as shown on Figure 2. Approximately, 2,270 cubic yards of sediment will be removed. The removal of sediment to a depth of 12 inches would achieve SCGs for protection of the environment and would be expected to meet residential SCOs. The sediment will be place in the lagoon above the stabilized soils, below the cover system.

The stream will be excavated by diverting or pumping the stream around the contaminated area. Excavated sediments will be replaced with an appropriate substrate and the area restored to pre-excavation contours. Disturbed stream, stream bank and adjacent area vegetation will be re-established by planting and seeding. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Prior to sediment removal, an assessment of the biota and plant communities in the area, including an assessment of the presence of mussels in the disturbed areas will be performed. If mussels are found in the remediation areas or adjacent areas, measures will be taken to limit the deleterious effects of the remedial action.

Following sediment removal, monitoring of restoration success with replacement of failed vegetation and post-removal monitoring of contaminants will be performed.

7. Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);

b. allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and

d. requires compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in element 7.

Engineering Controls: The solidified mass and site cover discussed in elements 2 and 4.

This plan includes, but may not be limited to:

• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

• descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;

• a provision for further delineation of the nature and extent of contamination under the building when the building is demolished and for removal or treatment of any identified source area located under the building if and when the building is demolished;

• a provision for implementing actions recommended to address well contamination if identified;

• provisions for the management and inspection of the identified engineering controls;

• maintaining site access controls and Department notification; and

• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater to assess the performance and effectiveness of the remedy;

• monitoring for site-related groundwater contamination for any off-site private wells, as may be required; and

• a schedule of monitoring and frequency of submittals to the Department.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination. Samples were initially analyzed for full target compound list/target analyte list. Based on historic use and contaminants detected, sampling was then reduced to contaminants of concern.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two categories; polychlorinated biphenyls (PCBs), and inorganics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Groundwater

Groundwater samples were collected from overburden monitoring wells. The samples were collected to assess groundwater conditions on- and off-site. The results indicate that contamination in overburden groundwater at the site exceed the SCGs for inorganics and PCBs. Contaminant levels in downgradient groundwater samples exceed the SCGs for fluoride; however, the downgradient impact is limited in extent. The only known downgradient private well in the vicinity of the site was found to be impacted with fluoride, however subsequent samples of this well found no contamination above the drinking water standards.

Table 1 - Groundwater

Detected Constituents		Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Inorganics	Fluoride	ND – 10,900	1,500	24 of 40
	Barium	ND – 1,420	1,000	1 of 42
	Cadmium	ND – 42.2	5	2 of 44
	Lead	ND – 29.4	25	1 of 40
PCBs	Aroclor 1254	ND – 0.31	0.09	6 of 50

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

The primary groundwater contaminant is fluoride associated with former manufacturing operations at the site. As noted on Figure 3, the primary groundwater contamination is associated with the former lagoon located northeast of the plant building.

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminant that is considered to be the primary contaminant of concern which will drive the remediation of groundwater to be addressed by the remedy selection process is: fluoride.

Soil

During the RI, soil samples were collected from the former lagoon surface (15 feet below surrounding grade (bsg)) and at various depths above and within the groundwater table. The groundwater table is located approximately 14 feet below the lagoon soil surface (29 feet bsg). Samples were also collected from on- and off-site surface soil and soil currently covered with pavement. The results indicate that lagoon soil exceeds the commercial and groundwater protection soil cleanup objectives (SCOs) for metals (i.e. lead, cadmium, and barium) and PCBs (Aroclor 1254) and surface soil and soil currently covered with pavement east and south of the main buildings are contaminated with lead above the residential and commercial SCOs. Fluoride, present in saturated lagoon soil, is likely the source of the groundwater contamination plume. However, there is no SCO for fluoride in soil.

Table 2 – Lagoon Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Inorganics					
Lead	ND – 13,000	63	54/87	450[d]	32/87
Cadmium	ND – 46,000	2.5	47/56	7.5[d]	40/56
Barium	18.5 – 7,710	350	63/81	400	60/81
Fluoride	ND - 327	N/A[e]	N/A	N/A	N/A
Pesticides/PCBs					
Aroclor 1254	ND – 1,100	0.1	31/37	1	31/37

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.
e – SCG is not available

Table 3 – Surface and Sub-Pavement Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Residential Use SCG[b] (ppm)	Frequency Exceeding Residential Use SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Inorganics					
Lead	14.3 – 58,600	400	56/109	450[d]	54/109

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Residential Use.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

The primary soil contaminants are PCBs and metals including lead, fluoride, cadmium and barium associated with the past discharge of industrial wastewater into the lagoon at the site as noted on Figures 4 through 7.

Surface soil and sub-paved surface soil east and south of the main buildings were found to be contaminated with lead above the Protection of Public Health SCO for a residential and commercial property, respectively as shown on Figure 8. The lead contamination is from historical manufacturing operations at the site.

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are, PCBs, lead, fluoride, cadmium and barium.

Surface Water

Surface water samples were collected from tributary D-1-7 of the Neversink River during the RI. Six surface water samples were collected at locations upstream, adjacent and downstream of the site. PCBs and cadmium were not detected in any of the six surface water samples. Lead, barium and fluoride were detected in the surface water samples. However, all concentrations of lead, barium and fluoride detected in the surface water samples were below their NYSDEC water quality standards.

Table 4 – Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Inorganics			
Barium	8.2 – 16.7	1,000	0/6
Lead	ND – 10.4	50	0/6
Fluoride	ND - 360	1,500	0/6

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b - SCG: Ambient Water Quality Standards and Guidance Values (TOGS 1.1.1) and 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards.

No site-related surface water contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for surface water.

Sediments

Sediment samples were collected during the RI at locations upstream, adjacent and downstream of the site along tributary D-1-7 of the Neversink River and from the flood plain adjacent to the main channel of the tributary. The samples were collected to assess the potential impacts to stream sediments from the site and were collected from 0-6 inches and 6-12 inches below the stream bed. The results indicate that sediment in the tributary of the Neversink River exceed the Department's SCGs for sediments for cadmium, lead and PCBs.

Table 5 - Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
Inorganics			
Barium	15.6 – 137	NA	
Fluoride	ND – 53.9	NA	
Cadmium	ND – 3.7	LEL[c] – 0.6	12/48
		SEL[c] – 9	0/48
Lead	ND - 400	LEL[c] - 31	24/52
		SEL[c] - 110	7/52
PCBs			
Total PCBs	ND – 1.470	0.0000258[d]	30/48
		88.898[e]	0/48
		0.6215[f]	2/48
		0.04508[g]	23/48

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department's Technical Guidance for Screening Contaminated Sediments.
c- LEL = Lowest Effects Level and SEL = Severe Effects Level. A sediment is considered contaminated if either of these criteria is exceeded. If the SEL criteria are exceeded, the sediment is severely impacted. If only the LEL is impacted, the impact is considered moderate.
d – Value is based on Human Health Bioaccumulation
e - Value is based on Benthic Aquatic Life Acute Toxicity
f - Value is based on Benthic Aquatic Life Chronic Toxicity
g - Value is based on Wildlife Bioaccumulation

The primary sediment contaminants are lead and PCBs, and to a lesser degree cadmium, associated with the historical discharge of industrial wastewater into the lagoon at the site. As noted on Figure 9, the primary sediment contamination is found between sediment sample locations SED-9 and SED-14.

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of sediment. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment to be addressed by the remedy selection process are, lead, cadmium and PCBs.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A. The lagoon soil remedial action alternatives include the OU 01 portion of the lagoon soil.

Lagoon Soil Remedial Action Alternatives

Alternative LS-1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative LS-2: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative includes: excavation and off-site disposal of all soil contamination above the unrestricted soil cleanup objectives. The total quantity of soil to be excavated and sent off-site for treatment or disposal is estimated to be 9,800 cubic yards. When excavation is complete, the excavated area of the lagoon would be backfilled to original grade using clean imported fill. Vegetated areas would receive a six inch layer of topsoil.

This alternative removes all contamination above unrestricted SCOs therefore no institutional controls would be necessary and no annual cost would be incurred.

Capital Cost: *$7,730,000*

Alternative LS-3: Excavation (Top 6 to 8 ft.), Disposal, Stabilization, Geomembrane Liner/Asphalt Cap, Institutional Controls, and Long-Term Monitoring

This alternative includes the excavation and off-site disposal of the top 6 to 8 feet of the lagoon soils to a Toxic Substances and Control Act/Resource Conservation Recovery Act (TSCA/RCRA) permitted facility. The total quantity of soil to be excavated and disposed off-site is estimated to be 2,320 cubic yards.

The remaining lagoon soils will be excavated to a depth of 28 feet below surrounding grade (bsg) or groundwater, whichever is encountered first, and stabilized on-site with trisodium phosphate to transform the metal constituents into insoluble metal phosphate compounds. Several feet of clean fill will be placed in the lagoon excavation to provide a buffer between the groundwater table and the treated soil that will be subsequently placed back into the lagoon. The excavated area will be backfilled with clean fill to the existing grade of the surrounding area and a geomembrane liner/asphalt cap will be installed over the area to prevent precipitation infiltration.

This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth: *$3,606,000*
Capital Cost: *$3,384,000*
Annual Costs: *$14,000*

Alternative LS-4: Excavation and Disposal (Top 4 to 6 feet), Ex-Situ Stabilization of Unsaturated and Saturated Soils, Geomembrane/Asphalt Cap and Institutional Controls

This alternative includes the excavation and off-site disposal of the top 4 to 6 feet of the lagoon soils to a TSCA/RCRA permitted facility. The total quantity of soil to be excavated and disposed off-site is estimated to be 1,600 cubic yards.

The remaining impacted soil in the unsaturated zone will be excavated to a depth of 28 feet bsg or groundwater, whichever is encountered first, and stabilized on-site. In addition, soil below this level in areas where cadmium concentrations fail the TCLP test, currently estimated to be 35 feet bsg, will be excavated and stabilized on-site. The impacted lagoon soils will be stabilized on-site with trisodium phosphate or Portland cement to transform the metal constituents into insoluble metal phosphate compounds. Several feet of clean fill will be placed in the lagoon excavation to provide a buffer between the groundwater table and the treated soil that will be subsequently be placed back into the lagoon above the saturated zone. The excavated area will be backfilled with clean fill to the existing grade of the surrounding area and a geomembrane liner/asphalt cap will be installed over the area to prevent precipitation infiltration.

This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth: *$3,801,000*
Capital Cost: *$3,579,000*
Annual Costs: *$14,000*

Alternative LS-5: Excavation and Disposal (Top 4 to 6 feet), In-Situ Solidification, Site Cover, Institutional Controls, and Long-Term Monitoring

This alternative includes the excavation and off-site disposal of the top 4 to 6 feet of the lagoon soils to a TSCA/RCRA permitted facility. The total quantity of soil to be excavated and disposed off-site is estimated to be 1,600 cubic yards.

The remaining impacted soils in the unsaturated zone (approximately 28 feet bsg) will be solidified in place using shallow mixing technology. In addition, solidification of soil below this level in areas where cadmium concentrations fail the TCLP test, currently estimated to be 35 feet bsg. Tri-sodium phosphate and/or Portland cement will be used to transform the metal constituents into insoluble metal phosphate compounds. The excavated area will be backfilled with clean fill to the existing grade of the surrounding area and an asphalt cap will be installed over the area to prevent precipitation infiltration.

This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth: *$2,761,000*
Capital Cost: *$2,539,000*

Annual Costs: *$14,000*

Surface Soil Remedial Action Alternative

Alternative SS-1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative SS-2: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative includes: excavation and off-site disposal of all surface soil and sub-pavement soil contamination above the unrestricted soil cleanup objectives. The total quantity of soil to be excavated and sent off-site for disposal is estimated to be 10,530 cubic yards. When excavation is complete, excavation areas would be backfilled to original grade using clean imported fill. Vegetated areas would receive a six inch layer of topsoil.

This alternative removes all contamination above unrestricted SCOs therefore no institutional controls would be necessary and no annual cost would be incurred.

Capital Cost: *$7,252,000*

Alternative SS-3: Excavation, Ex-Situ Stabilization and On-Site Disposal

This alternative includes the excavation of impacted on- and off-site surface soils and sub-pavement soils, ex-situ stabilization and placement of the stabilized soils in the lagoon as backfill beneath the cover system.

It is estimated that approximately 325 cubic yards of soil with concentrations above the residential SCO and 600 cubic yards of surface soil and 2,500 cubic yards of sub-pavement soil above the commercial SCO would be excavated. When excavation is complete, excavation areas outside the pavement area will be backfilled to original grade using clean imported fill. Vegetated areas will receive a six inch layer of topsoil. Excavation areas within the pavement area will be re-paved. Asphalt paving removed during excavation will be disposed off-site or reused on-site as backfill in the lagoon below the cover system.

The excavated contaminated soil will be mixed with tri-sodium phosphate or an equivalent product to create insoluble metal phosphate compounds. The treated soil will then be used as backfill in the lagoon and covered with a cover system.

Present Worth: *$1,206,000*
Capital Cost: *$1,206,000*
Annual Costs: *$0*

Sediment Remedial Action Alternatives

Alternative SED-1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative SED-2: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A. This alternative includes: removal and off-site disposal of contaminated sediment from Tributary D-1-7 with metal concentrations above the LEL and PCB concentrations above 1 mg/kg.

Removal of sediments will be conducted using conventional earth moving equipment. A cofferdam would be constructed upstream of the sediment removal areas and the stream flow pumped or diverted around the excavation areas. The total quantity of sediment to be removed and sent off-site for disposal is estimated to be 4,230 cubic yards.

The dredged areas will be backfilled to restore original bathymetry. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

This alternative removes all contamination above unrestricted SCOs therefore no institutional controls will be necessary and no annual cost will be incurred.

Capital Cost:.....$3,751,000

Alternative SED-3: Excavation/Dredging of Targeted Lead and PCB Impacted Sediment

This alternative includes the excavation of all stream bed sediments between sediment sample locations SED-9 and SED-14 to a depth of 12 inches in Tributary D-1-7. It is estimated that 64% of sediment with lead concentrations above the severe effects level (SEL), 63% of sediment with cadmium concentrations above the lower effects level (LEL) and all sediment where PCB concentrations exceed 1 mg/kg will be removed from the stream.

The total quantity of sediment to be removed is estimated to be 2,270 cubic yards. The sediment will be placed in the lagoon above the stabilized soils, below the cover system.

Removal of sediments will be conducted using conventional earth moving equipment. A cofferdam will be constructed upstream of the sediment removal areas and the stream will be dredged by diverting or pumping the stream around the contaminated area. Excavated sediments will be replaced with an appropriate substrate and the area restored to pre-excavation contours. Disturbed stream, stream bank and adjacent area vegetation will be re-established by planting and seeding. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Prior to sediment removal an assessment of the biota and plant communities in the area, especially an assessment of potential mussels in removal areas will be performed. If mussels are found in the remediation areas or adjacent areas, measures will be taken to limit the deleterious effects of the remedial action.

Following sediment removal, monitoring of restoration success with replacement of failed vegetation and post-removal monitoring of contaminants will be performed.

Present Worth: *$1,707,000*
Capital Cost: *$1,630,000*
Annual Costs: *$5,000*

Alternative SED-4: Excavation/Removal of all Impacted Sediment and On-Site Disposal

This alternative includes the excavation of all sediments where the sediment metal concentrations are above the LEL and where PCB concentrations are above 1 mg/kg to a depth of 12 inches in Tributary D-1-7 and placement of the sediment in the lagoon as backfill.

Removal of sediments will be conducted using conventional earth moving equipment. A cofferdam would be constructed upstream of the sediment removal areas and the stream flow pumped or diverted around the excavation areas. The total quantity of sediment to be removed is estimated to be 4,230 cubic yards. The sediment will be placed in the lagoon above the stabilized soils, below the cover system.

The dredged areas will be backfilled to restore original bathymetry. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Prior to sediment removal an assessment of the biota and plant communities in the area, especially an assessment of potential mussels in removal areas will be performed. If mussels are found in the remediation areas or adjacent areas, measures will be taken to limit the deleterious effects of the remedial action.

Following sediment removal, monitoring of restoration success with replacement of failed vegetation and post-removal monitoring of contaminants will be performed.

Present Worth: *$2,751,000*
Capital Cost: *$2,674,000*
Annual Costs: *$5,000*

Alternative SED-5: Excavation/Removal of Highest Lead and PCB Impacted Sediments

This alternative includes the excavation of sediment to a depth of 12 inches where PCB concentrations are above 1 mg/kg and where the highest lead concentrations were detected in Tributary D-1-7. It is estimated that 33% of the sediment with lead concentrations above the SEL and approximately 32% of sediment with cadmium concentrations above the LEL will be removed from the stream.

The total quantity of sediment to be excavated is estimated to be 813 cubic yards of sediment. The sediment will be placed in the lagoon above the stabilized soils, below the cover system.

The excavated sediment will be placed in the lagoon as backfill above the stabilized soils, below the cover system. Removal of sediments will be conducted using conventional earth moving equipment. A cofferdam will be

constructed upstream of the sediment removal areas and the stream will be dredged by diverting or pumping the stream around the contaminated area.

Excavated sediments will be replaced with an appropriate substrate and the area restored to pre-excavation contours. The dredged areas will be backfilled to the pre-existing contours using appropriate materials and the disturbed areas of the stream bank and adjacent area vegetation will be re-established. The restoration of the riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Prior to sediment removal an assessment of the biota and plant communities in the area, especially an assessment of potential mussels in removal areas will be performed. If mussels are found in the remediation areas or adjacent areas, measures will be taken to limit the deleterious effects of the remedial action.

Following sediment removal, monitoring of restoration success with replacement of failed vegetation and post-removal monitoring of contaminants will be performed.

Present Worth: *$1,253,000*
Capital Cost: *$1,176,000*
Annual Costs: *$5,000*

Groundwater Remedial Action Alternatives

Alternative GW-1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative GW-2 Groundwater Control, Treatment and Long-Term Monitoring

This alternative includes groundwater treatment and long-term monitoring. Groundwater will be collected downgradient of the lagoon and will be treated with activated alumina for fluoride, and if necessary with precipitation for lead and cadmium and activated carbon for PCBs. The treated water will be discharged to Tributary D-1-7. The treatment system configuration will be determined during design.

A long-term groundwater monitoring program for all on-site and off-site monitoring wells will be established. Monitoring wells will be sampled semi-annually for fluoride, barium, cadmium, lead and PCBs.

Present Worth: *$4,999,000*
Capital Cost: *$1,049,000*
Annual Costs: *$257,000*

Alternative GW-3: Private Well Re-Sampling and Long-Term Monitoring

This alternative includes a re-evaluation of the potential for off-site private well supplies to be impacted by site-related contamination in groundwater, including a provision for implementing actions recommended to address exposures.

A long-term groundwater monitoring program for all on-site and off-site groundwater monitoring wells and the off-site potable well where levels previously exceeded the drinking water standard for fluoride will be established. Monitoring wells will be sampled semi-annually for fluoride, barium, cadmium, lead and PCBs.

Present Worth: *$324,000*
Capital Cost: *$0*
Annual Costs: *$21,000*

Exhibit C
Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Lagoon Soil Alternatives			
LS-1: No Action	0	0	0
LS-2: Restoration to Pre-Disposal or Unrestricted Conditions	$7,730,000	0	$7,730,000
LS-3: Excavation (Top 6 to 8 feet), Disposal, Stabilization, Geomembrane Liner/Asphalt Cap, Institutional Controls, and Long-Term Monitoring	$3,384,000	$14,000	$3,606,000
LS-4: Excavation and Disposal (Top 4 to 6 feet), Ex-Situ Stabilization Unsaturated and Saturated Soils, Geomembrane/ Asphalt Cap, and Institutional Controls	$3,579,000	$14,000	$3,801,000
LS-5: Excavation and Disposal (Top 4 to 6 feet), In-Situ Solidification, Site Cover, Institutional Controls, and Long-Term Monitoring	$2,539,000	$14,000	$2,761,000
Surface Soil Alternatives			
SS-1: No Action	0	0	0
SS-2: Restoration to Pre-Disposal or Unrestricted Conditions	$7,252,000	0	$7,252,000
SS-3: Excavation, Ex-Situ Stabilization and On-Site Disposal	$1,206,000	0	$1,206,000
Sediment Alternatives			
SED-1: No Action	0	0	0
SED-2: Restoration to Pre-Disposal or Unrestricted Conditions	$3,751,000	0	$3,751,000
SED-3: Excavation/Dredging of Targeted Lead and PCB Impacted Sediment	$1,630,000	$5,000	$1,707,000
SED-4: Excavation/Removal of all Impacted Sediment and On-Site	$2,674,000	$5,000	$2,751,000

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Disposal			
SED-5: Excavation/Removal of Highest Lead and PCB Impacted Sediments	$ 1,176,000	$5,000	$1,253,000
Groundwater Alternatives			
GW-1: No Action	0	0	0
GW-2: Groundwater Control, Treatment and Long-Term Monitoring	$1,049,000	$257,000	$4,999,000
GW-3: Private Well Re-Sampling and Long-Term Monitoring	0	$21,000	$324,000
Proposed Remedy - Alternatives			
LS-5, SS-3, SED-3 and GW-3: Excavation and Solidification with Private Well Sampling and Long-Term Monitoring	$5,375,000	$40,000	$5,998,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department has selected a combination of Alternatives LS-5 “Excavation and Disposal (Top 4 to 6 feet), In-Situ Solidification, Site Cover, Institutional Controls”, SS-3 “Excavation, Ex-Situ Stabilization and On-Site Disposal”, SED-3 “Excavation/Dredging of Targeted Lead and PCB Impacted Sediment”, and GW-3 “Private Well Re-Sampling and Long-Term Monitoring” as the remedy for this site. Alternatives LS-5, SS-3, SED-3 and GW-3 will achieve the remediation goals for the site by removing or solidifying contaminants of concern (COCs) in the on-site lagoon, removing surface soils on- and off-site exceeding commercial and residential SCOs, respectively, removing impacted sediments, and eliminating the source of fluoride concentrations in groundwater above the New York State Department of Health (NYSDOH) drinking water standard. IC/ECs will also be established to protect human health and the environment from remaining contamination. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 2.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternatives LS-1, SS-1, SED-1 and GW-1 (No Action) do not provide any additional protection to public health and the environment and will not be evaluated further. Alternatives LS-2, SS-2, and SED-2 by removing all soil and sediments contaminated above the “unrestricted” soil cleanup objectives, meet the threshold criteria and provide the highest level of protection for human health and the environment. Alternatives LS-3, LS-4, LS-5, SS-3, SED-3, SED-4, and SED-5 also comply with this criterion but to a lesser degree or with lower certainty as some contamination will remain.

The selected remedy Alternative LS-5 will satisfy this criterion by removing and disposing off-site impacted lagoon soils to a depth of 4 to 6 feet and solidifying the remaining impacted lagoon soils. All soils that contain PCB concentrations above 50 parts per million (ppm) will be removed and disposed off-site. Alternative SS-3 will satisfy this criterion by removing on-and off-site impacted surface soil and sub-pavement soils and stabilizing this material for use as backfill in the lagoon. Removing surface soils will eliminate the potential for exposure to the public. Engineering (i.e., site cover) and institutional controls (i.e., environmental easement) will further limit exposure. By removing/solidifying these materials, the source of contamination to the groundwater will also be addressed.

Alternative GW-2 provides a high degree of protection for human health and the environment through groundwater treatment and long-term monitoring. Alternative GW-3 will provide a level of protection to public health and the environment through private well sampling and long-term monitoring.

Alternative SED-3 will satisfy this criterion by removing impacted sediment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Lagoon soil alternative LS-2, surface soil alternative SS-2 and sediment alternative SED-2 comply with SCGs without the use of engineering and institutional controls.

Lagoon soil alternatives LS-4 and LS-5 and surface soil alternative SS-3 comply with SCGs. They address impacted lagoon soil, surface soil and sub-pavement soil and comply with the restricted use soil cleanup objectives at the surface through construction of a cover system. They also create the conditions necessary to restore groundwater quality to the extent practicable.

Sediment alternatives SED-3 and SED-4 and groundwater alternative GW-2 also comply with SCGs to the extent practicable. Lagoon soil alternative LS-3, sediment alternative SED-5 and groundwater alternative GW-3 comply with this criterion but to a lesser degree or lower certainty. Because lagoon soil alternatives LS-2, LS-3, LS-4, and LS-5, surface soil alternatives SS-2 and SS-3, sediment alternatives SED-2, SED-3, SED-4, and SED-5, and groundwater alternatives GW-2 and GW-3 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation of the contaminated soils/sediment. Lagoon soil alternatives LS-2, LS-4 and LS-5 provide the most long-term effectiveness by eliminating or minimizing long-term residual risks since the majority of impacted soils will be either permanently removed and transported off site for disposal or permanently stabilized/solidified and rendered immobile. The potential for direct contact will be decreased. Remaining impacts from alternatives LS-4 and LS-5 will be addressed by institutional controls. Alternative LS-3 provides a lesser degree of long-term effectiveness.

Surface soil alternative SS-2 provides a high degree of long-term effectiveness by the removal and off-site disposal of surface soil and sub-pavement soil with concentrations above unrestricted SCOs. Surface soil alternative SS-3 will also provide a high degree of long-term effectiveness by eliminating or minimizing long-term residual risks since all on-site soils and sub-pavement soils with concentrations above the commercial SCOs and all off-site surface soils with concentrations above the residential SCOs will be permanently removed and stabilized on-site, rendering these soils immobile. The stabilized soils will be used as backfill in the lagoon below the cover system and addressed by institutional controls.

Sediment alternatives SED-2, SED-3, SED-4 and SED-5 call for the removal of the majority of the impacted materials in the stream. Alternative SED-2 and SED-4 provide the most long-term effectiveness as they remove all sediments with cadmium and lead concentrations above the NYSDEC LEL and PCBs above 1 mg/kg from the stream. However, alternatives SED-2 and SED-4 have a significantly larger impact on the existing aquatic habitat

than either alternative SED-3 or SED-5. Alternative SED-5 has the lowest long-term effectiveness as it removes the least amount of the sediments with lead concentrations above the SEL.

Groundwater alternative GW-2 provides a high degree of long-term effectiveness by eliminating the continued off-site movement of groundwater with fluoride concentrations above the groundwater standards. Alternative GW-3 consists of private well sampling to re-evaluate the potential impact to off-site private well supplies and the site management plan (SMP) will include a provision for implementing actions recommended to address any exposures which may be identified. Long-term monitoring to evaluate groundwater quality is included in GW-2 and GW-3.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternatives which remove contaminated materials offer the highest degree of mobility, toxicity, and volume reduction. Alternatives LS-2, SS-2 and SED-2 reduce the on-site mobility and volume of contaminants by transferring all soil and sediments contaminated above the "unrestricted" soil cleanup objectives to an approved off-site location. However, depending on the disposal facility, the volume of the material will not be reduced. Alternative LS-3, which calls for the off-site treatment and disposal of the top six to eight feet of soils, and stabilization of soils at eight to fourteen feet depth, will effectively reduce the mobility of the contaminated material. Alternatives LS-4 and LS-5, which call for the complete removal of the upper four to six feet of soils, and stabilization of the remaining soils in the unsaturated zone and seven feet of soils in the saturated zone over 20% of the lagoon, effectively reduce the mobility of the contaminated material.

Alternatives SED-3, SED-4 and SED-5 reduce the mobility of contamination in the stream by removing contaminated sediments and placing them in the lagoon above the solidified lagoon material and beneath a cap. The total amount of sediments to be removed for alternatives SED-3, SED-4 and SED-5 is approximately 2,270 cubic yards, 4, 231 cubic yards, and 813 cubic yards, respectively. The toxicity and volume of sediment contaminants is not directly reduced by these alternatives via treatment or recycling. However, the toxicity of the sediment to aquatic life in the stream is reduced by the removal of the sediments from the stream.

Alternative GW-2, which involves groundwater control and treatment, will reduce the volume of fluoride leaving the site. Toxicity of the fluoride will not be affected. Alternative GW-3 will not reduce the toxicity, mobility or volume of contaminants but will include provisions in the SMP to address any impact from the site to private wells that may be identified.

Alternative SS-3, which calls for stabilization of on- and off-site surface and sub-pavement soils with concentrations above the commercial and residential SCGs and placement of these soils in the lagoon as backfill above the water table and below the site cap, will effectively reduce the mobility of contaminated surface soils.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives LS-2, LS-3, LS-4, LS-5, SS-2 and SS-3 all have short-term impacts which could easily be controlled. Alternatives LS-2 and SS-2 will have the most significant short-term impacts due to the intrusive activities involved with the excavation and handling of impacted soil. The time needed to achieve the remediation goals is the shortest for alternative LS-5 and longest for alternative LS-2.

Sediment alternatives SED-2, SED-3, SED-4 and SED-5 all have short-term impacts to wildlife receptors due to the disruption of the stream bed and short-term impacts to the surrounding area due to the excavation, handling, and transportation of sediments. Sediment alternative SED-5 will have the least impact to wildlife receptors compared to SED-3 and SED-4 due to the limited area of excavation. The disturbed area of the stream bank and adjacent area vegetation will be re-established. Maximizing habitat value and creating habitat are green remediation concepts encouraged by the Department's DER-31.

Groundwater alternatives GW-2 and GW-3 do not have any short-term impacts.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

All alternatives, with the exception of alternatives LS-2, SS-2 and SED-2; Restoration to Unrestricted conditions, will require institutional controls. Institutional controls are easily implementable, but require coordination with C&D Technologies, Inc., the current property owner to file an environmental easement on the site.

Alternatives LS-5 and SS-3 are favorable in that they are readily implementable. Alternatives LS-2, LS-3 and LS-4 pose concerns with the implementation of the excavations. Special excavation procedures (sheet pile installation) will be required for excavating soil in the area of the lagoons to stabilize the adjacent building foundation and the excavation. There will also be greater truck staging and traffic.

Alternatives SED-3, SED-4 and SED-5 can be implemented using readily available materials, equipment and construction practices. The sediment removal will most likely be completed in stages due to the length of the excavation areas.

Alternative GW-3 utilizes common and readily available technology and services that are easily implemented. Alternative GW-2 requires the design of the ground water extraction system and implementability is dependent on sub-surface hydrogeology.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. The least expensive lagoon alternative is alternative LS-5 because it does not require a sheet piling system. With the large volume of soil to be handled and the extensive sheet piling system required, alternatives LS-2, LS-3 and LS-4 have the highest present worth of the alternatives. Alternative LS-2 will only marginally increase in protectiveness over alternative LS-5, but results in approximately $5 million more in cost.

Alternative SED-3 is considered more cost effective than alternative SED-4. Although alternative SED-5 has a lower present worth it removes very little material relative to alternatives SED-3 and SED-4.

Alternative GW-3 will only require low periodic groundwater monitoring costs and potential costs associated

with any actions recommended to address exposures. Alternative GW-2 is the most costly groundwater alternative, an additional $4.5 million more than Alternative GW-3.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

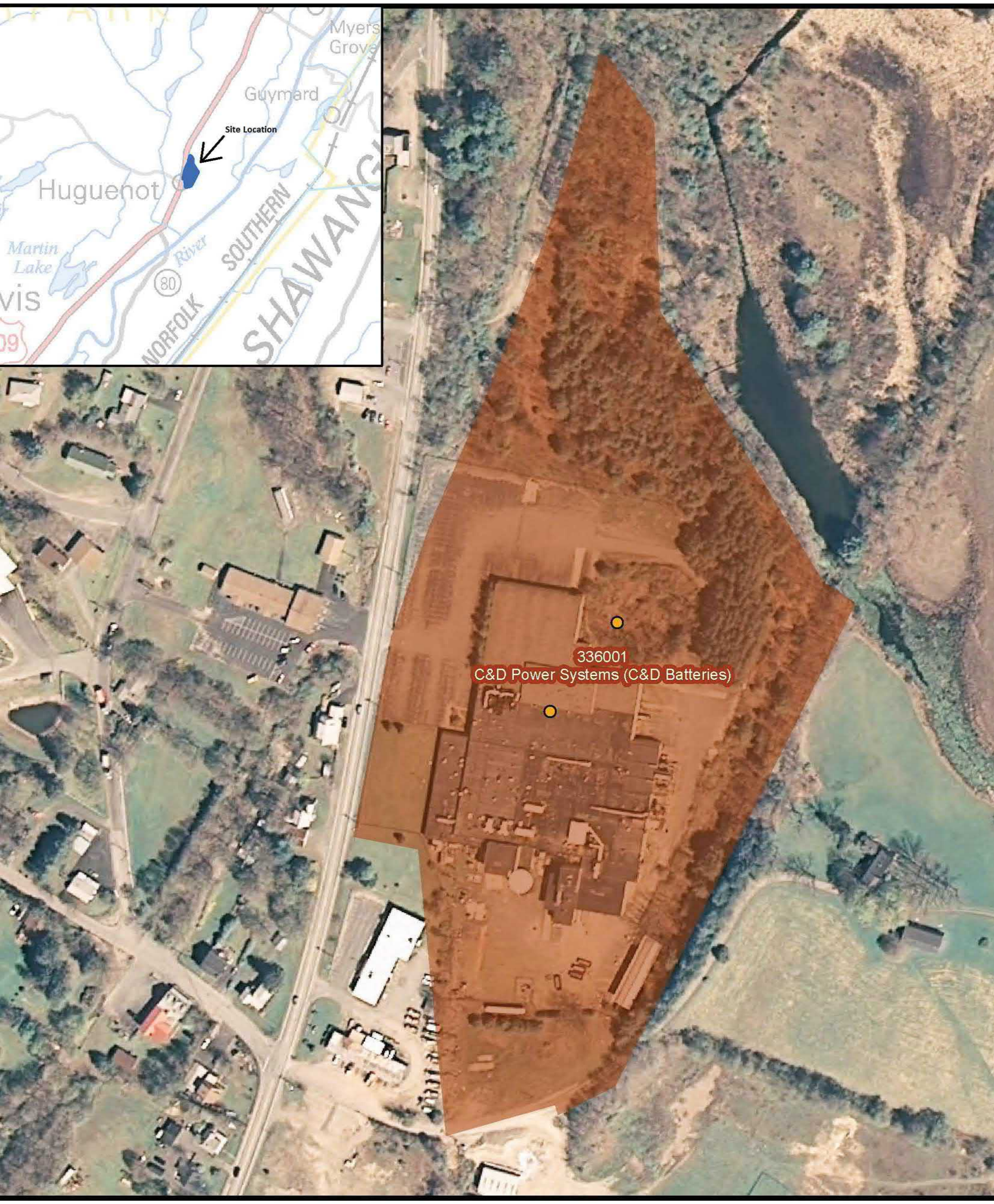
The anticipated future use of the site is commercial. Alternatives LS-3, LS-4, LS-5 and SS-3 will be less desirable because at least some contaminated soil remains on the property whereas alternatives LS-2 and SS-2 remove the contaminated soil permanently. However, the remaining contamination with alternatives LS-3, LS-4, LS-5 and SS-3 could be readily controlled with implementation of a site management plan. With alternatives LS-2 and SS-2 restrictions on the site use will not be necessary.

Sediment alternatives SED-2, SED-3, SED-4 and SED-5 achieve SCGs for protection of the environment and will be expected to meet residential SCOs.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP were evaluated. A responsiveness summary was prepared that describes public comments received and the manner in which the Department addressed the concerns raised.

Alternatives LS-5, SS-3, SED-3 and GW-3 were selected because, as described above, they satisfy the threshold criteria and provide the best balance of the balancing criterion.



N

4080 160 240 320
Feet

Figure 1
Site Location
C&D Power Systems
Site #336001

FIGURE 2
C&D Power Systems Site (336001)
Proposed Remediation Areas
N
W
E
S
MW-12
MW-13
MW-6
MW-7
MW-14
MW-8
MW-9
MW-10
Site Boundary
MW-17
MW-17A
Legend
Long Term Ground Water Monitoring Locations
Lagoon Soil-3
Residential SCO Cleanup Area
Commercial SCO Cleanup Area
SED-1 Alternative
Lagoon Soil Alternative Soil- 3: Excavation with off-site disposal and on-site In-situ solidification/stabilization.
Sediment Alternative SED-1: Removal of all stream bed sediment between sediment sample locations SED-9 and SED-14 and placement in lagoon.
Surface Soil Alternative: Ex-situ stabilization and placement of the soils in the lagoon. On-site soils cleanup to commercial use soil cleanup objective. Off-site soils cleanup to residential use soil cleanup objective.
Ground Water Alternative GW-3 Long-Term Monitoring: Semi-annual collection of ground water samples from ten ground water monitoring wells and the Orange County rental property well.
100 50 0 100 Feet
Proposed Locations of Existing Monitoring Wells to be Included in Long-Term Monitoring Ground Water Monitoring Program Are Approximate

LEGEND

- = SEDIMENT SAMPLE SED 1 THRU SED 4
- = TEST PIT
- = MONITORING WELL
- = FIRE HYDRANT
- = FENCE POST
- = CHAIN LINK FENCE
- = 1ST FLOOR ELEVATION
- = EDGE OF PAVEMENT
- = TREE LINE
- = CONTOUR LINE
- = INDEX CONTOUR LINE
- = ELEVATION
- = SOIL SAMPLE

OU - 2 RI SAMPLING LOCATIONS

- NEW MONITORING WELL LOCATION
- SW-1 THROUGH SW-6
- SED-5 THROUGH SED-10
- SSCMP – SURFICIAL SOIL SAMPLE AT 12" CMP

NOTES:

Datum : Based on ground elevation of MW-1
Contour Interval = 1'

NA : Indicates Not Analyzed

All Results in ug / L

Values in Bold Exceed Ground water Standard.

July 31, 2001: Values in ( ) is field filtered or dissolved value.

July 31, 2001: Value / Value represents sample results from Water Sample obtained with bailer / Sample result from Micro-Purging procedure.

GROUNDWATER MONITORING WELL ID: MW-15

Compound	Aug. 27, 2003	March 30, 2005
Barium	80.6	132
Cadmium	<0.6	<0.3
Lead	<2.1	<2.9
Fluoride	120	<100
PCB s	0.078	<0.065

GROUNDWATER MONITORING WELL ID: MW-8

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug. 27, 2003	March 31, 2005
Barium	26.7	NA	NA	21.6 (14.2)	15.2	12.56
Cadmium	NA	<5.0		<0.2 (<0.2)	<0.6	<0.3
Lead	17.5	NA		<2.8	<2.1	4.8
Lead (dissolved)	<3.0	NA		<2.8	NA	NA
Fluoride	**5,350**	NA		**6,300**	**6,560**	**5,320**
Fluoride (dissolved)	**5,120**	NA		NA	NA	NA
PCB s	NA	<1.0	<0.05	<0.065	<0.065	<0.065

GROUNDWATER MONITORING WELL ID: MW-7

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug. 27, 2003	March 31, 2005
Barium	17.9	NA	NA	855 / 25.4	25.1	9.2
Cadmium	1.0 U	<5.0		**5.6** / 0.47	<0.6	0.67
Lead	15.4	NA		<2.8 / <2.8	<2.1	<2.9
Lead (dissolved)	<3.0	NA		NA	NA	NA
Fluoride	**10,900**	NA		**8,700 / 8,600**	**7,870**	**6,440**
Fluoride (dissolved)	**10,800**	NA		NA	NA	NA
PCB s	< 1.0	< 1.1	0.067	**0.31 / 0.14**	<0.065	<0.065

GROUNDWATER MONITORING WELL ID: MW-6

Compound (ug/L)	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug 26, 2003	March 31, 2005
Barium	13.0	NA	NA	39.1 / 22.8	7.8	131
Cadmium	<1.0	<5.0		0.4 / <0.2	<0.6	0.35
Lead	**29.4**	NA		3 / < 2.8	< 2.1	6.8
Lead (dissolved)	<3.0	NA		NA	NA	NA
Fluoride	319	NA		1,100 / 580	140	**2,360**
Fluoride (dissolved)	264	NA		NA	NA	NA
PCB s	<1.0	<1.0	**0.24**	**0.23** / 0.051 J	<0.065	0.24

GROUNDWATER MONITORING WELL ID: MW-16

Compound	Aug. 27, 2003	March 30, 2005
Barium	16.1	42.7
Cadmium	<0.6	<0.3
Lead	<2.1	6.3
Fluoride	<100	<100
PCB s	0.035	<0.065

GROUNDWATER MONITORING WELL ID: MW-17A

Compound	Aug. 27, 2003	March 30, 2005
Barium	72.5	49
Cadmium	<0.6	<0.3
Lead	<2.1	<2.9
Fluoride	<100	<100
PCB s	0.032	<0.065

Compound	NYSDEC Ground water Standard (ug/L)
Barium	1,000
Cadmium	5
Lead	25
Fluoride	1,500
PCB s	0.09

GROUNDWATER MONITORING WELL ID: MW-13

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug. 26, 2003	March 30, 2005
Barium	24.7	NA	NA	13.7	20.3	11.8
Cadmium	NA	<5.0		<0.2	<0.6	<0.3
Lead	5.2	NA		< 2.8	< 2.1	< 2.9
Lead (dissolved)	<2.0	NA		NA	NA	NA
Fluoride	642	NA		220	<100	<100
Fluoride (dissolved)	636	NA		NA	NA	NA
PCB s	NA	<1.4	<0.05	<0.065	<0.065	<0.065

GROUNDWATER MONITORING WELL ID: MW-12

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug 26, 2003
Barium	56.8	NA	NA	9.5	16.4
Cadmium	NA	<5.0		<0.2	<0.6
Lead	17.7	NA		< 2.8	< 2.1
Lead (dissolved)	6.8	NA		NA	NA
Fluoride	521	NA		310	290
Fluoride (dissolved)	501	NA		NA	NA
PCB s	NA	<1.0	<0.05	0.041J	<0.065

GROUNDWATER MONITORING WELL ID: MW-12

Compound	April 1, 2005
Barium	17.7
Cadmium	<0.3
Lead	< 2.9
Lead (dissolved)	NA
Fluoride	170
Fluoride (dissolved)	NA
PCB s	<0.065

GROUNDWATER MONITORING WELL ID: MW-9

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	July 31, 2001	Aug. 27, 2003	March 31, 2005
Barium	28.5	NA	NA	34.1 (16.6)	18.7	18.5
Cadmium	NA	<5.0		<0.2 (<0.2)	<0.6	<0.3
Lead	20.5	NA		4.7	<2.1	<2.9
Lead (dissolved)	<3.0	NA		<2.8	NA	NA
Fluoride	**6,490**	NA		**6,200**	**6,520**	**5,180**
Fluoride (dissolved)	**6,390**	NA		NA	NA	NA
PCB s	NA	<1.0	<0.05	<0.065	<0.065	<0.065

GROUNDWATER MONITORING WELL ID: MW-10

Compound	Sept. 9,1999	Jan. 13, 2000	March 27, 2000	Aug. 27, 2003	March 31, 2005
Barium	124	NA	NA	48.5	28.2
Cadmium	NA	<5.0		<0.6	<0.3
Lead	13.1	NA		<2.1	<2.9
Lead (dissolved)	3.0 U	NA		NA	NA
Fluoride	**3,340**	NA		**5,530**	**6,160**
Fluoride (dissolved)	**3,320**	NA		NA	NA
PCB s	NA	1.0	<0.05	<0.065	<0.065

GROUNDWATER MONITORING WELL ID: MW-17

Compound	Aug. 27, 2003	March 30, 2005
Barium	21.8	110
Cadmium	<0.6	<0.3
Lead	<2.1	<2.9
Fluoride	**1,800**	**2,120**
PCB s	0.063	<0.065

GROUNDWATER MONITORING WELL ID: MW-14

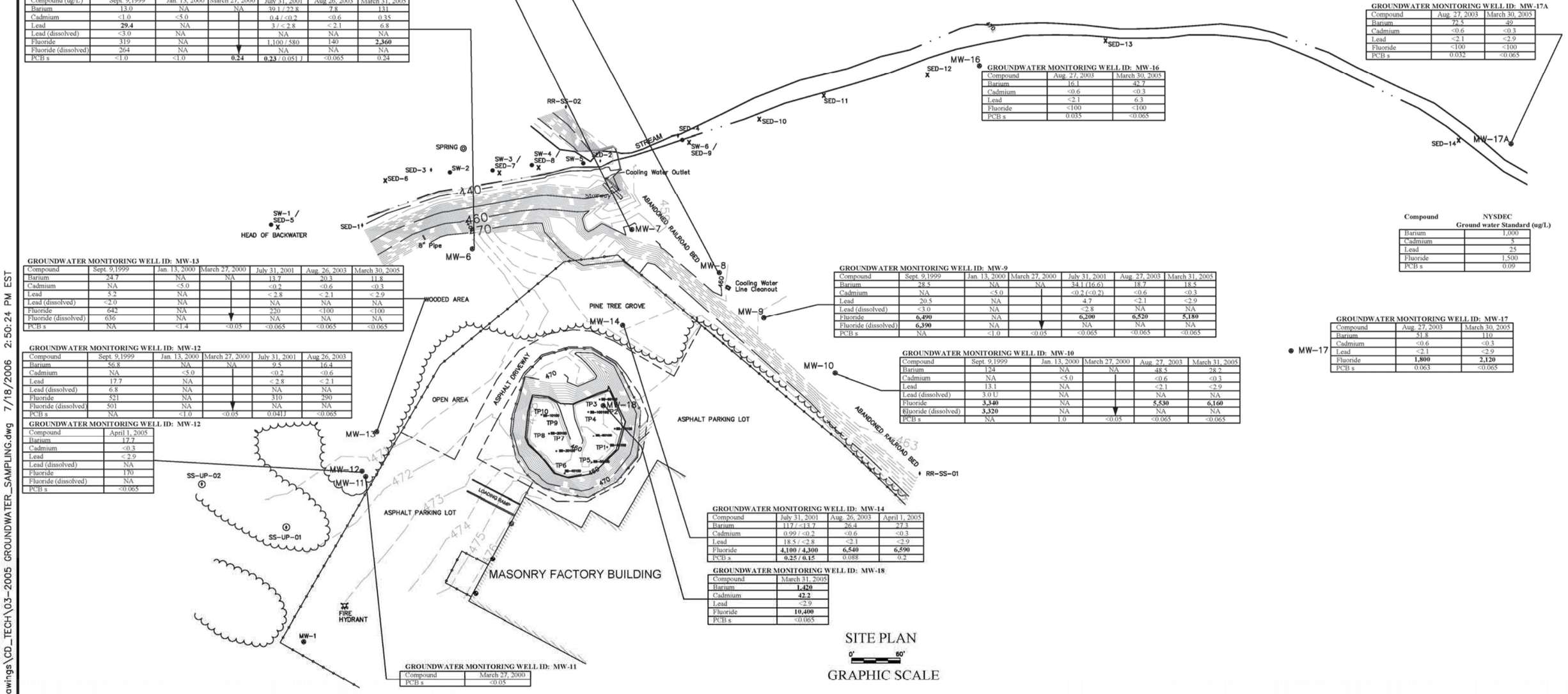
Compound	July 31, 2001	Aug. 26, 2003	April 1, 2005
Barium	117 / <13.7	26.4	27.3
Cadmium	0.99 / <0.2	<0.6	<0.3
Lead	18.5 / <2.8	<2.1	<2.9
Fluoride	**4,100 / 4,300**	**6,540**	**6,590**
PCB s	**0.25 / 0.15**	0.088	0.2

GROUNDWATER MONITORING WELL ID: MW-18

Compound	March 31, 2005
Barium	**1,420**
Cadmium	**42.2**
Lead	<2.9
Fluoride	**10,400**
PCB s	<0.065

GROUNDWATER MONITORING WELL ID: MW-11

Compound	March 27, 2000
PCB s	<0.05



SITE PLAN

DATE: 07-18-06
DRAWN BY: KJ
SCALE: AS SHOWN
REVIEWED BY: EF

DELAWARE ENGINEERING, P.C.
ALBANY:
28 Madison Avenue Extension - Albany, NY 12203
Phone: (518) 452-1290 - Fax: (518) 452-1335
COMMENTS:

REVISIONS

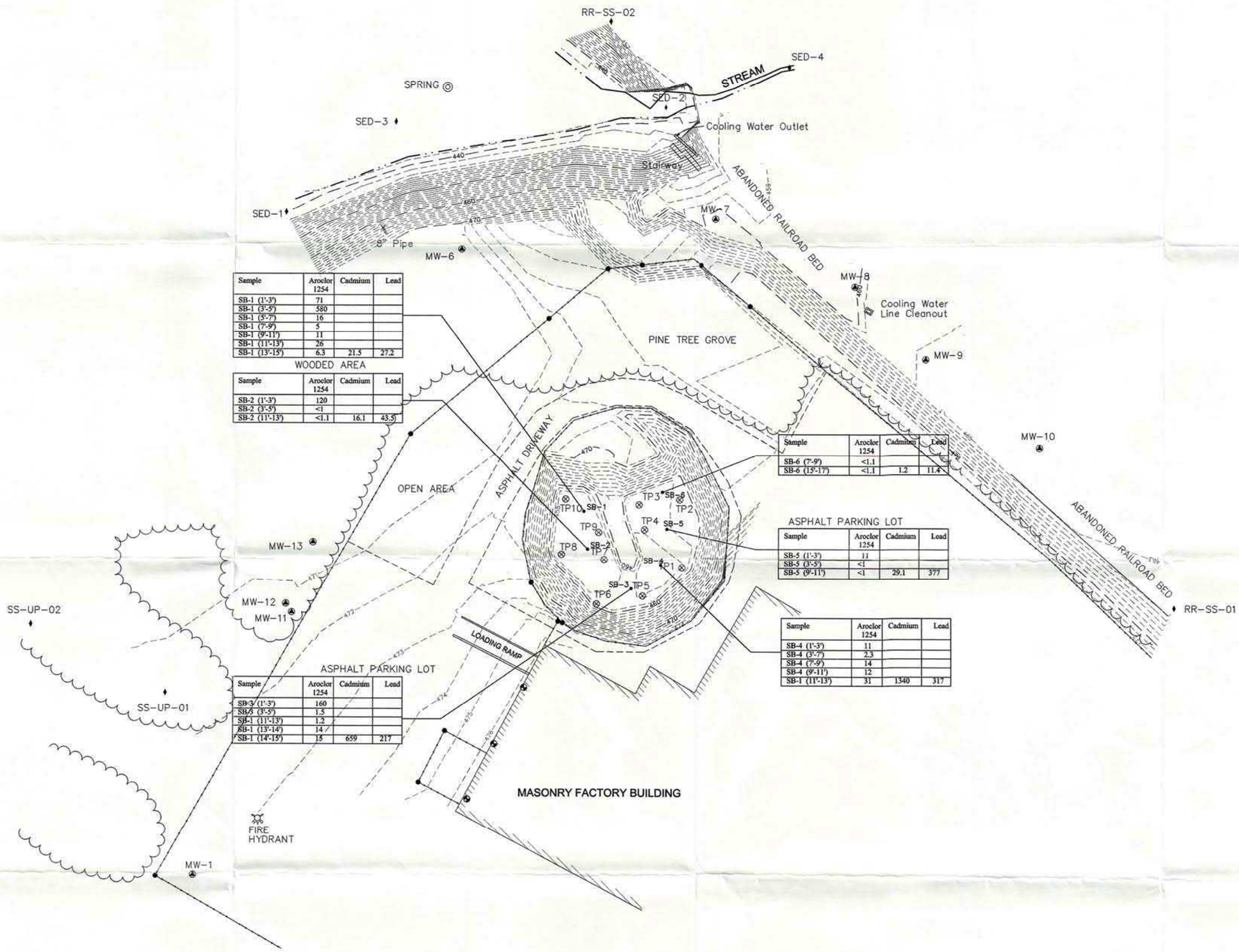
NO.	DATE	DESCRIPTION

OU - 2 RI
C & D TECHNOLOGIES
NYS ROUTE 209
HUGUENOT, NEW YORK

Figure 3
GROUNDWATER SAMPLING DATA

SHEET:

H:\Drawings\CD_TECH\03-2005 GROUNDWATER_SAMPLING.dwg 7/18/2006 2:50:24 PM EST



Sample	Aroclor 1254	Cadmium	Lead
SB-1 (1'-3')	71		
SB-1 (3'-5')	580		
SB-1 (5'-7')	16		
SB-1 (7'-9')	5		
SB-1 (9'-11')	11		
SB-1 (11'-13')	26		
SB-1 (13'-15')	6.3	21.5	27.2

WOODED AREA

Sample	Aroclor 1254	Cadmium	Lead
SB-2 (1'-3')	120		
SB-2 (3'-5')	<1		
SB-2 (11'-13')	<1.1	16.1	43.5

Sample	Aroclor 1254	Cadmium	Lead
SB-6 (7'-9')	<1.1		
SB-6 (15'-17')	<1.1	1.2	11.4

ASPHALT PARKING LOT

Sample	Aroclor 1254	Cadmium	Lead
SB-5 (1'-3')	11		
SB-5 (3'-5')	<1		
SB-5 (9'-11')	<1	29.1	377

Sample	Aroclor 1254	Cadmium	Lead
SB-4 (1'-3')	11		
SB-4 (3'-7')	2.3		
SB-4 (7'-9')	14		
SB-4 (9'-11')	12		
SB-1 (11'-13')	31	1340	317

ASPHALT PARKING LOT

Sample	Aroclor 1254	Cadmium	Lead
SB-3 (1'-3')	160		
SB-3 (3'-5')	1.5		
SB-1 (11'-13')	1.2		
SB-1 (13'-14')	14		
SB-1 (14'-15')	15	659	217

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

LEGEND

- ♦ = SOIL SAMPLE
- ⊗ = TEST PIT
- ♣ = MONITORING WELL
- = FIRE HYDRANT
- ● = FENCE POST
- = CHAIN LINK FENCE
- = 1ST FLOOR ELEVATION
- = EDGE OF PAVEMENT
- = TREE LINE
- = CONTOUR LINE
- = INDEX CONTOUR LINE
- 465 = ELEVATION

NOTES:

Datum : Based on ground elevation of MW-1
Contour Interval = 1'

All values in mg / kg.

Figure 4

SUMMARY SOIL BORING DATA

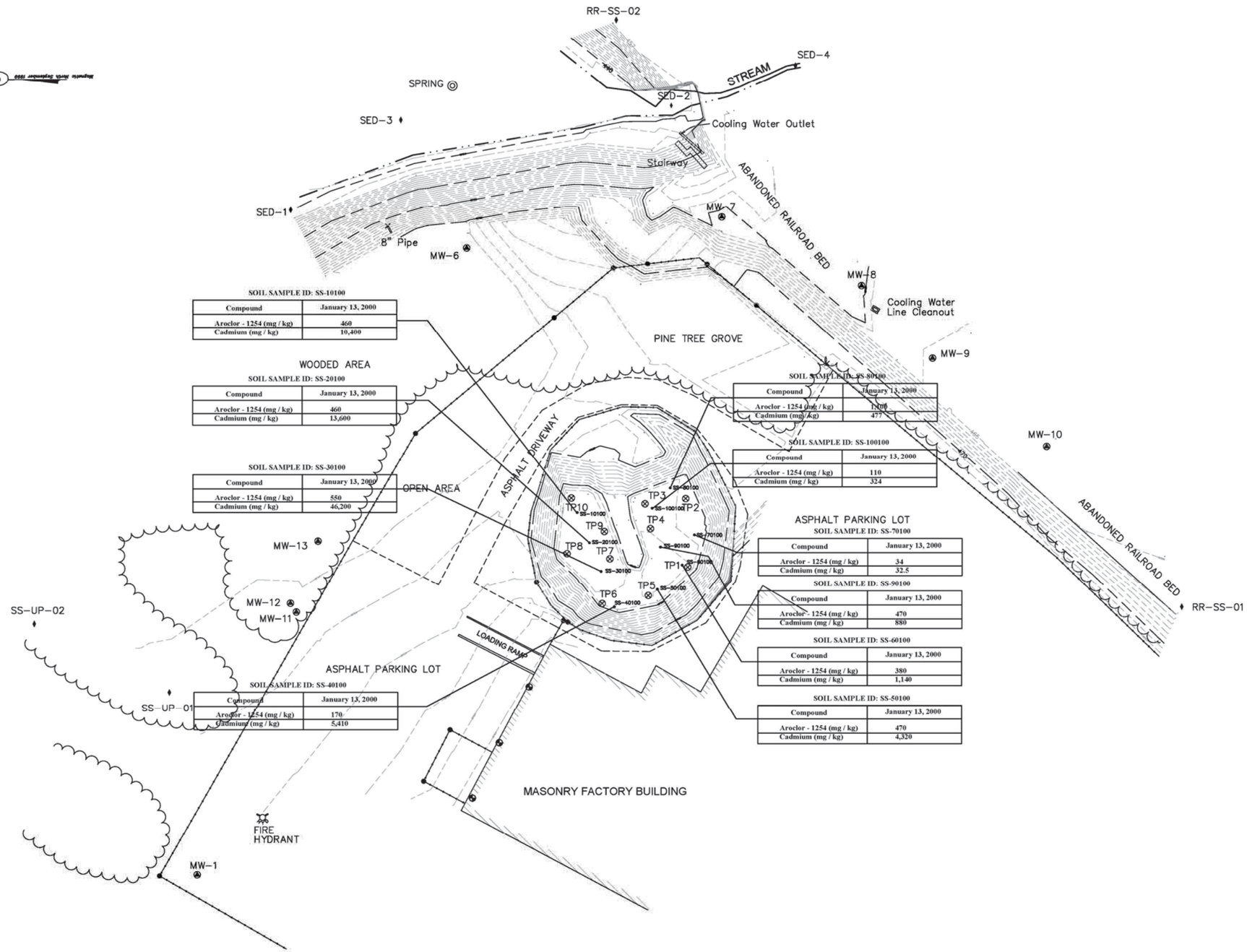
SITE AT
C & D TECHNOLOGIES
NYS ROUTE 209
HUGUENOT, NEW YORK

DELAWARE ENGINEERING, P.C.
28 Madison Avenue Extension
Albany, New York 12203
Phone 518-452-1290
FAX 518-452-1335

SCALE	AS SHOWN
DATE	MAY 22, 2000
DRAWN BY	KJ
CHECKED BY	
APPROVED BY	E.F.
FILENAME	Soil Boring Data
PROJECT NO.	
REVISED	

DRAWING NUMBER No. 4 SHEET NUMBER 1 OF 1

FILENAME: SOIL_BORING_DATA.DWG



SOIL SAMPLE ID: SS-10100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	460
Cadmium (mg / kg)	10,400

SOIL SAMPLE ID: SS-20100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	460
Cadmium (mg / kg)	13,600

SOIL SAMPLE ID: SS-30100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	550
Cadmium (mg / kg)	46,200

SOIL SAMPLE ID: SS-40100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	170
Cadmium (mg / kg)	5,410

SOIL SAMPLE ID: SS-80100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	1,100
Cadmium (mg / kg)	477

SOIL SAMPLE ID: SS-100100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	110
Cadmium (mg / kg)	324

ASPHALT PARKING LOT

SOIL SAMPLE ID: SS-70100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	34
Cadmium (mg / kg)	32.5

SOIL SAMPLE ID: SS-90100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	470
Cadmium (mg / kg)	880

SOIL SAMPLE ID: SS-60100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	380
Cadmium (mg / kg)	1,140

SOIL SAMPLE ID: SS-50100

Compound	January 13, 2000
Aroclor - 1254 (mg / kg)	470
Cadmium (mg / kg)	4,320

LEGEND

- = SOIL SAMPLE
- = TEST PIT
- = MONITORING WELL
- = FIRE HYDRANT
- = FENCE POST
- = CHAIN LINK FENCE
- = 1ST FLOOR ELEVATION
- = EDGE OF PAVEMENT
- = TREE LINE
- = CONTOUR LINE
- = INDEX CONTOUR LINE
- 465 = ELEVATION

NOTES:

Datum : Based on ground elevation of MW-1
Contour Interval = 1'

Compound	Commercial Use SCO
PCB	1.0 mg / kg
Cadmium	9.3 mg / kg

Figure 5

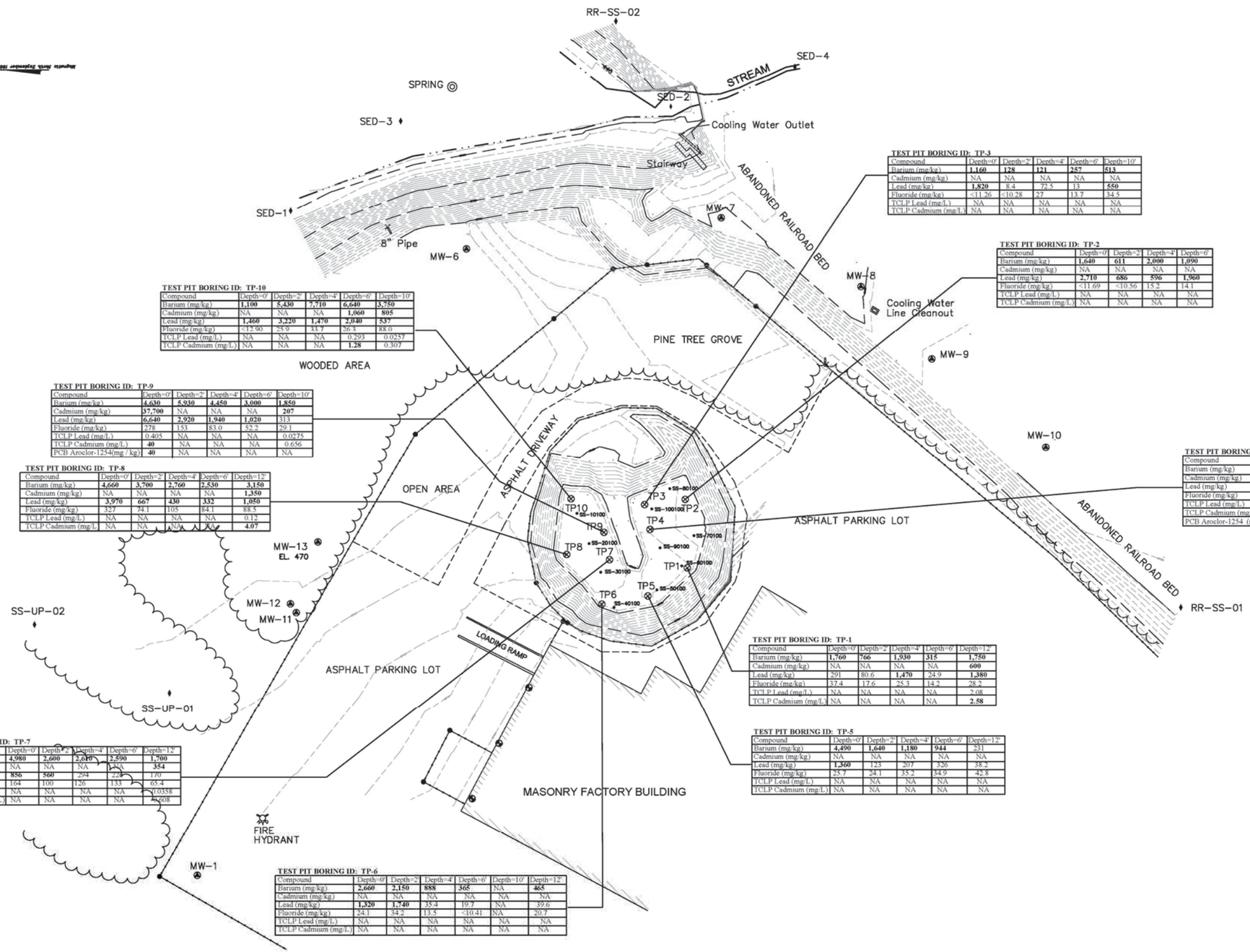
PCB & CADMIUM SURFACE SOIL SAMPLING DATA SUMMARY

SITE AT
C & D TECHNOLOGIES
NYS ROUTE 209
HUGUENOT, NEW YORK

DELAWARE ENGINEERING, P.C.
28 Madison Avenue Extension
Albany, New York 12203
Phone 518-452-1290
FAX 518-452-1335

SCALE	AS SHOWN
DATE	MAY 22, 2000
DRAWN BY	KJ
CHECKED BY	
APPROVED BY	EF
FILENAME	PCB 1.DWG
PROJECT NO.	
REVISED	

DRAWING NUMBER No. 3 SHEET NUMBER 1 OF 1



TEST PIT BORING ID: TP-3

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=10'
Barium (mg/kg)	**1,160**	**128**	**121**	**257**	**513**
Cadmium (mg/kg)	NA	NA	NA	NA	NA
Lead (mg/kg)	**1,820**	8.4	72.5	13	**550**
Fluoride (mg/kg)	<11.26	<10.28	27	13.7	34.5
TCLP Lead (mg/L)	NA	NA	NA	NA	NA
TCLP Cadmium (mg/L)	NA	NA	NA	NA	NA

TEST PIT BORING ID: TP-2

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'
Barium (mg/kg)	**1,640**	**611**	**2,000**	**1,090**
Cadmium (mg/kg)	NA	NA	NA	NA
Lead (mg/kg)	**2,710**	**686**	**596**	**1,960**
Fluoride (mg/kg)	<11.69	<10.56	15.2	14.1
TCLP Lead (mg/L)	NA	NA	NA	NA
TCLP Cadmium (mg/L)	NA	NA	NA	NA

TEST PIT BORING ID: TP-10

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=10'
Barium (mg/kg)	**1,100**	**5,430**	**7,710**	**6,640**	**3,750**
Cadmium (mg/kg)	NA	NA	NA	**1,060**	**805**
Lead (mg/kg)	**1,460**	**3,220**	**1,470**	**2,040**	**537**
Fluoride (mg/kg)	<12.90	25.9	33.7	26.3	88.0
TCLP Lead (mg/L)	NA	NA	NA	0.293	0.0257
TCLP Cadmium (mg/L)	NA	NA	NA	**1.28**	0.307

TEST PIT BORING ID: TP-9

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=10'
Barium (mg/kg)	**4,630**	**5,930**	**4,450**	**3,000**	**1,850**
Cadmium (mg/kg)	**37,700**	NA	NA	NA	**207**
Lead (mg/kg)	**6,640**	**2,920**	**1,940**	**1,020**	313
Fluoride (mg/kg)	278	153	83.0	52.2	29.1
TCLP Lead (mg/L)	0.405	NA	NA	NA	0.0275
TCLP Cadmium (mg/L)	**40**	NA	NA	NA	0.656
PCB Aroclor-1254(mg / kg)	**40**	NA	NA	NA	NA

TEST PIT BORING ID: TP-8

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=12'
Barium (mg/kg)	**4,660**	**3,700**	**2,760**	**2,530**	**3,150**
Cadmium (mg/kg)	NA	NA	NA	NA	**1,350**
Lead (mg/kg)	**3,970**	**667**	**430**	**332**	**1,050**
Fluoride (mg/kg)	327	74.1	105	84.1	88.5
TCLP Lead (mg/L)	NA	NA	NA	NA	0.12
TCLP Cadmium (mg/L)	NA	NA	NA	NA	**4.07**

TEST PIT BORING ID: TP-4

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=10'
Barium (mg/kg)	**4,670**	**1,060**	**1,100**	**701**	**2,280**
Cadmium (mg/kg)	NA	NA	NA	NA	**1,260**
Lead (mg/kg)	**1,950**	**9,350**	**7,190**	**13,000**	**6,830**
Fluoride (mg/kg)	<15.45	<11.98	22.1	24.2	31.5
TCLP Lead (mg/L)	NA	NA	NA	NA	**5.46**
TCLP Cadmium (mg/L)	NA	NA	NA	NA	**3.76**
PCB Aroclor-1254 (mg/kg)	NA	NA	NA	NA	6.5

TEST PIT BORING ID: TP-1

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=12'
Barium (mg/kg)	**1,760**	**766**	**1,930**	**315**	**1,750**
Cadmium (mg/kg)	NA	NA	NA	NA	**600**
Lead (mg/kg)	291	80.6	**1,470**	24.9	**1,380**
Fluoride (mg/kg)	37.4	17.6	25.3	14.2	28.2
TCLP Lead (mg/L)	NA	NA	NA	NA	2.08
TCLP Cadmium (mg/L)	NA	NA	NA	NA	**2.58**

TEST PIT BORING ID: TP-5

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=12'
Barium (mg/kg)	**4,490**	**1,640**	**1,180**	**944**	231
Cadmium (mg/kg)	NA	NA	NA	NA	NA
Lead (mg/kg)	**1,360**	123	207	326	38.2
Fluoride (mg/kg)	25.7	24.1	35.2	34.9	42.8
TCLP Lead (mg/L)	NA	NA	NA	NA	NA
TCLP Cadmium (mg/L)	NA	NA	NA	NA	NA

TEST PIT BORING ID: TP-7

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=12'
Barium (mg/kg)	**4,980**	**2,600**	**2,610**	**2,590**	**1,700**
Cadmium (mg/kg)	NA	NA	NA	NA	**354**
Lead (mg/kg)	**856**	**560**	294	228	170
Fluoride (mg/kg)	164	100	126	133	65.4
TCLP Lead (mg/L)	NA	NA	NA	NA	0.0358
TCLP Cadmium (mg/L)	NA	NA	NA	NA	0.608

TEST PIT BORING ID: TP-6

Compound	Depth=0'	Depth=2'	Depth=4'	Depth=6'	Depth=10'	Depth=12'
Barium (mg/kg)	**2,660**	**2,150**	**888**	**365**	NA	**465**
Cadmium (mg/kg)	NA	NA	NA	NA	NA	NA
Lead (mg/kg)	**1,320**	**1,740**	35.4	19.7	NA	39.6
Fluoride (mg/kg)	24.1	34.2	13.5	<10.41	NA	20.7
TCLP Lead (mg/L)	NA	NA	NA	NA	NA	NA
TCLP Cadmium (mg/L)	NA	NA	NA	NA	NA	NA

LEGEND

- = SOIL SAMPLE
- = TEST PIT
- = MONITORING WELL
- = FIRE HYDRANT
- = FENCE POST
- = CHAIN LINK FENCE
- = 1ST FLOOR ELEVATION
- = EDGE OF PAVEMENT
- = TREE LINE
- = CONTOUR LINE
- = INDEX CONTOUR LINE
- 465 = ELEVATION

NOTES:

Datum : Based on ground elevation of MW-1
Contour Interval = 1'

NA : Indicates Not Analyzed

Values in Bold Exceed R.S.C.O.

Lead Values in Bold Exceed both Site Background and Typical Metropolitan and Suburban Concentrations.

Compound	PART 375 Commercial Use SCO
Barium (mg/kg)	400
Cadmium (mg/kg)	9.3
Lead (mg/kg)	1,000
Fluoride (mg/kg)	NA
TCLP Lead (mg/L)	5
TCLP Cadmium (mg/L)	1
PCB (mg / kg)	1

Figure 6

TEST PIT SAMPLING DATA SUMMARY

SITE AT
C & D TECHNOLOGIES
NYS ROUTE 209
HUGUENOT, NEW YORK

DELAWARE ENGINEERING, P.C.
28 Madison Avenue Extension
Albany, New York 12203
Phone 518-452-1290
FAX 518-452-1335

SCALE	AS SHOWN
DATE	MAY 22, 2000
DRAWN BY	KJ
CHECKED BY	
APPROVED BY	EF
FILENAME	PCB 1.DWG
PROJECT NO.	
REVISED	

DRAWING NUMBER No. 2 SHEET NUMBER 1 OF 1

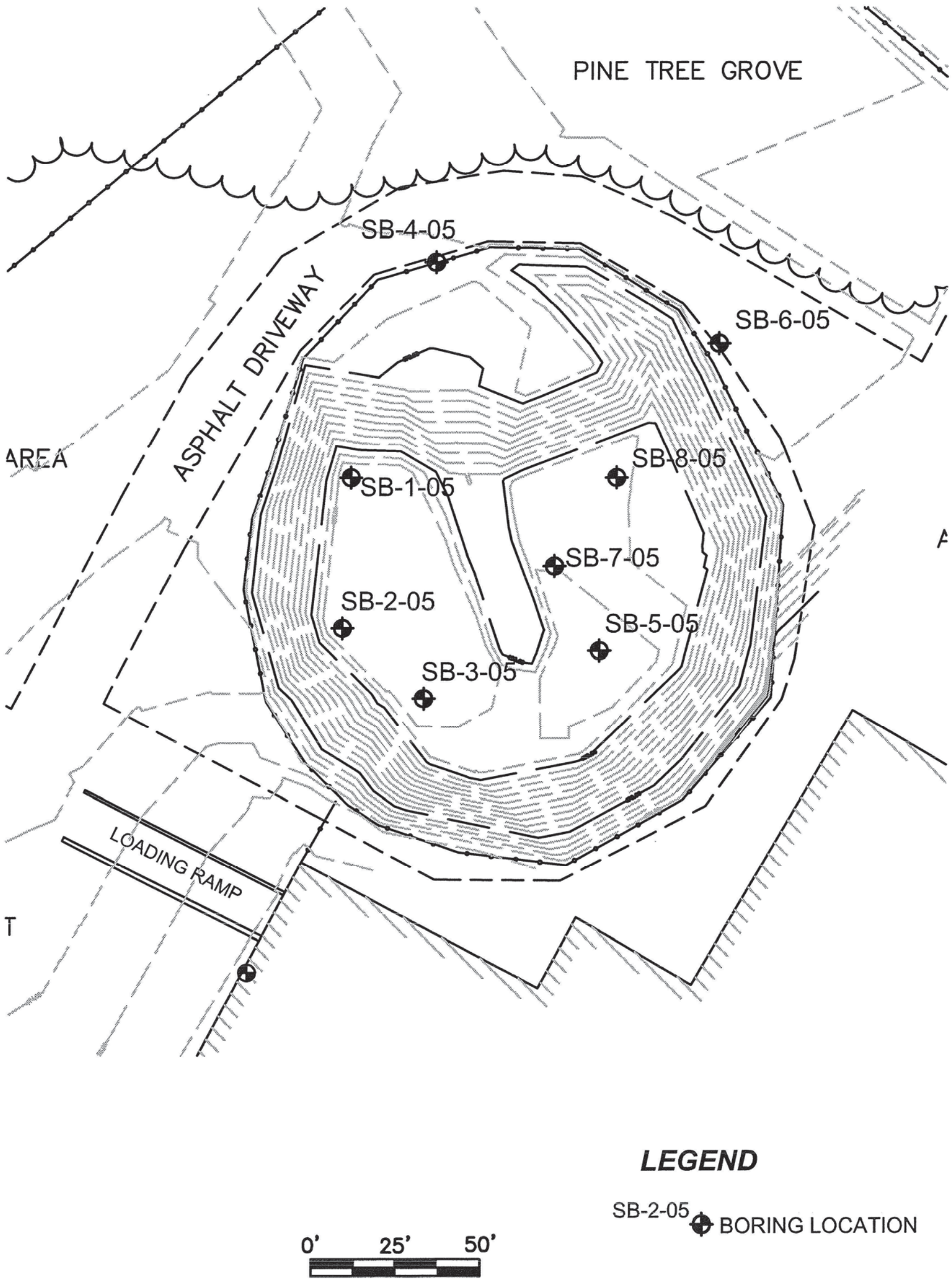


Figure 7

LAGOON SATURATED ZONE BORING LOCATIONS

C & D TECHNOLOGIES, INC.
HUGUENOT, NEW YORK

DATE: 11/11/04
DRAWN BY: KJ
SCALE: AS SHOWN
REVIEWED BY: EF
DATE REVISED: 01/05/05

DELAWARE ENGINEERING,
CIVIL AND ENVIRONMENTAL ENGINEERING
ALBANY:
28 Madison Avenue Extension - Albany
Phone: (518) 452-1290 - Fax: (518) 452
ONEONTA:
8-12 Dietz Street, Suite 303 - Oneonta,
Phone: (607) 432-8073 - Fax: (607) 43

Drawings Archive\CD_TECH\FIG_8_LAGOONSATUR_ZONE

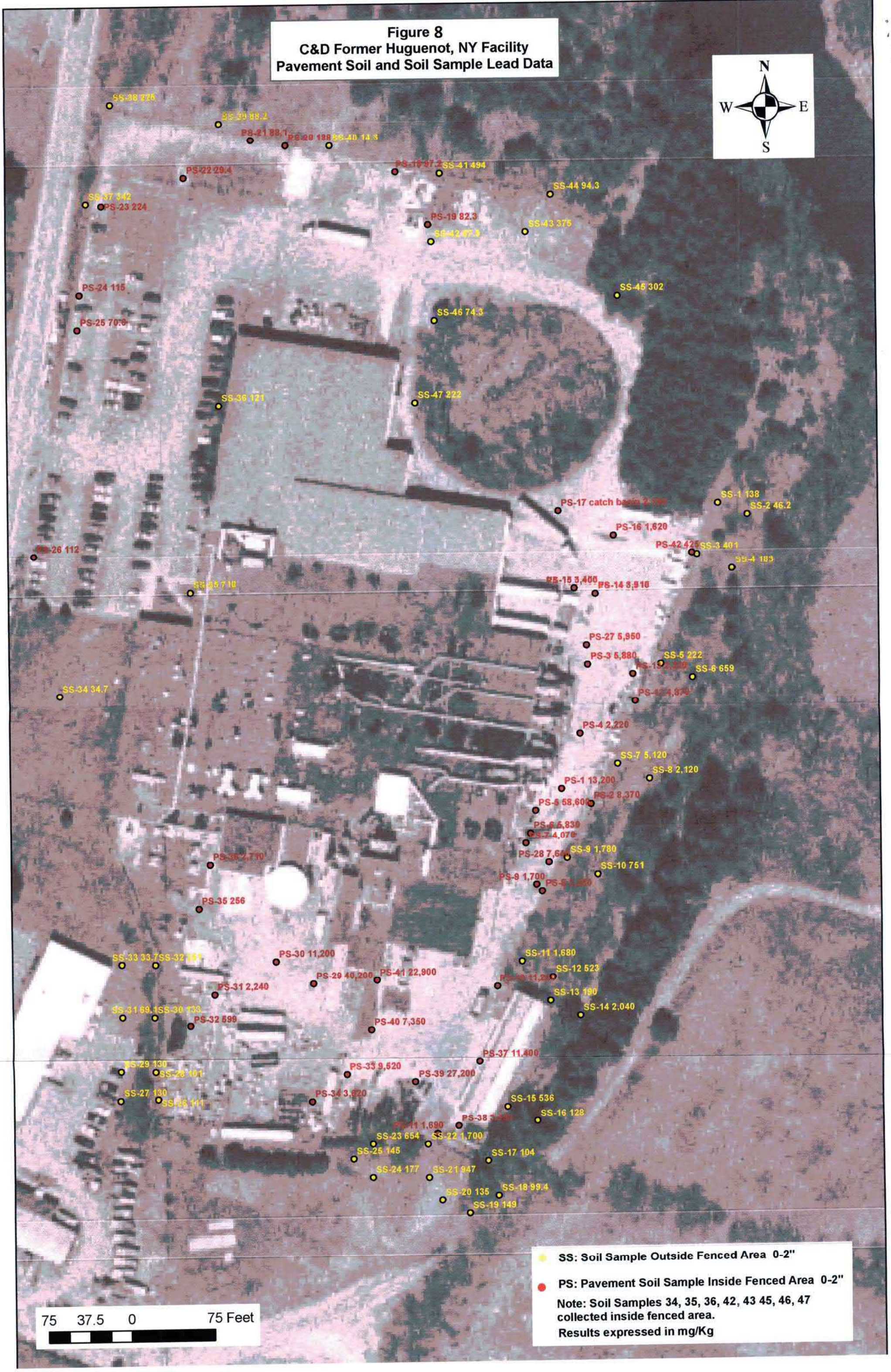


Figure 8
C&D Former Huguenot, NY Facility
Pavement Soil and Soil Sample Lead Data
N
W
E
S
SS-38 225
SS-39 88.2
PS-21 88.1
PS-20 188
SS-40 14.8
PS-22 29.4
PS-18 97.2
SS-41 494
SS-44 94.3
SS-37 342
PS-23 224
PS-19 82.3
SS-43 375
SS-42 67.3
PS-24 115
SS-45 302
SS-46 74.3
PS-25 70.6
SS-36 121
SS-47 222
SS-1 138
SS-2 46.2
PS-17 catch basin 2,190
PS-16 1,620
PS-26 112
PS-42 425
SS-3 401
SS-4 183
SS-35 710
PS-15 3,400
PS-14 3,910
PS-27 5,950
PS-3 5,880
SS-5 222
SS-6 659
SS-34 34.7
PS-4 2,220
SS-7 5,120
SS-8 2,120
PS-1 13,200
PS-2 8,370
PS-5 58,600
PS-6 5,830
PS-7 4,070
PS-28 7,640
SS-9 1,780
SS-10 751
PS-9 1,700
PS-36 2,710
PS-35 256
SS-33 33.7
SS-32 151
PS-30 11,200
SS-11 1,680
SS-12 523
PS-29 40,200
PS-41 22,900
PS-31 2,240
SS-13 190
SS-14 2,040
SS-31 69.1
SS-30 133
PS-32 599
PS-40 7,350
PS-37 11,400
SS-29 130
SS-28 101
PS-33 9,520
PS-39 27,200
SS-27 130
SS-26 111
PS-34 3,820
SS-15 536
SS-16 128
PS-38 3,240
PS-11 1,690
SS-23 654
SS-22 1,700
SS-25 145
SS-17 104
SS-24 177
SS-21 947
SS-20 135
SS-18 99.4
SS-19 149
SS: Soil Sample Outside Fenced Area 0-2"
PS: Pavement Soil Sample Inside Fenced Area 0-2"
Note: Soil Samples 34, 35, 36, 42, 43 45, 46, 47 collected inside fenced area.
Results expressed in mg/Kg
75 37.5 0 75 Feet

C&D Power Systems Site
Site No. 336001
Tributary D-1-7 Sedmiment Data
N
Figure 9
Legend
Sediment Sample Locations
Lead > Lowest Effect Level
Cadmium and Lead > Lowest Effect Level
Values in red exceed the Metals Severe Effect Level Criteria or the PCB aquatic life chronic toxicity criteria
Prepared by Delaware Engineering, P.C. April 2007
Sources NYS Digital Ortho Imagery 2004
100 50 0 100 Feet

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

C&D Power Systems (C&D Batteries)
State Superfund Project/RCRA Project
Deerpark, Orange County, New York
Site No. 336001
EPA ID #NYD064337298

The Proposed Remedial Action Plan (PRAP) for the C&D Power Systems (C&D Batteries) site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 11, 2015. The PRAP outlined the remedial measure proposed for the contaminated soil, sediment, and groundwater at the C&D Batteries site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on February 26, 2015, which included a presentation of the remedial investigation, feasibility study (RI/FS) for the C&D Batteries site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 18, 2015.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: Will children be able to play on the site once remediation is complete?

RESPONSE 1: Part of the remedy is to construct a site cover to allow for commercial use of the property. The site cover will consist of either structures such as buildings, pavement, sidewalks comprising any site development or a minimum of one foot of soil meeting the soil cleanup objectives (SCOs) for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. Commercial use allows for passive recreational uses such as walking, cycling, golf and green park space, which would be acceptable at the site following the construction of the site cover.

COMMENT 2: Are sediments going into the lagoon untreated?

RESPONSE 2: Although tributary D-1-7 sediment exceeds the Department sediment quality criteria, the concentrations are below the commercial use and protection of groundwater soil cleanup objectives (SCOs). Therefore, the sediment can be used as backfill in the lagoon. The sediment will be placed above the stabilized soils and below the cover system. Some treatment to change the physical properties of the sediment may be necessary for transport and stability prior to placement in the lagoon.

COMMENT 3: What is the allowable end use?

RESPONSE 3: The cleanup at the property allows for commercial or industrial use. However, actual use is subject to local zoning.

COMMENT 4: How long will monitoring be performed on the site?

RESPONSE 4: Monitoring will continue on the site until the Department and NYSDOH have determined that the remedy has achieved the remedial action objectives for the site, in this case groundwater standards. For the purpose of cost estimation, it is assumed that monitoring will continue for 30 years.

COMMENT 5: Is there money available to perform the remedial work?

RESPONSE 5: The remedial program is currently being conducted by the Potentially Responsible Party (PRP) under an Order on Consent. After the Record of Decision (ROD) is issued, the PRP will be given an opportunity to enter into an Order on Consent for implementation of the design, construction and long-term management of the remedy. If the PRP does not enter into an Order on Consent with the Department, then the Department will implement the remedy under the State Superfund. The Department would then refer the site to the New York State Attorney General to recover the costs expended for the remedy from the PRP.

COMMENT 6: Can water be used on the site?

RESPONSE 6: Groundwater cannot be used on the site as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH.

COMMENT 7: Are you just adding cement to the lagoon soil? How does this work?

RESPONSE 7: The contaminated lagoon soil will be mixed in place with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to encapsulate and chemically bind the contaminated soil in a low permeability matrix. The resulting solid matrix reduces or eliminates the mobility of the contaminants and reduces or eliminates the matrix as a source of groundwater contamination.

COMMENT 8: What is the timeline for the work to be performed?

RESPONSE 8: Once the ROD is issued, the Department will approach the PRP for this site, to enter into an Order on Consent for implementation of the design and construction of the remedy. Once the Order is signed, the design phase will begin, which is estimated to take between 6 months to a year. The construction following the design of the remedy is expected to take 6 months.

COMMENT 9: A representative from C&D Technologies, Inc. stated that Avnet, Inc. is responsible for 87% of the costs for the site based on an agreement between C&D Technologies, Inc. and Avnet, Inc.

RESPONSE 9: The comment is noted.

Mr. Alfred Fusco submitted a letter dated March 2, 2015, which included the following comments:

COMMENT 10: As discussed at the public meeting, the town of Deerpark has a contaminated well only a few feet from the property which rendered the Town Hall water unpotable. Funding was requested to cap this well and either drill another well or run water from the Senior Center well and install iron removal equipment and a disinfection system. Test results will be forwarded to the Department when available.

RESPONSE 10: The Department was unaware of the contaminated Town Hall potable well until recently, first being informed of the issue when speaking with the Town of Deerpark supervisor at the public meeting. If it is determined, based on review of analytical data, that the contamination is related to the C&D Batteries site, then the treatment required for the Town Hall potable well will be included as a component of the site remedy. As part of the selected remedy, wells in the area will be re-evaluated and any site-related contamination that is identified will be addressed.

Mr. Frank Demuth submitted an email (dated March 12, 2015) which included the following comments:

COMMENT 11: A request was made for the proposals for remediation at the site and for any information and results regarding recent groundwater testing.

RESPONSE 11: A copy of the proposed remedial action plan (PRAP) was sent to Mr. Demuth. Previous groundwater sampling indicated fluoride was the only contaminant of concern detected in groundwater. The town hall and the Swartout residence groundwater supplies were sampled and found not to be contaminated. As part of the selected remedy, wells in the area will be re-evaluated and any site-related contamination that is identified will be addressed.

APPENDIX B

Administrative Record

Administrative Record

C&D Power Systems (C&D Batteries) Site
State Superfund Project/RCRA Project
Deerpark, Orange County, New York
Site No. 336001
EPA ID #NYD064337298

1. Proposed Remedial Action Plan for the C&D Power Systems (C&D Batteries) site, dated February 2015, prepared by the Department.

2. Order on Consent, Index No. W3-0726-97-11, between the Department and C&D Technologies, Inc., executed on July 19, 1999.

3. "Remedial Investigation/Feasibility Study Work Plan", April 1999, prepared by Earth Tech.

4. "Remedial Investigation Report", March 2001, prepared by Delaware Engineering.

5. "Feasibility Study Report", March 2001, prepared by Delaware Engineering.

6. Proposed Remedial Action Plan for the C&D Power Systems (C&D Batteries) Operable Unit No. 1, dated February 2002, prepared by the Department.

7. Record of Decision, C&D Power Systems (C&D Batteries) Operable Unit No. 1, dated March 2002, prepared by the Department.

8. "Operable Unit 2 Remedial Investigation Report", May 2006, prepared by Delaware Engineering.

9. "Final Facility Decommissioning and Closure Plan Report", March 2007, prepared by C&D Technologies, Inc.

10. "Tributary D-1-7 Sediment Data Report", June 2007, prepared by Delaware Engineering.

11. "Soil and Pavement Soil Sample Lead Results Report", September 2008, prepared by Delaware Engineering.

12. "Soil and Pavement Soil Sample Lead Results Report", October 2009, prepared by Delaware Engineering.

13. "Feasibility Study Report", August 2014, prepared by Delaware Engineering.

14. Letter dated March, 2, 2015 from Alfred Fusco.

15. Email dated March 12, 2015 from Frank Demuth.